

TP
714
B885
SLRA

BROWN'S DIRECTORY

—OF—

AMERICAN GAS COMPANIES

Gas Statistics

1918

It pays to be
NATIONAL *ly*
Prepared

(For More Information about "NATIONAL" Pipe, see pages xxviii-xxix)

NATIONAL TUBE COMPANY

General Sales Offices: Frick Building, PITTSBURGH, PA.

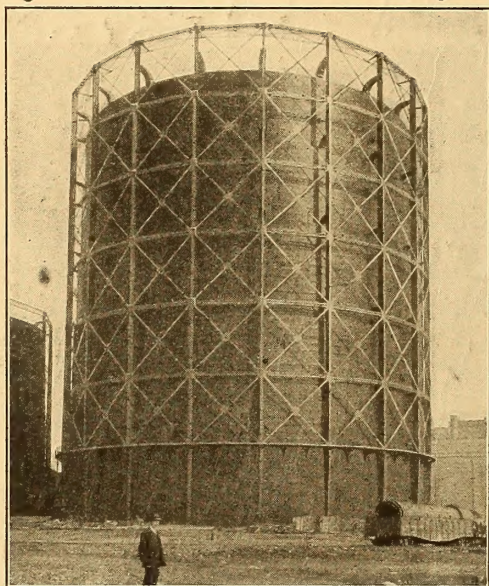
District Sales Offices in the Larger Cities.

R. D. WOOD & CO.

ENGINEERS
IRON FOUNDERS
MACHINISTS

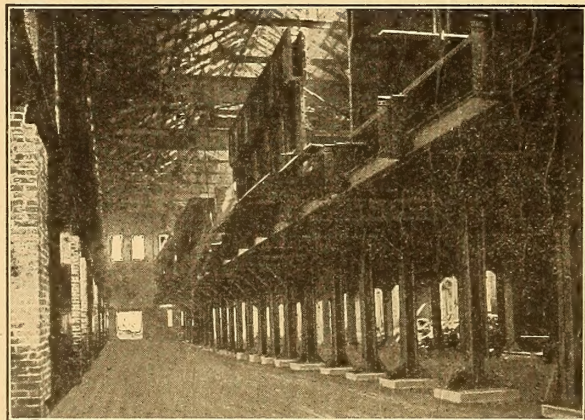
ESTABLISHED 1803

400 Chestnut Street, Philadelphia, Pa.



GAS HOLDERS

**COAL GAS
PLANTS
AND
GAS WORKS
MACHINERY**



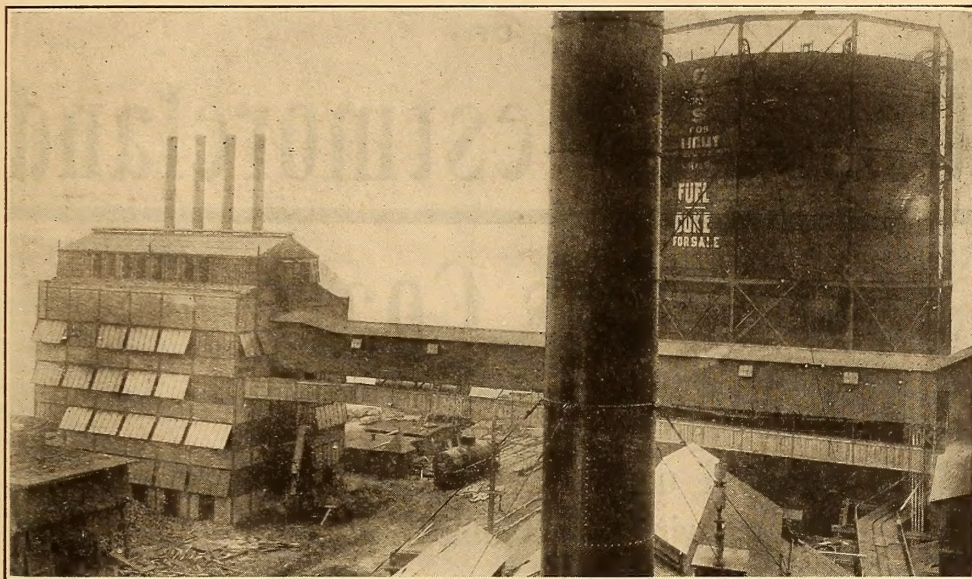
PURIFIERS

**CAST IRON PIPE
SPECIAL CASTINGS
GAS VALVES
PUMPING ENGINES
CENTRIFUGAL
PUMPS
HYDRAULIC
MACHINERY**

Continuous Carbonization in Glover West Vertical Retorts

presents wonderful earning possibilities. A study of the earning sheets of companies operating Glover West benches establish records for economy. Continuous feed direct from coal bunkers; largest gas yield per ton of coal, and on given area; constant illuminating and calorific value and uniform composition of gas; entire absence of smoke, dust and steam nuisance; utilization of heat from residual coke; great flexibility of output by varying rate of travel of coal through retorts; perfectly applicable to small, medium and large plants.

250,000 CUBIC FEET PER MAN PER PER 12 HOURS



1,000,000 Cu. Ft. Plant Built for the Portland Gas Light Co., Portland, Maine

INSTALLATIONS THROUGHOUT THE WORLD

	Capacity cubic feet per diem. Millions		Capacity cubic feet per diem. Millions		Capacity cubic feet per diem. Millions
St. Helens 1st installation.....	1/4	Bergen (Norway)	3/4	Northampton	1 1/4
2d "	1 1/4	Heywood	3/2	Cardiff	2 1/2
3d "	2	Darlington	2	North Sydney (N.S.W.)	2 1/2
Manchester 1st installation.....	1/2	Oldham	2	Bothwell & Uddington	3/4
2d "	4	Bridgwater	1/2	Springfield (U.S.A.)	1 1/2
Rochdale	1 1/4	Southport	1 1/4	Preston	1 1/4
Tokio	1 1/4	Canbuslang	1 1/2	Portland (U.S.A.)	1
Lurgan	1 1/4	Nottingham	1 1/2	Santos (Brazil)	3/4
Helensburgh	1 1/2	Tipton	2 1/2	Lea Bridge	1
Sydney (N.S.W.) 1st installation...	1 3/4	Leicester	1 1/4	Pernambuco (Brazil)	3/4
2d "	1 3/4	Exeter	1 1/2	Chorley	1 1/4
3d "	6	Barnoldswick	1/2	Swindon	1 1/2
Bradford	2	Coteborg (Sweden)	1	Rochester	1 1/4
Fitchburg (U.S.A.) 1st installation.	1/4	Cape Town (South Africa)....	1 1/2	Rotherham	1 1/2
2d "	1/4	Hong Kong (China)	3/4	Napier (New Zealand).....	1 1/2
Newcastle (N.S.W.)	1	Berlin (Germany)	1 1/4	Salford	1 1/4
Belfast 1st installation.....	2 1/2	Liverpool 1st installation.....	2 1/2	Lemberg (Austria)	1 1/2
2d "	5 1/2	2d "	2 1/2	Rhiney & Aber Valleys.....	1 1/2
Nelson 1st installation.....	1 1/4	Macclesfield	1	Hollywood	1 1/4
2d "	1 1/4	Lytham	1 1/2	Flyth	1
Blackpool 1st installation.....	3/4	Dunoon	3/8	Stafford	1
2d "	3/4	Pawtucket (U.S.A.)	1	Zaandam (Holland)	3/4
Stockholm (Sweden)	1 1/2	Montreal (Canada)	4	Wishaw	1 1/2
Newcastle-Upon-Tyne 1st installation	2 1/2	Ottawa (Canada)	1 1/2	Newark, N. J. (U. S. A.)....	
2d "	3	Grays & Tilbury.....	1 1/2	Coal and Coke Handling Machinery, Linings for Water Gas Sets and Cupolas, High Class Refractories Materials. Gas Bench and Coke Oven Settings.	
Complete Coal Gas Installations of all Designs.		Bargor (Ireland)	3/8		
		Pertham (Greenland)	1 1/2		

Didier-March Company

GAS ENGINEERS

WORKS:
Keasbey, Perth Amboy, N. J.

GEO. A. BALZ, Manager

MAIN OFFICE:
Perth Amboy, N. J.

Berwind-White Coal Mining Co.

Colliery Proprietors and Miners

OF

Ocean Westmoreland

..Gas Coal..

Mines Situated on P. R. R., Westmoreland Co., Pa.
Irwin Gas Coal Basin

SHIPPING POINTS:

PHILADELPHIA, PA.
BALTIMORE, MD.
SOUTH AMBOY, N. J.
ERIE, PA.

NEW YORK, N. Y.
SODUS POINT, N. Y.
SYRACUSE, N. Y.
CLEVELAND, O.

Strictly High Grade. Carefully prepared for Gas Making, Steel Purposes and Heavy Steaming. Unexcelled in Gas Producing Qualities and Freedom from Sulphur and other Impurities.

OFFICES:

1 Broadway, New York

Commercial Trust Bldg., Philadelphia, Pa.

A. C. M. AZOY, Manager Gas Coal Department
1 Broadway, New York

INDEX TO CONTENTS.

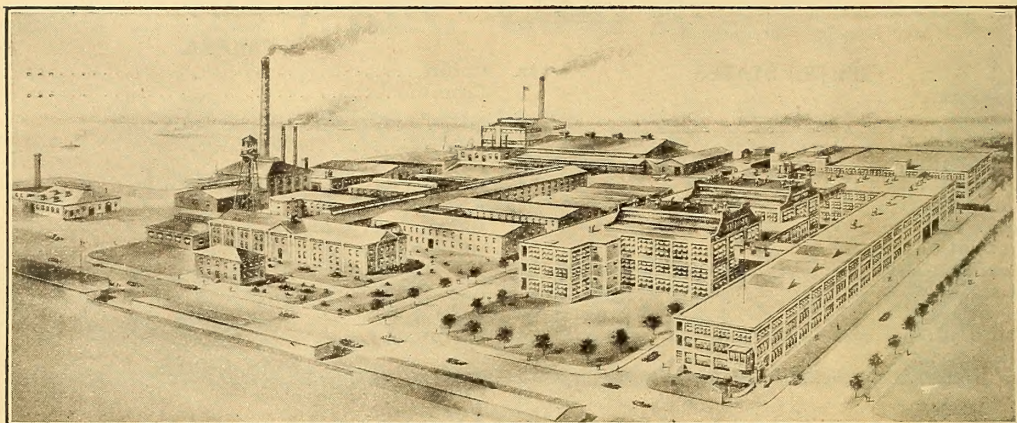
(For Company Index see page 903.)
 (For City and Town Index see page 926.)
 (For explanation of abbreviations—R.Rs.
 and Ex. Cos.—see page 897.)

The use of this book will be greatly facilitated
 by reading carefully the Preface between
 advertising pages VIII and X.

UNITED STATES.		PAGE	PANAMA.		PAGE
Alabama	1	Colon	344		
Arizona	6	Panama	344		
Arkansas	9	PHILIPPINE ISLANDS.			
California	9	Manila	344		
Colorado	29	SOUTH AMERICA.			
Connecticut	32	Argentina	344		
Delaware	41	Brazil	345		
District of Columbia	42	Chile	346		
Florida	43	Dutch Guiana	347		
Georgia	48	Ecuador	347		
Hawaii	52	Peru	347		
Idaho	53	Uruguay	347		
Illinois	54	WEST INDIES.			
Indiana	79	Cuba	348		
Iowa	92	Jamaica	348		
Kansas	109	Porto Rico	348		
Kentucky	112	NATURAL GAS COMPANIES.			
Louisiana	115	Alabama	349		
Maine	116	Arkansas	349		
Maryland	121	California	351		
Massachusetts	125	Illinois	354		
Michigan	147	Indiana	354		
Minnesota	161	Kansas	362		
Mississippi	169	Kentucky	371		
Missouri	172	Louisiana	374		
Montana	180	Maryland	375		
Nebraska	182	Missouri	375		
Nevada	187	Montana	376		
New Hampshire	188	New York	377		
New Jersey	192	Ohio	383		
New Mexico	206	Oklahoma	394		
New York	206	Pennsylvania	402		
North Carolina	241	Texas	418		
North Dakota	247	West Virginia	421		
Ohio	249	Wyoming	426		
Oklahoma	257	Canada	428		
Oregon	257	TOWN PLANTS.			
Pennsylvania	261	Acetylene	434		
Rhode Island	286	Gasoline	449		
South Carolina	288	OIL COMPANIES			
South Dakota	291	Producers	456		
Tennessee	294	Refiners	472		
Texas	296	PARENT OR OPERATING COMPANIES.			
Utah	302	United States and Canada	491		
Vermont	303	PUBLIC SERVICE COMMISSIONS.			
Virginia	306	United States and Canada	522		
Washington	311	NEW COMPANIES.			
West Virginia	316	Delayed reports	527		
Wisconsin	317	“ “ Appendix			
Wyoming	330	HIGH AND LOW PRICES			
DOMINION OF CANADA.			Of the more active securities of gas com- panies for the year 1916		
British Columbia	331	528			
Manitoba	332	APPENDIX			
New Brunswick	333	Embracing data in detail of sundry gas and gas-electric corporations			
Nova Scotia	333	531			
Ontario	334	GAS ASSOCIATIONS.			
Prince Edward's Island	341	American Gas Association and other Asso- ciations et seq. arranged alphabetic- ally			
Quebec	341	778			
MEXICO.			Association members		
Mexico, F. D.	343	789			
Nuevo Leon	343				
Yucatan	343				
NEWFOUNDLAND.					
St. John's	343				

Welsbach Gas Mantle and Lamp Factory—Gloucester, N. J.

Capacity, 220,000 gas mantles ; 25,000 gas lamps per day.



Gas Mantle Lighting In War Time

*is a source of profit to the gas company,
a direct benefit to the consumer—
and a help to the government.*

Gas mantle lights are a source of fair and helpful profit to the gas company in these times of stress and abnormal conditions. They keep open one avenue of new business extension which is a benefit to all concerned.

The consumer profits by the adoption of modern gas mantle lamps in the reduction of his lighting bills. He is benefited by the use of a more powerful, a steadier light which takes the strain out of seeing and aids general health by relief of the nervous strain of insufficient illumination. He also gains by the decorative value and convenience of modern Welsbach Gas Lamps.

Gas mantle lighting by its lower gas consumption lessens the load of the gas plant—a highly important consideration in these days of shortage in gas-making materials. Through its saving in gas, it saves coal and oil and thereby serves in lessening the demands on transportation and labor.

Welsbach Company

Manufacturers of high grade gas mantles, lamps and fixtures

Gloucester,

New Jersey

PREFACE

Brown's Directory of American Gas Companies, 31st Annual Edition.

(How to use BROWN'S DIRECTORY to secure complete and full information respecting the companies reported therein.)

The statistics are ALPHABETICALLY arranged by STATES and CITIES, and classified in the following order:

Manufactured (or Artificial) gas companies, including:		Total Number in This Issue
Coal-gas plants		281
Water-gas plants		477
Oil-gas plants		71
Mixed coal and water gas		162
Mixed water gas and oil gas		2
Mixed water gas and coke-oven gas		5
Mixed coal gas and oil gas		2
By-product coke-oven plants		54
Wood gas		1
Distributing plants (gas purchased)		86
Plants under construction (process unknown)		5
South American plants (process unknown)		18
Total artificial plants		1,164
		of which 39 are municipal plants
Natural gas companies	745, including	14 municipal plants
Acetylene town plants	120, including	24 municipal plants
Gasoline town plants	55, including	32 municipal plants
Oil producers	179	
Oil refiners	215	
Parent or operating companies	183	
Public Service Commissions	45	

Total companies reported..... 2,706, including 109 municipal plants

APPENDIX, containing (1) financial data of 326 companies; (2) officers, directors and committees of gas associations; (3) alphabetical list of gas association members, with their company and association affiliations.

The railroads and steamboat lines serving each city, as well as express companies which deliver at such points, precede each company's report.

A COMPANY-INDEX, to be found in back section, facilitates the use of the book for reference purposes. For the convenience of those users of the directory who, in certain cases, may not know from what central plant a particular city or town, about which he seeks information, is supplied a CITY or TOWN INDEX is inserted after the company index. Explanations of the abbreviations of names of railroad and steamboat-lines and express-companies will be found immediately preceding these indexes.

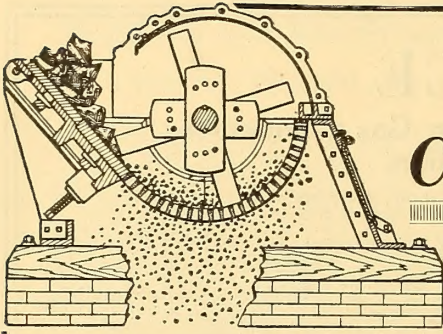
Those using this work, who may not readily find what they seek, should consult "Index to Contents," which will be found facing advertising-page VI, front section. To determine whether a city or town is being supplied with gas, consult alphabetical list in "City or Town Index" under name of town desired, and note from what city the gas-supply to that town is derived; then for statistics refer to the latter town, under State in which the town is situated, for detailed data.

Users will bear in mind that numerous changes are constantly occurring in the gas-business of the country. Supplying-companies change from artificial to natural product, and vice versa. Therefore, it is not to be assumed that a company, believed to be supplying natural gas, if not found under that head, will not be found in artificial department.

With continued assurances of appreciation for the helpful co-operation extended, and without which this work could not be published, I remain,

New York, June, 1918.

E. C. BROWN.



WILLIAMS COAL CRUSHERS

WILLIAMS COAL CRUSHERS are used for preparing coal for the stokers or chain grates, taking run of mine or lump coal and reducing same to $1\frac{1}{2}$ in., $1\frac{1}{4}$ in., $\frac{3}{4}$ in., and under, with the minimum of fine dust which is objectionable. They are also used extensively in coke oven work, preparing the coal to a fineness of 85 to 90% through $\frac{1}{8}$ in., general by-product oven specifications, or somewhat coarser for the ordinary bee hive ovens. Every gas plant should have one of these crushers for preparing their coal for various purposes. Catalog No. 3 describes these machines in detail. General specifications given below.

SPECIFICATIONS REGULAR CRUSHER

Size Mill	Hopper Opening	Size Feed	Capacity Tons per Hour			Speed	Size Pulley		Extreme Dimensions			Horse Power	W'ght
			$\frac{1}{2}$ " & finer	$\frac{1}{4}$ " & finer	$\frac{1}{8}$ " & finer		R. P M.	Dia.	Face	L'gth	W'th			H'ght
1	15x12	Run of Mine	30- 40	25- 30	20- 25	1000	20"	15"	6'	6'6"	3'9"	20-25	6500
2	20x12		45- 55	40- 50	30- 40	1000	20"	15"	6'	7'6"	3'9"	30-35	7500
3	30x16		65- 80	60- 70	45- 60	1000	20"	15"	6'	8'6"	3'9"	50-60	9500
4	40x18		100-115	80- 90	60- 80	1000	24"	18"	6'	9'0"	3'9"	75-80	10500
5	50x20		120-140	100-110	75-100	1000	24"	20"	6'	9'6"	3'9"	100	12000
6	60x20		150-175	115-130	100-120	1000	24"	22"	6'	11'0"	3'9"	125	16200
JUMBO SPECIFICATIONS													
5	30x24	R. O. M.	150-175	120-140	80-100	750	24"	18"	8'10"	9'	5'4"	85-100	20000
6	36x24		180-200	145-165	120-140	750	30"	20"	8'10"	10'	5'4"	140-150	24000
7	48x30		225-250	200-220	150-175	750	30"	24"	8'10"	11'	5'4"	165-185	28000
8	60x30		275-300	250-275	180-200	750	30"	24"	8'10"	13'	5'4"	200-250	30000

WILLIAMS COKE CRUSHERS

These coke crushers are admirably suited for reducing the coke after it comes from the ovens, crushing the same to sizes desired, with the least degradation possible. Capacities to suit requirements. Catalog No. 3X describes these machines and also gives specifications of the several sizes.

THE WILLIAMS PATENT CRUSHER AND PULVERIZER COMPANY

General Sales Dept., Old Colony Building,

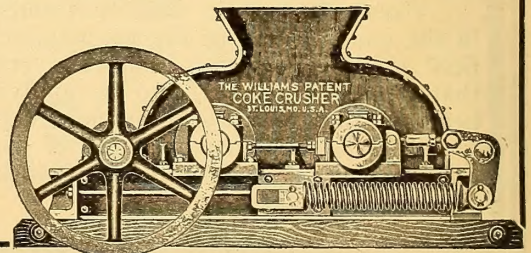
CHICAGO

Plant

ST. LOUIS

Pacific Coast Office, 67 Second Street,

SAN FRANCISCO



INDEX TO ADVERTISERS

PAGE

American Gas Construction Co.	XC
American Gas Furnace Co.	LX
American Metal Hose Co.	LXXXVIII
American Meter Co.	Bottom Lines and LXV
Armstrong Mfg. Co., The	530
Bartlett, Hayward Co.	Inside Last Cover and Back Cover
Beaumont Co., R. H.	XXXVII
Berwind-White Coal Mining Co.	IV
Borden Co.	Bottom Lines
Bower Chemical Mfg. Co., Henry	Bottom Lines
Brown Hoisting Machinery Co.	XXXIV, XXXV
Builders Iron Foundry	LXXXVIII
Byers Co., A. M.	XXVII
Byllesby & Co., H. M.	527
Camden Iron Works	XVI
Cast Iron Pipe Publicity Bureau	XXX
Chambers Mfg. Co.	LVIII
Chaplin-Fulton Mfg. Co.	L
Cheesman & Elliot	Bottom Lines
Clarendon Refining Co.	LXXIX
Cleveland Gas Meter Co.	LXXXVII
Crane Co., Wm. M.	XC
Cruse-Kemper Co.	XVIII
Davison, N. C., Gas Burner & Welding Co.	XC
Deily & Fowler Mfg. Co.	XV
Detroit Heating and Lighting Co.	XCIV
Didier-March Co.	III
Donaldson Iron Co.	LXXXVII
Eclipse Gas Stove Co.	XC
Electric Bond & Share Co.	902
Electrical Testing Laboratories	XCIII
Equitable Meter Co.	LXXXVI
Estate Stove Co.	XCII
Foamite Fire Extinguisher Co.	LXXXVIII
Fox & Co., John	LXXXVII
Gas Age	XXXVIII, LII, LXII, LXXXIX, XCVI
Gas Machinery Co.	XC
General Gas Light Co.	LV
General Vehicle Co.	XII
Gleason Mfg. Co., E. P.	XCIV
Hays Mfg. Co.	LXXVII
Helme & McIlhenny	LXXXV
Hight & Co., W. T.	XCVI
Hope Engineering & Supply Co.	Bottom Lines
Homestead Valve Mfg. Co.	LXXXIX
Humphreys & Miller, Inc.	XCII
Hunt Co., Inc., C. W.	Bottom Lines and XXXIII
Improved Equipment Co.	XXIV
Isbell-Porter Co.	XXIII
Lucey Mfg. Corp.	LXXXII
Ludlow Valve Mfg. Co.	LXXXVI
Lummus Co., Walter E., The	XXII

PAGE

McDonald & Co., D.	LXXXV
Maryland Meter Works	XLVII
Meek Oven Mfg. Co.	LIX
Mesta Machine Co.	Bottom Lines
Metal Hose & Tubing Co.	Bottom Lines
Metric Metal Works	XLVI
Milburn Co., Alex., The	LXXXVI
Miner, Thomas T. W.	XCVI
Munsell & Co., Eugene	XCVII
National Tube Co.	Front Cover, XXVIII, XXIX
Needham Gas Appliance Co.	Bottom Lines
New Process Stove Co.	LVII
Otis Elevator Co.	XXXVI
Oil Well Supply Co.	LXXI
Pittsburgh Meter Co.	XLV
Precision Instrument Co.	Bottom Lines and LXVIII
Randolph, W. W.	XLI
Reliable Stove Co.	Bottom Lines and LVI
Reynolds Gas Regulator Co.	LI
Riter-Conley Co.	XCVIII
Roots Co., P. H. & F. M.	Bottom Lines
Rotary Meter Co.	Back Bone
Rumery Co, Ralph R., The	XCIV
Safety Gas Main Stopper Co.	Bottom Lines and LXXV
Sanderson & Porter	526
Sarco Co.	XCVII
Scientific Heater Co., The	Bottom Lines
Sprague Meter Co.	XLIX
Stacey Mfg. Co., The	XVII, XXI, XLII
Stacey Bros. Gas Construction Co.	XC
Steere Engineering Co.	XCII
Strause Gas Iron Co.	XCVI
Sun Co.	LXXX
Tate-Jones & Co., Inc.	XCI, XCIII
Taylor Instrument Cos.	Bottom Lines and LXVI, LXVII
Tide Water Oil Co.	LXXXI
Tufts Meter Co., Nathaniel	XLVIII
Unger, John S.	LXXXVIII
United Lead Co.	Bottom Lines
Welsbach Co.	VI
Welsbach Street Lighting Company of America	LXI
West Kentucky Coal Co.	LXXXIX
Western Gas Construction Co.	LXXXIV
Westmoreland Coal Co.	LXXXII
Williams & Co., J. H.	Bottom Lines
Williams Patent Crusher & Pulverizer Co., The	VIII
Wood & Co., R. D.	Bottom Lines and Inside First Cover

CLASSIFIED INDEX TO ADVERTISERS

Accidents, Appliances for Use In
Donaldson Iron Co.
Riter-Conley Co.

Acetylene Apparatus
Alexander Milburn Co., The

Ammonia Liquor Concentrators
Bartlett Hayward Co., The
Isbell-Porter Co.
Unger, John S.
Western Gas Construction Co.

Benchies, Coal Gas, Iron Work
Bartlett Hayward Co., The
Gas Machinery Co.
Improved Equipment Co.
Isbell-Porter Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The.
Western Gas Construction Co.
Wood, R. D., & Co.

Benchies, Coal Gas
Didier-March Co.
Improved Equipment Co.

Benzol Stills
Lummus Co., Walter E.
Western Gas Construction Co.

Blowers for Gas Appliances
American Gas Furnace Co.
Roots, P. H. & F. M. Co.

Builders of Coal Gas Plants—See Works

Burners
American Gas Furnace Co.
Davison, N. C., Gas Burner & Welding Co.
Needham Gas Appliance Co., Inc.
Tate, Jones & Co.
Welsbach Co.
Welsbach Street Lighting Co.

Burners, Acetylene
Crane Co., Wm. M.
Milburn Co., The Alexander

By-Product Coke Ovens
Gas Machinery Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The

By-Products Recovery Apparatus
Lummus Co., Walter E.

Calorimeters
American Meter Co.
Improved Equipment Co.
Precision Instrument Co.

Cast Iron Pipe
Camden Iron Works
Cast Iron Pipe Publicity Bureau
Donaldson Iron Co.

Chamber Ovens
Stacey Bros. Gas Construction Co.

Coal
Berwind-White Coal Mining Co.
Westmoreland Coal Co.
West Kentucky Coal Co.

Coal and Coke Handling Machinery
Beaumont & Co., R. H.
Brown Hoisting Machinery Co.
Hunt Co., C. W., Inc.
Isbell-Porter Co.

Coal Bins
Brown Hoisting Machinery Co.

Coal and Coke Buckets
Brown Hoisting Machinery Co.

Coal Gas
Improved Equipment Co.
Isbell-Porter Co.

Cocks, Gas Meter, Natural Gas, Etc.
National Tube Co.

Cocks, Service, "N. T. C." Iron Body
National Tube Co.

Condensers

Bartlett Hayward Co., The
Camden Iron Works
Cruse-Kemper Co.
Isbell-Porter Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.
Wood, R. D., & Co.

Conveyors

Beaumont & Co., R. H.
Brown Hoisting Machinery Co.
Hunt Co., C. W., Inc.

Cranes

Brown Hoisting Machinery Co.

Cranes, Locomotive

Brown Hoisting Machinery Co.

Cranes, Overhead Travelling

Brown Hoisting Machinery Co.

Crushers and Pulverizers

Beaumont & Co., R. H.
Williams Patent Crusher & Pulverizer Co.

Dies

Armstrong Mfg. Co.
Borden Co.

Drilling Machinery

Lucey Mfg. Corp.
Oil Well Supply Co.

Elevators

Otis Elevator Co.

Engineers

Bartlett Hayward Co., The
Byllesby, H. M., & Co.
Cruse-Kemper Co.
Didier-March Co.
Gas Machinery Co.
Hope Engineering & Supply Co.
Humphreys & Miller, Inc.
Improved Equipment Co.
Isbell-Porter Co.
Randolph, Wm. W., Inc.
Rumery Co., Inc., Ralph R.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Steere Engineering Co.
Western Gas Construction Co.
Welsbach Co.

Exhausters and Blowers

Isbell-Porter Co.
Riter-Conley Co.
Roots, P. H. & F. M., Co.

Financial Investments
Byllesby, H. M., & Co.

Fire Brick and Blocks

Didier-March Co.
Improved Equipment Co.

Fire Extinguishers

Foamite Fire Extinguisher Co.

Fixtures, Gas

Gleason, E. P., Mfg. Co.
Welsbach Co.

Furnaces, Gas Heated—See Industrial

Garage Heaters

Scientific Heater Co.

Gas Arc Lamps

General Gas Light Co.
Welsbach Co.

Gaskets

Sarco Co.

Gas Irons

Crane Co., Wm. M.
Strause Gas Iron Co.

Gas Leak Detectors

Taylor Instrument Co.

Gas Ranges

Crane Co., Wm. M.
Chambers Mfg. Co.
Eclipse Gas Stove Co.
Estate Stove Co.
New Process Stove Co.
Meek Oven Co.
Reliable Stove Co.

Gas Works Thermometers

Taylor Instrument Co.

Gauges, Pressure

Precision Instrument Co.

Gauges, Recording

Precision Instrument Co.

Glassware for Lamps

General Gas Light Co.
Gleason, E. P., Mfg. Co.
Welsbach Co.

Governors and Regulators

Chaplin-Fulton Mfg. Co., The
Isbell-Porter Co.
Reynolds Gas Regulator Co.
Sprague Meter Co.
Western Gas Construction Co.

Heaters and Gas Grates

Crane, Wm. M., Co.
General Gas Light Co.
Reliable Stove Co.

Hoists

Beaumont Co., R. H.
Brown Hoisting Machinery Co.
Otis Elevator Co.

Holders, Gas and Tanks

Bartlett Hayward Co., The
Camden Iron Works
Cruse-Kemper Co.
Delly & Fowler Mfg. Co.
Riter-Conley Mfg. Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Steere Engineering Co.
Western Gas Construction Co.
Wood, R. D., & Co.

Hose and Tubing

American Metal Hose Co.
Metal Hose & Tubing Co.

Hydrogen Gas Apparatus
Improved Equipment Co.

Industrial Gas Appliances

American Gas Furnace Co.
Detroit Heating & Lighting Co.
Meeks Oven Co.
Tate-Jones & Co.

Industrial Instruments

Detroit Heating & Lighting Co.
Taylor Instrument Co.

Iron Work

Improved Equipment Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.

Lamp Posts

Donaldson Iron Co.
General Gas Light Co.
Gleason, E. P., Mfg. Co.
Miner, Thos. T. W.
Wood, R. D., & Co.

Lamps, Gas Mantle

General Gas Light Co.
Welsbach Co.

Lamps, Street

General Gas Light Co.
Gleason, E. P., Mfg. Co.
Miner, Thos. T. W.
Welsbach Co.

Lighting, Acetylene Gas

Alexander Milburn Co., The

Lighting Contractors

Welsbach Co.
Welsbach Street Lighting Co.

Machinery for Gas Works

American Gas Construction Co.
Bartlett Hayward Co., The
Beaumont & Co., R. H.
Didier-March Co.
Gas Machinery Co.
Improved Equipment Co.
Isbell-Porter Co.
Roots, P. H. & F. M., Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Steere Engineering Co.
Western Gas Construction Co.

CLASSIFIED INDEX—Continued

Mains, Pipes for

Eyers Co., A. M.
Cast Iron Pipe Publicity Bureau
Donaldson Iron Co.
National Tube Company
Western Gas Construction Co.

Main Tools and Material

Safety Gas Main Stopper Co.
United Lead Co.

Management, Expert Advice in

Humphreys & Miller, Inc.
Randolph, Wm. W., M. E.

Mantles, Gas

Welsbach Co.

Meter Connections

Rotary Meter Co.

Meter Seals

Crane Co., Wm. M.

Meters, Gas Consumers'

Cleveland Gas Meter Co.
Equitable Meter Co.
Helme & McIlhenny
McDonald, D., & Co.
Metric Metal Works
Sprague Meter Co.
Tufts, Nathaniel, Meter Works

Meters, Station

American Meter Co.
Builders Iron Foundry
Helme & McIlhenny
McDonald, D., & Co.
Pittsburgh Meter Co.
Rotary Meter Co.

Mica

Munsell & Co., Eugene

Oil, Fuel

Clarendon Refining Co.

Oil Fuel for Internal Combustion Engines

Clarendon Refining Co.

Oil for Gas Apparatus

Clarendon Refining Co.

Oil for Gas Making

Sun Co.
Tide Water Oil Co.

Oil, Lubricating

Clarendon Refining Co.

Ovens

Crane Co., Wm. M.
Detroit Heating & Lighting Co.
Meek Oven Co.

Paints for Gas Holders

Cheesman & Elliott

Photometers, Jet

American Meter Co.

Pipe Fitters' Tools and Material

American Meter Co.
Armstrong Mfg. Co.
Borden Co.
Hays Mfg. Co.
Williams Co., J. H.

Pipe Fittings

American Meter Co.
Hays Mfg. Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Williams Co., J. H.

Pipes—See Mains, Pipes for

Pipe Specials

Eyers Co., A. M.
Cast Iron Pipe Publicity Bureau
Donaldson Iron Co.
Fox, John, & Co.
Ludlow Valve Mfg. Co.
Safety Gas Main Stopper Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.
Wood, R. D., & Co.

Pipe, Steel

National Tube Company

Poles, Tubular Steel

National Tube Company

Producer Gas Plants

Improved Equipment Co.
Wood, R. D., & Co.

Pumps

Lucey Mfg. Corp.
Roots, P. H., & F. M., Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The

Purifiers

Bartlett Hayward Co., The
Camden Iron Works
Isbell-Porter Co.
Stacey Bros. Co. Construction Co.
Stacey Manufacturing Co., The
Steere Engineering Co.
Western Gas Construction Co.
Wood, R. D., & Co.

Purifying Oxide and Material

Bower, H., Chemical Mfg. Co.

Pyrometers

Taylor Instrument Co.

Radiator Traps

Sarco Co.

Ranges and Gas Cooking Appliances

Chambers Mfg. Co.
Eclipse Gas Stove Co.
Estate Stove Co.
New Process Stove Co.
Reliable Stove Co.

Range Leg Rests

Hight, W. T., & Co.

Regulators

Reynolds Gas Regulator Co.

Retorts, Coal Gas

Didier Gas Stove Co.
Gas Machinery Co.
Improved Equipment Co.

Scrubbers

Bartlett Hayward Co., The
Camden Iron Works
Cruse-Kemper Co.
Isbell-Porter Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.
Wood, R. D., & Co.

Silica Brick

Improved Equipment Co.

Steam Traps

Sarco Co.

Stills

Lummus Co., Walter E.
Stacey Mfg. Co.
Unger, John S.H.

Structural and Plate Work

Bartlett Hayward Co., The
Camden Iron Works
Cruse-Kemper Co.
Deily & Fowler Mfg. Co.
Riter-Conley Mfg. Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.
Wood, R. D., & Co.

Tanks, Oil and Water

Bartlett Hayward Co., The
Cruse-Kemper Co.
Deily & Fowler Mfg. Co.
Riter-Conley Mfg. Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.

Tapping Machines

Hays Manufacturing Co.

Tar Extractors

Bartlett Hayward Co., The
Cruse-Kemper Co.
Isbell-Porter Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.

Tar Stills

Western Gas Construction Co.

Temperature Regulators

Sarco Co.
Taylor Instrument Co.

Testing, Commercial and Electrical

Electrical Testing Laboratories

Testing, Photometrical

Electrical Testing Laboratories

Testing, Service

Electrical Testing Laboratories

Testing of Gas, Apparatus for

American Meter Co.
Taylor Instrument Co.

Thermometers, Indicating and Recording

Precision Instrument Co.
Spray Instrument Co.

Toluol Plants

Lummus, Walter E., Co.

Tool Holders

Williams, J. H., Co.

Tools for Gas Making

Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.

Tramrail Systems

Brown Hoisting Machinery Co.

Trolleys

Brown Hoisting Machinery Co.

Trucks, Motor

General Vehicle Co.

Valves for Gases or Liquids

Donaldson Iron Co.
Homestead Valve Mfg. Co.
Isbell-Porter Co.
Ludlow Valve Mfg. Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Steere Engineering Co.
Western Gas Construction Co.
Wood, R. D., & Co.

Valves, Automatic Plate

Mesta Machine Co.

Vises, Pipe

Williams, J. H.

Washers

Western Gas Construction Co.
Lummus Co., Walter E.

Water Gas Apparatus

Bartlett Hayward Co., The
Western Gas Construction Co.

Water Heaters

Crane Co., Wm. M.

Welding and Cutting Equipment

Alexander Milburn Co., The

Welding Apparatus

Alexander Milburn Co., The

Welding Supplies

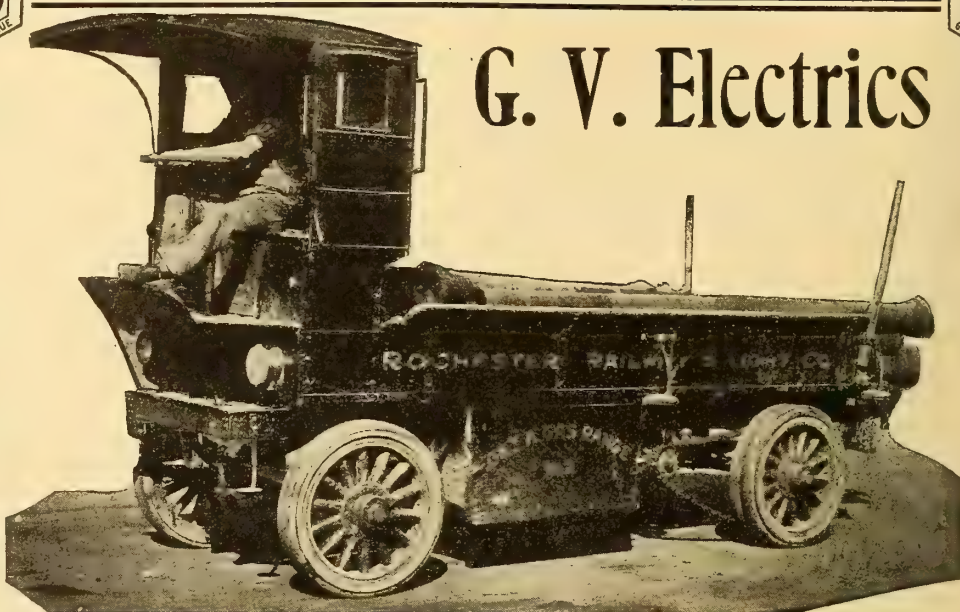
Alexander Milburn Co., The

Works Constructors, Coal Gas

Bartlett Hayward Co., The
Cruse-Kemper Co.
Didier-March Co.
Gas Machinery Co.
Improved Equipment Co.
Isbell-Porter Co.
Riter-Conley Co.
Stacey Bros. Gas Construction Co.
Stacey Manufacturing Co., The
Western Gas Construction Co.
Wood, R. D., & Co.

Wrenches

Williams Co., J. H.



G. V. Electrics

FOR GAS COMPANY SERVICE

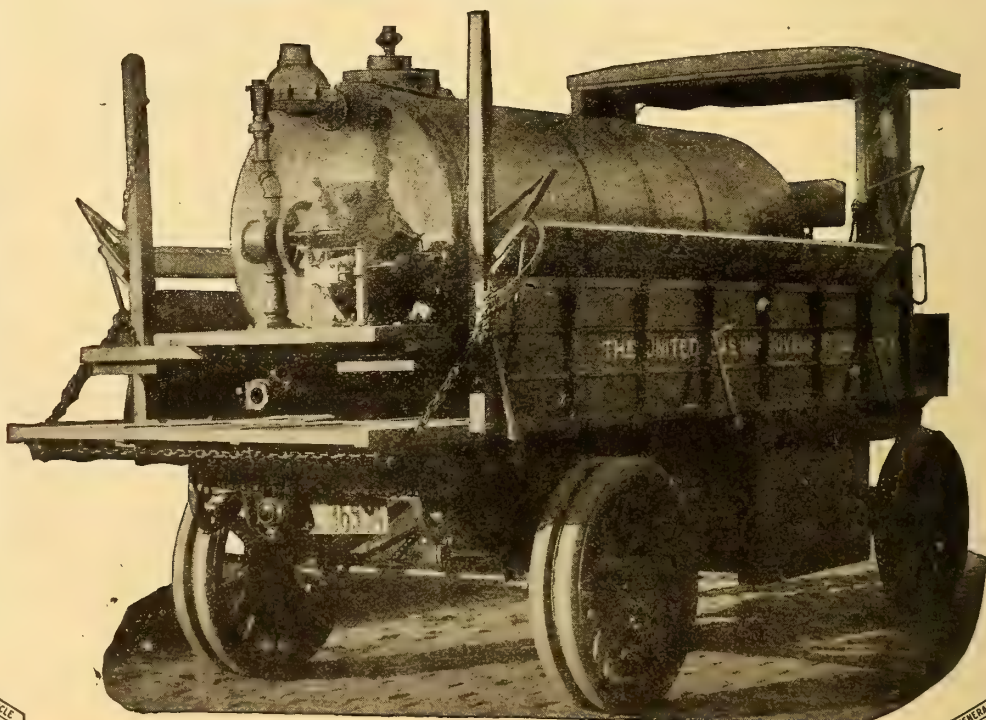
A wide variety of special adaptations of G. V. Electrics has been made for gas company service, including every department from pumping drips and carrying heavy cast iron pipe,—to range and appliance delivery,—and emergency work.

We have statistics covering comparative cost of operation in all parts of the country. Write for this data,—and for names of large gas companies now using G. V. Trucks.

GENERAL VEHICLE COMPANY, INC.

Established 1901

General Office and Factory: Long Island City, N. Y.



GAS HOLDERS STORAGE TANKS

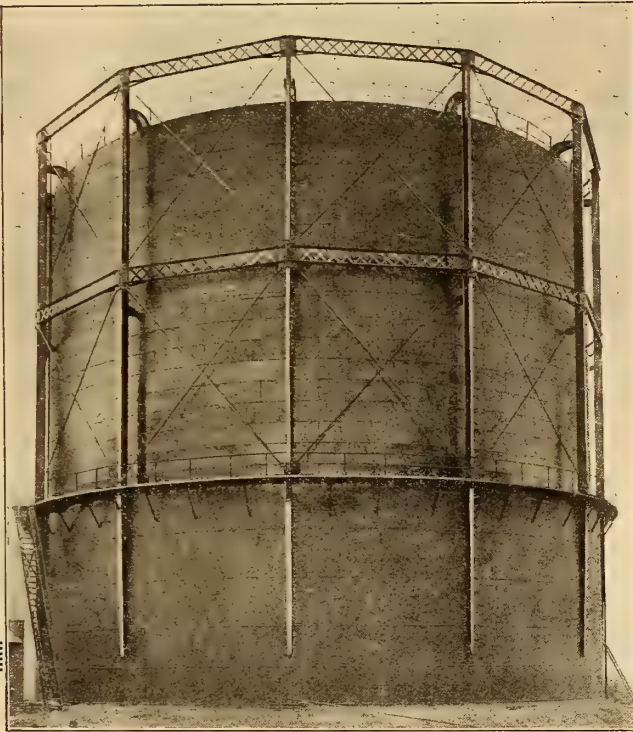
Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

Correction factors for reducing the volume of moisture-saturated gas to the 30 inches barometer and 60 deg. Fah. standard.

Tem- pera- ture		Total gas pressure—Inches of mercury												Total gas pressure—Inches of mercury																																																			
		28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	30.0	30.1	30.2	30.3	30.4	30.5																																						
° F		0.825	0.828	0.831	0.834	0.837	0.840	0.844	0.847	0.850	0.853	0.856	0.859	0.863	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.904	0.907	0.910	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017
99		0.828	0.831	0.834	0.838	0.841	0.844	0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017	
98		0.831	0.834	0.838	0.841	0.844	0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017		
97		0.834	0.838	0.841	0.844	0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017			
96		0.837	0.841	0.844	0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017				
95		0.841	0.844	0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017					
94		0.844	0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017						
93		0.847	0.850	0.853	0.856	0.859	0.862	0.866	0.869	0.872	0.875	0.878	0.881	0.884	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017							
92		0.849	0.852	0.855	0.858	0.861	0.864	0.867	0.870	0.873	0.876	0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017							
91		0.852	0.855	0.858	0.861	0.864	0.867	0.870	0.873	0.876	0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017								
90		0.855	0.858	0.861	0.864	0.867	0.870	0.873	0.876	0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017									
89		0.858	0.861	0.864	0.867	0.870	0.873	0.876	0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017										
88		0.861	0.864	0.867	0.870	0.873	0.876	0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017											
87		0.864	0.867	0.870	0.874	0.877	0.880	0.883	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.929	0.932	0.935	0.938	0.941	0.944	0.947	0.950	0.953	0.956	0.959	0.962	0.965	0.968	0.971	0.974	0.977	0.980	0.983	0.986	0.989	0.992	0.995	0.998	1.001	1.004	1.007	1.010	1.014	1.017													
86		0.867	0.870	0.874	0.877	0.880	0.883	0.887	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	0.926	0.929	0.932	0.935	0.938	0.941	0.944	0.947	0.950	0.953	0.956	0.959	0.962	0.965	0.968	0.971	0.974	0.977	0.980	0.983	0.986	0.989	0.992	0.995	0.998	1.001	1.004	1.007	1.010	1.014	1.017														
85		0.870	0.873	0.876	0.880	0.883	0.886	0.889	0.892	0.895	0.898	0.901	0.904	0.907	0.910	0.913	0.916	0.919	0.922	0.925	0.928	0.931	0.934	0.937	0.940	0.943	0.946	0.949	0.952	0.955	0.958	0.961	0.964	0.967	0.970	0.973	0.976	0.979	0.982	0.985	0.988	0.991	0.994	0.997	1.000	1.003	1.007	1.010	1.014	1.017															
84		0.873	0.876	0.879	0.883	0.886	0.889	0.892	0.895	0.898	0.901	0.904	0.907	0.910	0.913	0.916	0.919	0.922	0.925	0.928	0.931	0.934	0.937	0.940	0.943	0.946	0.949	0.952	0.955	0.958	0.961	0.964	0.967	0.970	0.973	0.976	0.979	0.982	0.985	0.988	0.991	0.994	0.997	1.000	1.003	1.007	1.010	1.014	1.017																
83		0.876	0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017																
82		0.879	0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017																	
81		0.882	0.885	0.888	0.891	0.894	0.897	0.900	0.903	0.906	0.909	0.912	0.915	0.918	0.921	0.924	0.927	0.930	0.933	0.936	0.939	0.942	0.945	0.948	0.951	0.954	0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978	0.981	0.984	0.987	0.990	0.993	0.996	0.999	1.001	1.004	1.007	1.010	1.014	1.017																		
80		0.884	0.888	0.891	0.894	0.897	0.901	0.904	0.907	0.910	0.913	0.916	0.919	0.922	0.925	0.928	0.931	0.934	0.937	0.940	0.943	0.946	0.949	0.952	0																																								

Formula used: Correction factor = $\frac{(P-E)}{(t+459.4)} \left(\frac{60+459.4}{30+459.4} \right)^{1.016}$
 P = total gas pressure
 E = vapor pressure of water at t°
 t = temperature of gas ($^\circ F$)

GAS HOLDERS



**DEILY & FOWLER
MFG. CO.**

39 LAUREL ST., PHILADELPHIA, PA.

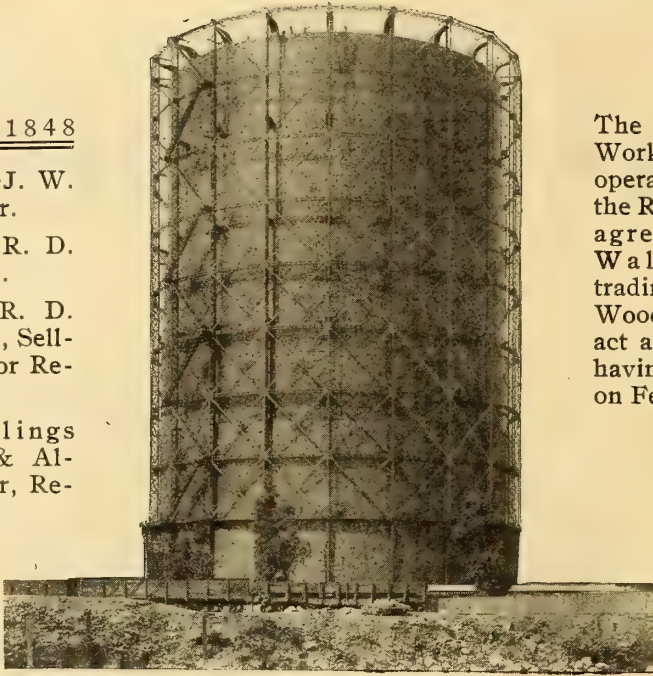
Founded 1848

1848-1884—J. W.
& J. F. Starr.

1884-1914—R. D.
Wood & Co.

1914-1918—R. D.
Wood & Co., Sell-
ing Agents for Re-
ceivers.

1918—Heulings
Lippincott & Al-
fred J. Major, Re-
ceivers.



6,000,000 cu. ft. Holder in Steel Tank

The Camden Iron Works is now being operated directly by the Receivers, their agreement with Walter Wood, trading as R. D. Wood & Co. to act as their agent, having terminated on Feb. 28th, 1918.

Gas Holders and Tanks, Purifiers, Condensers,
Washers, Scrubbers, Metal Work for
Benches, Roofs and Structural Work,
Apparatus for Gas Plants,
Cast Iron Pipe and Fittings.

Mechanically Operated Gas Producers.
Hydraulic Tools Centrifugal Pumps

CAMDEN IRON WORKS

Heulings Lippincott and Alfred J. Major, Receivers

CAMDEN, N. J.



**The Stacey
Manufacturing
Company**

GAS HOLDERS

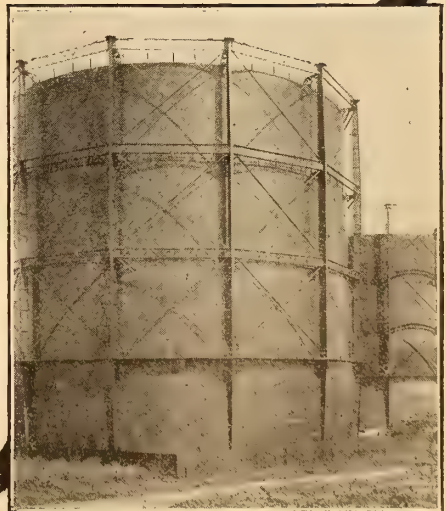
**ESTABLISHED
1851**

TANKS

and

**COMPLETE GAS PLANT
EQUIPMENT**

**Cincinnati
Ohio**



**"C-K CO."
GAS HOLDERS**

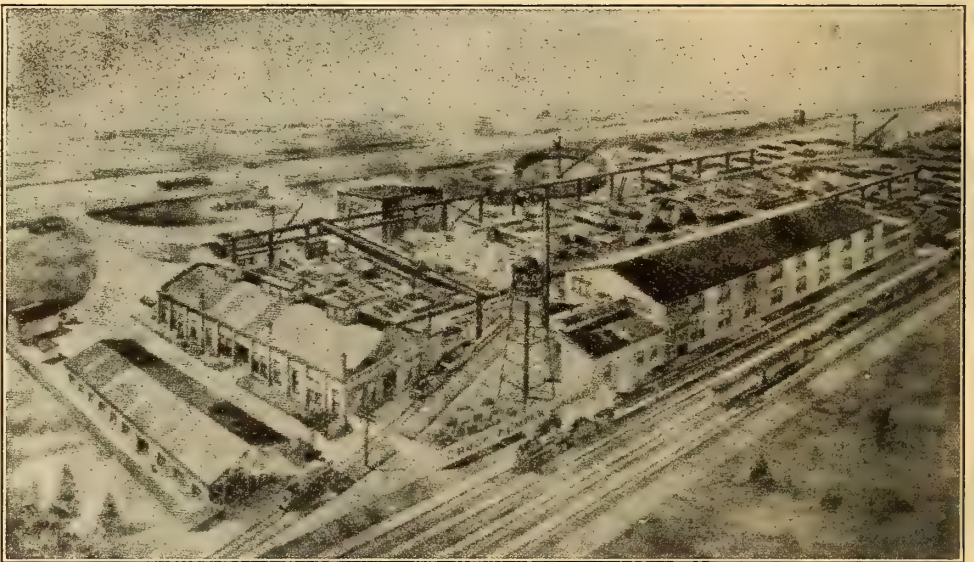
**ARE MADE
AT THE**



**CRUSE - KEMPER
PLANT**

Ambler, Penna.

—
Cable:
CRUSEKEMPER, AMBLER
Western Union Code



CRUSE-KEMPER Co.
AMBLER, PENNA.

Engineers - Contractors - Manufacturers

STEEL TANKS
WATER - OIL - SPECIAL

STRUCTURAL WORK
TOWERS - TRUSSES - SPECIAL

PLATE WORK

WE ERECT EVERYWHERE

Prompt deliveries assured by large stock constantly replenished.

MACHINERY

Works
Shop
Field

Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

SECTIONAL PIPE COVERING

(Compiled by the Continental Supply Co.)

Fire Felt Covering is made of fibrous asbestos in size to fit $\frac{1}{2}$ to 16-in. pipe. Thickness, 1 to 3 inches; jacketed with canvas and held in place with metal bands.

Asbestocel Fire Proof Covering is constructed of successive layers of plain corrugated asbestos paper; it is made to fit $\frac{1}{2}$ to 16-in. pipe and in thicknesses of $\frac{1}{2}$ to 3 in., jacketed with canvas and held in place with metal bands.

Asbestos Moulded Covering in sizes to fit $\frac{1}{2}$ to 12-in. pipe; with canvas jacket and lap to be pasted over ends; held in place with metal bands.

Magnesia Covering is composed of 85 per cent pure carbonate of magnesium, combined with asbestos fibre, and formed into shape under hydraulic pressure; made to fit $\frac{1}{2}$ to 14-in. pipe and in thicknesses of 1 to 3 in. Jacketed with canvas, and held in place with metal bands.

Mineral Wool Covering, made of best grade of rock wool.

Air cell: Made from the same material as asbestocel, but with corrugations running lengthwise; it is made to fit $\frac{1}{2}$ to 16-in. pipe and in thicknesses of $\frac{1}{2}$ to 2 in. Neatly finished with canvas and bands.

Vitribestos: is a sectional Vitrified Air Cell Covering. Can be made and applied without any inflammable outer covering. Furnished to fit $\frac{1}{2}$ to 12-in. pipe, canvased and with bands.

Standard Express: Composed of $\frac{3}{8}$ -in. asbestos felt and $\frac{5}{8}$ -in. corrugated wool felt; Adapted for surfaces, subject to vibration. Furnished with canvas jacket and brass bands.

Eureka: Made of $\frac{1}{4}$ -in. asbestos felt on inside of section and the balance ($\frac{3}{4}$ -in.) of alternate layers of asbestos and wool felt; finished with canvas jacket with lap and metal bands.

National Wood Felt Covering is made of corrugated wool felt, with an interlining of three layers of asbestos felt, stitched together with steel wire; furnished without canvas jacket, unless so ordered.

Champion Wool Felt Covering, for low pressure work, made of corrugated wool felt, $\frac{5}{8}$ -in. thick with one layer of asbestos; strong sheeting jacket with lap to be pasted over ends; held in place with metal bands.

Aqua Wool Felt Covering, for hot water pipes, made of corrugated wool felt $\frac{3}{8}$ -in. thick with one layer of asbestos paper.

Zero: To prevent freezing of cold water pipes. Composed of corrugated wool felt $\frac{3}{8}$ -in. thick with interlining $\frac{3}{4}$ -in. hair felt. Furnished with canvas and metal bands.

COLORS OF STEEL AT THE GIVEN TEMPERATURES BY SEVERAL AUTHORITIES

English (Hadfield)	Deg. Fah.	Metallurgy of Steel (Howe)	Deg. Fah.	English (Thwaite)	Deg. Fah.
Blood red	1230	Dull red	1100	Visible red	977
Medium red	1463	Full cherry	1292	Dull red	1292
Bright red	1692	Light red	1562	Cherry red	1652
Light yellow	1780	Full yellow	1700	Rich orange	2012
Yellow	1980	Light yellow	1922	White	2372
High yellow	2066	Very light yellow	2112	Dazzling white	2732
White	2264	White	2102		

WEIGHT OF DRY AIR IN POUNDS PER CUBIC FOOT

30-in. Barometer					
°F.	Lbs. cu. ft.	°F.	Lbs. cu. ft.	°F.	Lbs. cu. ft.
0	0.0863	210	0.0593	600	0.0374
10	0.0845	220	0.0584	650	0.0358
20	0.0827	230	0.0575	700	0.0342
30	0.0810	240	0.0566	750	0.0328
40	0.0794	250	0.0559	800	0.0315
50	0.0779	260	0.0551	850	0.0303
60	0.0764	270	0.0544	900	0.0292
70	0.0749	280	0.0536	950	0.0282
80	0.0736	290	0.0529	1000	0.0272
90	0.0722	300	0.0522	1100	0.0254
100	0.0709	320	0.0509	1200	0.0239
110	0.0696	340	0.0496	1300	0.0226
120	0.0685	360	0.0484	1400	0.0214
130	0.0673	380	0.0473	1500	0.0203
140	0.0661	400	0.0461	1600	0.0193
150	0.0651	420	0.0451	1700	0.0184
160	0.0640	440	0.0441	1800	0.0176
170	0.0630	460	0.0432	1900	0.0168
180	0.0620	480	0.0422	2000	0.0161
190	0.0611	500	0.0414	3000	0.0115
200	0.0602	550	0.0393		

The Stacey Manufacturing Company

ESTABLISHED 1851

GAS PLANT EQUIPMENT

HOLDERS

PURIFIERS

BENCH CASTINGS

STILLS

TANKS

SCRUBBERS

VALVES

Cincinnati

L U M M U S

COMPLETE

TOLUOL and BENZOL PLANTS

INCLUDING

Absorbing Towers, Stripping Stills,
Crude Light Oil and Refining Stills,
and Washers.

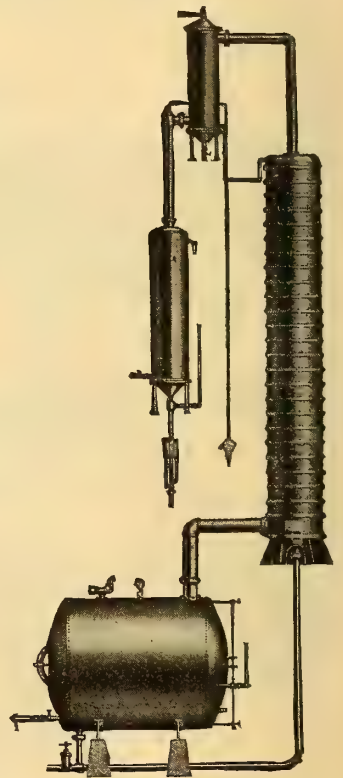
*Refining Equipment for Continuous
or Intermittent Operations.*

**High Recovery and
Purity of Product**

**Special Recovery and Refining
Apparatus for Small Plants**

Demonstration Size Still Outfits

For 25 and 50 gallon still charge



Benzol Refining Still
With External Reflux.

Ammonia Concentrators and Refining Stills

COMPLETE AMMONIA PLANT

THE WALTER E. **LUMMUS** COMPANY

OFFICE: 173 Milk Street, Boston

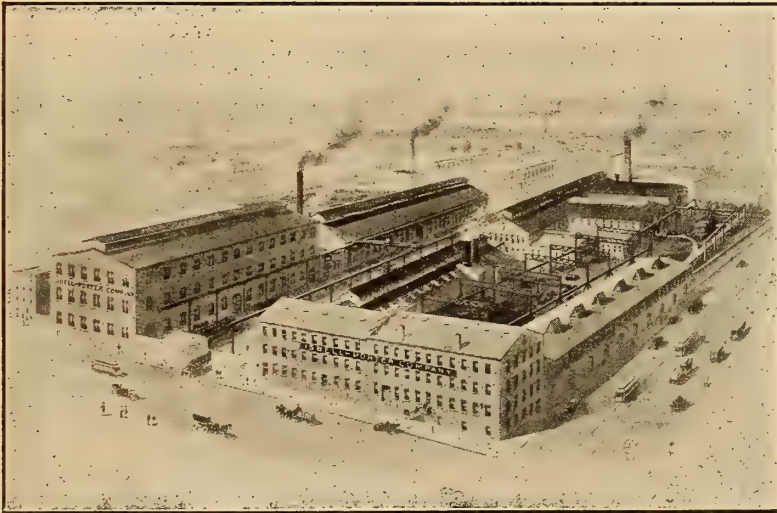
WORKS: Everett, Mass.

ISBELL-PORTER CO.

Engineers, Founders
and Machinists

Builders of all Apparatus for Gas Works

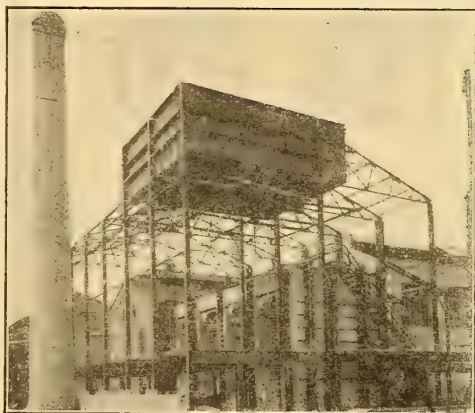
ESTIMATES AND DRAWINGS
FURNISHED ON APPLICATION



OFFICE AND WORKS

NEWARK, NEW JERSEY

BUSINESS ESTABLISHED 1865



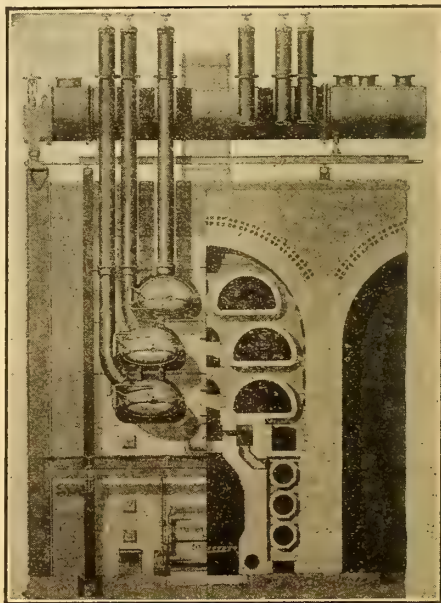
THE IMPROVED EQUIPMENT COMPANY

Combustion Engineers

Designers and Builders of Gas Benches;
 Coal Gas Ovens; Complete Coal Gas Plants;
 Water Gas Plants; Hydrogen Plants and
 Special Furnaces for Industrial Purposes.

Sole Distributors of "IECO"
 Brand of Refractory Material

Executive and Sales Offices:
 60 Wall Street
 NEW YORK CITY, N. Y.



SILICA RETORTS AND SETTINGS

GAS PIPE

Cast Iron Pipe
Wrought Pipe

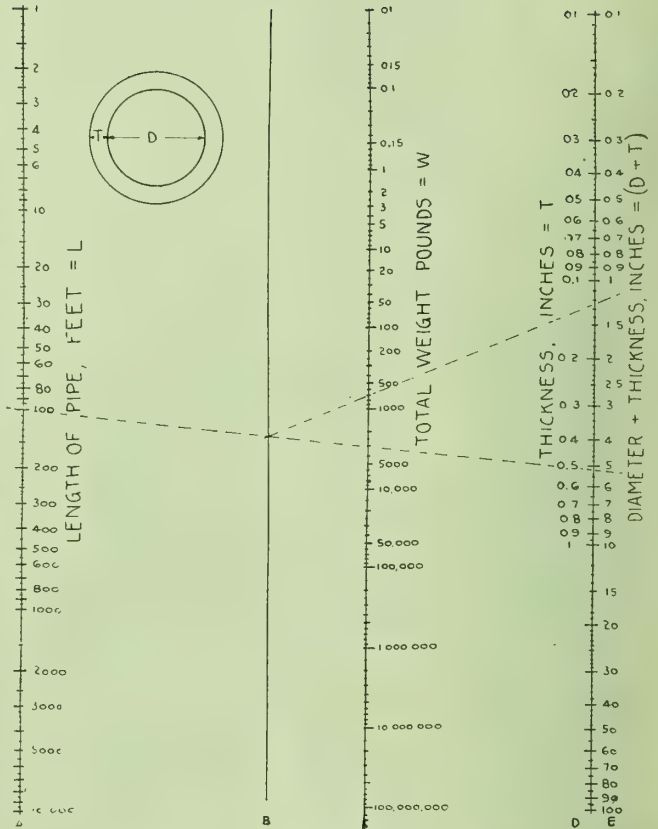
THE WEIGHT OF PIPE

By W. F. Schaphorst, in the Gas Age, Jan. 15, 1917

Since there is so little difference in the weight of wrought iron and wrought steel pipe this chart may be used for either. It is based on 0.283 lb. per cu. in., or 490 lb. per cu. ft. The chart must not be used for calculating cast iron pipe, however, without remembering that the final result must be multiplied by 0.92. That is, a cast iron pipe weighs only 92 per cent as much as a wrought iron or mild steel pipe of the same dimensions.

Example: What is the weight of a wrought iron pipe line 100 ft. long, 5 in. internal diameter and $\frac{1}{8}$ inch thick.

Run a straight line from the 100 (column A) to the sum of the diameter and thickness, 5.125 in. (column E) and locate the intersection with column B. From that point of intersection now run over to the thickness, 0.125 in. (column D) and the answer is found to be 700 lb. in column C. If the pipe were cast iron the weight would be $700 \times 0.92 = 644$ lb.



Graphic Calculation, Weight of Pipe

WEIGHTS OF PIPE METALS

(National Tube Co.)

Metal	Per cubic inch	Metal	Per cubic inch
Wrought steel	0.2833	Wrought aluminum	0.097
Wrought iron	0.260	Cast aluminum	0.092
Wrought copper	0.320	Lead	0.411
Wrought brass	3.303	Tin	0.267
Wrought nickel	0.313		

EXTRA STRONG STEAM, GAS AND WATER PIPE

Subject to Usual Variation in Weight of 5 Per Cent

Size, inches	Nominal inside diameter, inches	Nominal thickness inches	Nominal weight per foot, lbs.	Size, inches	Nominal inside diameter, inches	Nominal thickness inches	Nominal weight per foot, lbs.
$\frac{1}{8}$	0.215	0.095	0.314	$3\frac{1}{2}$	3.364	.0318	12.505
$\frac{1}{4}$	0.302	0.119	0.535	4	3.826	0.337	14.983
$\frac{3}{8}$	0.423	0.126	0.738	$4\frac{1}{2}$	4.290	0.355	17.611
$\frac{1}{2}$	0.546	0.147	1.087	5	4.813	0.375	20.778
$\frac{3}{4}$	0.742	0.154	1.473	6	5.761	0.432	28.573
1	0.957	0.179	2.171	7	6.625	0.500	38.048
$1\frac{1}{4}$	1.278	0.191	2.996	8	7.625	0.50	43.388
$1\frac{1}{2}$	1.500	0.200	3.631	9	8.625	0.500	48.728
2	1.939	0.218	5.022	10	9.750	0.500	54.735
$2\frac{1}{2}$	2.323	0.276	7.661	11	10.750	0.500	60.075
3	2.900	0.300	10.252	12	11.750	0.500	65.415

HOW TO SPECIFY PIPE

If you want genuine wrought iron full weight guaranteed pipe.

ALL genuine wrought iron pipe is "wrought pipe." But all "wrought pipe" is not **genuine wrought iron**.

If you ask for bids and your specifications simply read "genuine wrought iron," "wrought iron" or "wrought pipe" you will not get Byers. The processes and materials employed in the manufacture of Byers pipe are such that it is impossible to sell it at as low a price as steel or cheap wrought iron pipe containing steel scrap. Also, many of the cheaper grades of pipe are as much as 15% under weight, while Byers is guaranteed to be full weight within 2½%.

In order to insure getting full weight genuine wrought iron pipe the following condensed specification may be used. If there is any doubt that pipe furnished on this specification is full weight and **genuine wrought iron**, a sample may be sent to any testing laboratory or to us and the nature of the material can be easily determined.

SPECIFICATIONS

All pipe shall be hand-puddled genuine wrought iron, manufactured exclusively from pig iron refined in a puddling furnace, rolled into muck bar, cut, piled and rolled into skelp without the use of foreign scrap of any kind.

A variation in weight of each length not exceeding 5% above and 2½% below full standard weight is permissible.

Couplings must be made from same quality iron as the pipe.

Manufacturer's name or trade mark (as well as year of manufacture) must be rolled in the metal of the pipe every few feet.

Copies of complete specifications for genuine wrought iron pipe will be furnished on request.

A. M. BYERS COMPANY, PITTSBURGH, PA.

ESTABLISHED 1864

New York

Boston

Chicago

Houston

Los Angeles

BYERS GENUINE **WROUGHT IRON PIPE**
FULL WEIGHT GUARANTEED



Flexible as a Giant

500 feet of

“NATIONAL” ROTARY

**Wonderful Experience at Ada Bell Oil Company Well No. 2
Hunters Lease, Batson, Texas**

“This well was 2,000 feet deep, when they commenced to pull out the pipe to change the bit. They had all the pipe out of the ground except 26 lengths when the gas began to show up. They screwed the swivel in the pipe to try and hold the pressure down, but the gas got the best of them and blew the pipe completely out of the well **WITHOUT MAKING A SIGN OF A BREAK IN A SINGLE JOINT OF THE 26 LENGTHS.**

“The swivel on top of the pipe struck the ground about 75 or 80 feet from the bottom of the derrick. The rest of the pipe continued to elbow right on through the side of the derrick, making a loop, or, in other words, just like cracking a whip. The bit landing farthest from the derrick was in the neighborhood of 350 feet from the swivel. This is the most marvelous thing that I have ever seen in the oil fields, and has caused considerable talk among oil drillers in South Texas Oil fields.”

(Extract from letter describing the picture shown.)



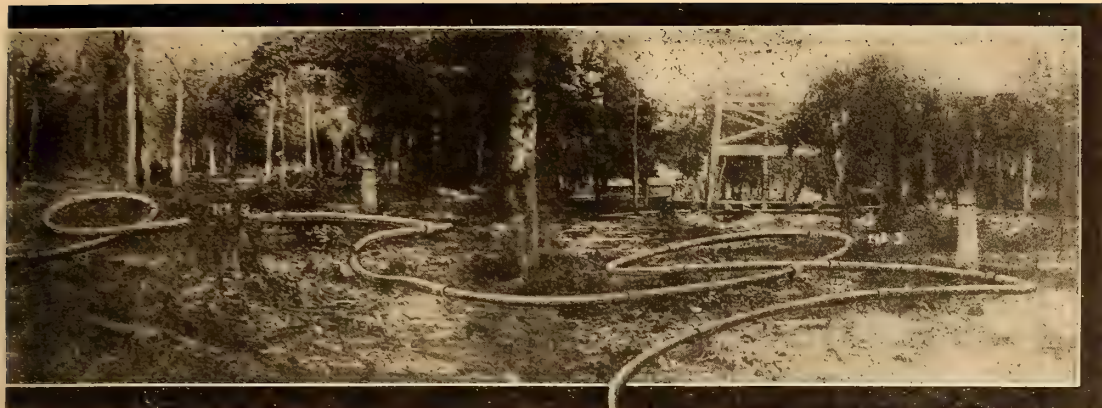
NATIONAL TUBE COMPANY

General Sales Offices:

FRICK BUILDING, PITTSBURGH, PA.

DISTRICT SALES OFFICES

Atlanta	Boston	Chicago	Denver	New Orleans	New York	Philadelphia
Pittsburgh		St. Louis		St. Paul		Salt Lake City
PACIFIC COAST REPRESENTATIVES:—U. S. Steel Products Company						
San Francisco		Los Angeles		Portland		Seattle
EXPORT REPRESENTATIVES:—U. S. Steel Products Company, New York City						



Whiplash

4-Inch

PIPE *Blown Out of the Well!*

¶ You've read the story. You've looked at the picture. Now think over the significance of this "NATIONAL" performance.

¶ In one word it means **QUALITY**. Quality of material—Quality that is shown in the marvelous flexibility of the wrought steel in this pipe, and the unexcelled tensile strength in every inch of it. Note this—after this racking test there wasn't a flaw in the 500 feet of this "NATIONAL" Rotary Pipe.

¶ "NATIONAL" Quality is not chance.—it is a regular part of every inch of the pipe. It will pay you to get "NATIONAL" pipe on account of this Quality.

¶ Years and years may pass on your work before the "NATIONAL" pipe will ever be put to a test like this—if it ever is. But there's wonderful satisfaction—and profit—in having a pipe that can stand up successfully when the test comes.

¶ And this pipe is "NATIONAL"—the pipe that withstands the tensile and twisting and corrosive tests in ordinary and extraordinary service—and proves it can. In whatever field you use pipe, "NATIONAL" will meet your requirements.



¶ To readily identify "NATIONAL" material and as protection to manufacturer and consumer alike, the practice of National Tube Company is to roll in raised letters of good size on each few feet of every length of welded pipe the name "NATIONAL" (except on the smaller butt-weld sizes, on which this is not mechanically feasible on these smaller butt-weld sizes the name "NATIONAL" appears on the metal tag attached to each bundle of pipe).

¶ When writing specifications or ordering tubular goods, al-

LOOK
FOR THE
MARK

NATIONAL

Name Rolled in
Raised Letters on
National Tube
Company Pipe

ways specify "NATIONAL" pipe, and identify as indicated.

¶ In addition, all sizes of "NATIONAL" welded pipe four in. and under are subjected to a roll-knibbling process known as Spellerizing to lessen the tendency to **warpage** corrosion, especially in the form of pitting. This Spellerizing process is peculiar to "NATIONAL" pipe, to which process National Tube Company has exclusive rights.

¶ "NATIONAL" pipe was awarded the **GRAND PRIZE** (highest possible award) at Panama Pacific International Exposition, 1915.



SAFEGUARD YOUR INVESTMENT

Underneath the ground, where there are numberless destructive influences constantly at work and where long life is most essential because of the difficulty and expense of tearing up and replacing pavements—there

CAST IRON PIPE

furnishes a perpetual safeguard for gas-main investment.

With a continuous service record of over 250 years, Cast Iron Pipe has become the standard for gas and water mains in all principal cities throughout the world.

The use of other kinds of pipe has proven an unfortunate and expensive experiment.



The Cast Iron Pipe Publicity Bureau

1 Broadway

New York



HANDLING MACHINERY

Coal
Coke
Ash

WEIGHT OF STANDARD SIZES OF COALS FROM VARIOUS LOCALITIES

(From Technical Paper 184 of the U. S. Bureau of Mines)

Mine or name	Size	Lbs. per cu. ft.	Mine or name	Size	Lbs. per cu. ft.
Penna.—Anthracite:			Penna.—Bituminous:		
D., L. & W.	Egg	56.0	Caldwell	0 10	90 51.0
" " "	Furnace	55.0	Cornwall, No. 2	0 10	90 49.5
" " "	Chestnut	56.5	Clarion	40 30	30 51.5
" " "	Furnace	52.0	Dubois, No. 1	60 15	25 53.0
" " "	Egg	58.0	Shaft No. 2	60 20	20 54.5
" " "	Chestnut	52.5	Dagus	35 25	40 50.0
Susque. Coal Co.	Egg	53.0	Clarion	40 30	30 51.5
D. & H. R. R.	Pea	54.5	Robertsdale	60 25	15 54.0
P. & R. R.	Pea	54.0	Penn Mar	0 0	100 52.0
Luzerne	Pea	53.5	" "	15 10	75 52.5
Buck Run	No. 1 Buckwheat	50.5	Quemahoning	20 20	60 53.0
Schuylkill	Egg	56.5	West Va.—Bituminous:		
Nanticoke	Furnace	54.5	Pocohontas, 324	34 5	92 57.5
Schuylkill	Egg	57.5	Caswell Creek	20 10	70 55.0
D. & H. R. R.	Egg	57.0	Pocohontas, No. 3	4 2	94 54.0
Wilkes-Barre	Furnace	54.5	" "	5 10	85 55.5
" "	Furnace	57.5	Kanawha	75 15	10 55.5
Hazleton	Egg	56.0	Morgantown	50 20	30 51.0
Scranton	Chestnut	52.5	Kent'ky—Bituminous:		
Lackawanna	Egg	54.0	Glendon	95 5	0 45.0
Penna.—Bituminous:			Straight Creek	95 5	0 44.0
Peters Creek	100	46.5	Pioneer	100 0	0 45.5
Armstrong	75 20 5	50.0	Mountain Ash	95 5	0 43.0
Sagamore	70 20 10	50.5	Illinois—Bituminous:		
Seminole	60 25 10	50.5	Big Creek	80 15	5 46.5
Argyle, No. 1	10 15 75	51.0	New Virginia	100 0	0 48.5
Yellow Run	0 10 90	52.0	Indiana—Bituminous:		
Forge, No. 1	15 10 75	51.5	Calora	75 10	15 48.0
Peerless, No. 4	45 15 40	52.5	La Salle, No. 1	85 10	5 45.0
Cronk, No. 5	60 20 20	49.5	Alabama—Bituminous:		
Wilson, No. 2	90 5 5	47.0	T. C. I. Group	Run of mine	54.0
Rogers, No. 3	95 5 0	47.0	Corona	75 15	10 53.0
			Acton	0 10	90 53.0
			Blocton	Domestic	45.5

CHANGES IN WEIGHT OR VOLUME OF SLACK COAL BY WETTING AND SHAKING

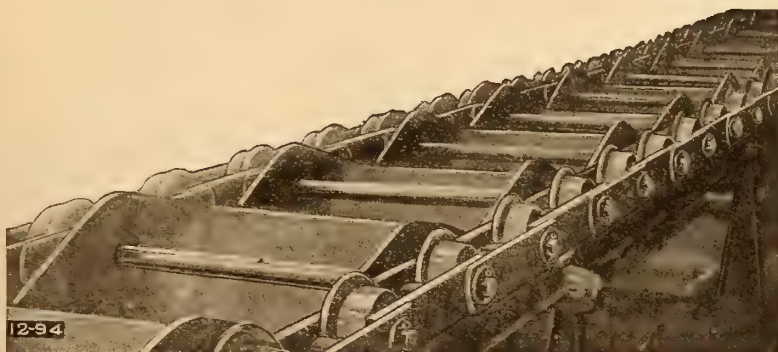
(From Technical Paper 184, U. S. Bureau of Mines)

Date of test 1915-1916	Dec. 13	Dec. 16	Jan. 20	Jan. 21	Jan. 22	Jan. 23
Weight of 8 cu. ft. of coal in original condition (pounds)	393	372	388	...	...	...
Weight of 8 cu. ft. of same coal after wetting (pounds)	419	393	416	392	388	388
Settling when shaken (inches)	...	...	1	1½	1½	1½
Total weight of original 8 cu. ft. of coal, moist condition (pounds)	426	408	421	396	391	388
Moisture in coal in original condition (per cent)	2.5	2.13	3.26	...	...	...
Moisture in wet coal (per cent)	9.6	10.76	10.8	5.20	3.99	3.26
Weight of coal per cu. ft. in original condition (pounds)	49.1	46.5	48.5	...	...	...
Weight of moist coal per cu. ft. (pounds)	52.4	49.1	52.0	49.0	48.5	48.5
Increase in weight of unit volume of coal through wetting (per cent) (a)	6.72	7.74	7.22	1.03	0	0
Volume of original 8 cu. ft. of coal in moist condition (cu. ft.)	8.134	8.306	8.10	8.082	8.062	8.00
Increase in volume from increase in moisture (per cent)	1.67	3.8	1.24	1.02	0.77	0
Reduction in volume from shaking (per cent)	...	...	4.2	6.25	6.25	6.25

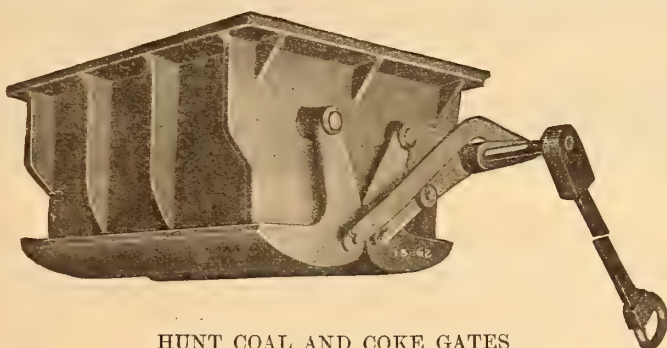
The slack coal was wet on Jan. 20th, and exposed to the atmosphere. The volume obtained in (a) was by shoveling the coal loosely into a box measuring 2 feet by 2 feet by 2 feet and leveling off with a straight-edge. The coal was from the upper and lower Freeport seams of a mine in Westmoreland County, Pa. The results in the table seem to justify the following conclusions:

1. Of two samples of any coal that are composed of the same proportions of pieces of different sizes, the sample having the higher moisture content will usually weight the more per cubic foot.
2. The sample of higher moisture content will usually occupy more space for the same number of pounds of (dry) coal than will a sample of lower moisture content. However, the increase in volume for the wet coal is not as great proportionately as is the increase in weight per cubic foot.
3. Coal shoveled loosely into a container will settle appreciably if the container is shaken, and the weight per cubic foot will be correspondingly increased.
4. Slack coal composed of a mixture of the smaller pieces up to and including nut size weighs more than screened nut coal.

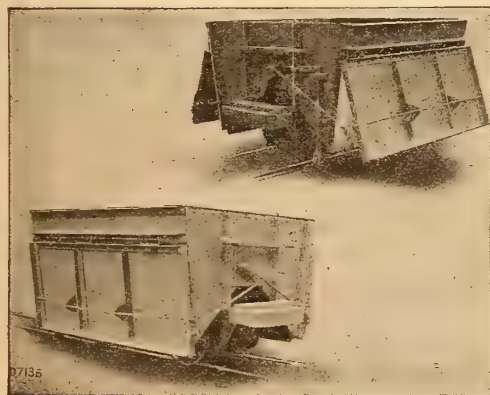
COAL HANDLING MACHINERY



HUNT PIVOTED BUCKET CONVEYORS



HUNT COAL AND COKE GATES



HUNT INDUSTRIAL RAILWAYS

**REDUCE
POWER
LABOR AND
MAINTENANCE
EXPENSE**

CATALOGUES ON REQUEST

C. W. Hunt Company, Inc.
WEST NEW BRIGHTON :: NEW YORK



Handling Coal and Coke

Brownhoist Locomotive Crane

Each crane will handle 70 to 90 tons of coal per hour or 40 to 60 tons of coke; and handle it from or to cars, storage and bins. The crane travels on a standard railroad track, and is equipped with a 35 to 50 ft. boom and 27 to 54 cu. ft. bucket. It is steam or electrically operated, and controlled by one man. It does the work of 30 to 40 men. You can also do the switching of cars and miscellaneous hoisting work around the plant. Brownhoist Cranes and buckets are built in various sizes and types.

Less Breakage Than When Handled By Hand

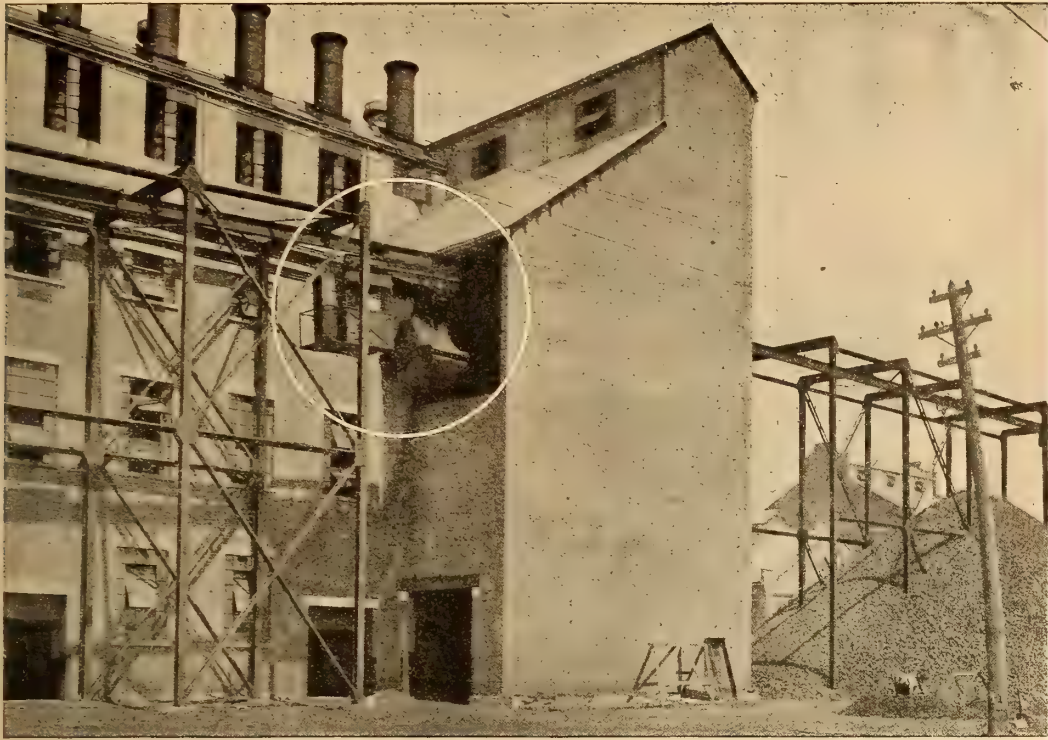
Actual working records prove that the Brownhoist Crane with Brownhoist Bucket handles coal and coke with less breakage than occurs when using hand shovelers. We can refer you to gas companies, furnaces, fuel dealers, etc., where this is being proved every day.

Ask for Catalog K Brownhoist Locomotive Cranes
Ask for Catalog E Brownhoist Buckets

The Brown Hoisting Machinery Co.

Engineers and Manufacturers of Heavy Dock Machinery,
Bridge Cranes, etc., as well as smaller Cranes and Hoists

BROWNHOIST



Handling Coal and Coke

Brownhoist Monorail Trolley

The trolley travels on the lower flange of I Beam track, carrying its Brownhoist Bucket to any part of the building or yard. It reaches any floor of the building by means of the elevator. The Brownhoist Trolley with Bucket provides for coal and coke storage, and handles the coal and coke in and out of the buildings.

Less Breakage Than When Handled By Hand

This Brownhoist Trolley equipped with the Brownhoist Bucket will handle the coal and coke with less breakage than when shoveled by hand. This equipment has been in use for years.

Ask for Catalog D Brownhoist Trolleys
Ask for Catalog E Brownhoist Buckets

Cleveland, Ohio, U. S. A.

Branch Offices

New York, 50 Church St.
Chicago, 208 So. La Salle St.

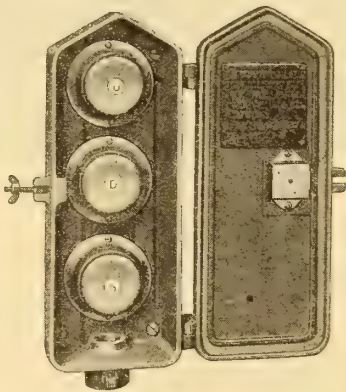
Pittsburgh, Oliver Bldg.
San Francisco, Monadnock Bldg.

BROWNHOIST

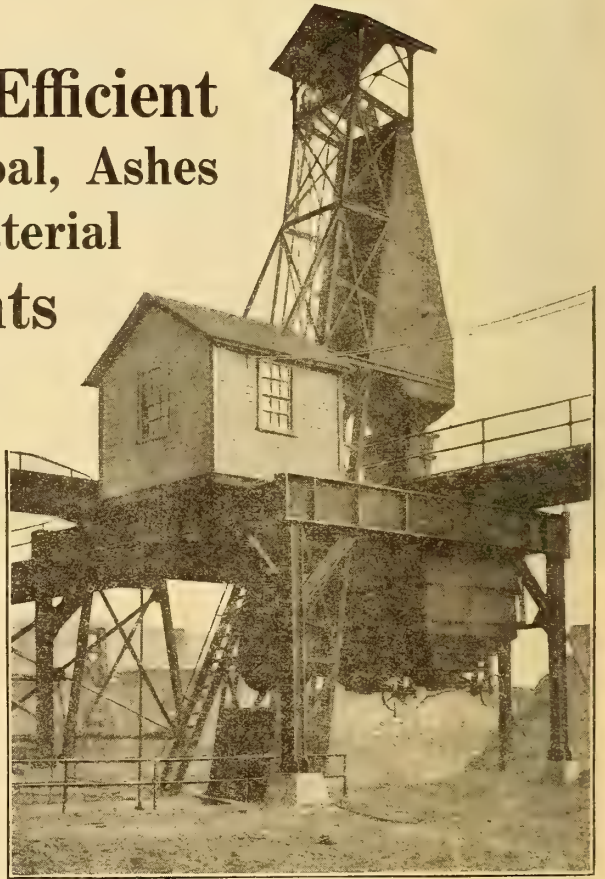
OTIS Automatic Push Button Skip Hoists

For the

**Speedy and Efficient
Handling of Coal, Ashes
and Similar Material
in Gas Plants**



Push Button Box showing
Up, Down, and Stop
Control Buttons.



A Real Dollars and Cents Saving

You can have full automatic control in your plant and avoid accidents and delays by installing the *Otis Automatic Skip Hoist*. Three buttons control all operations. A momentary push of the up button raises, dumps and returns the bucket. Anyone in the plant can operate it. It cannot be mismanaged. Used in many up-to-date plants where it is saving dollars as well as lives.

Write for details and performance records.

OTIS ELEVATOR COMPANY

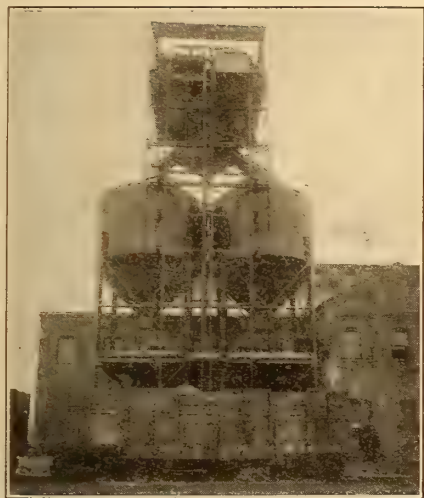
ELEVENTH AVENUE AND TWENTY-SIXTH ST.,

NEW YORK

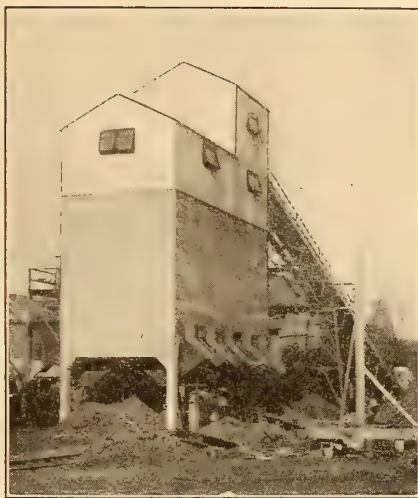
Offices in all principal cities of the world

BEAUMONT

COKE AND COAL HANDLING SYSTEMS



Balanced Coke Skip Hoist
Boston Gas Works



Coke Handling System
Racine, Wis.

Leaders in this field because we are specialists in the designing and the building of complete plants for handling coal, coke and ashes. The Beaumont Skip Hoist, for elevating coke with minimum breakage, complete crushing and screening plants and bunkers for works of all capacities; the de Brouwer hot coke quenching conveyor, belt conveyors, bridges and structures, etc.

Write for Catalog No. 30, an encyclopedia of all modern coke and coal handling systems.

R. H. BEAUMONT CO.

440 CHESTNUT ST.,

-

PHILADELPHIA

New York,

=

50 Church Street

Boston

=

=

141 Milk Street

THE GAS AGE

98% Efficient

A CAREFUL comparison of the paid subscribers to THE GAS AGE with the artificial gas companies who furnished data for the 1917 Edition of BROWN'S DIRECTORY OF AMERICAN GAS COMPANIES discloses the following facts:

Output (cu. ft. per year)

THE GAS AGE full paid subscribers have a combined output of.....	216,284,426,027	98%
Non-subscribers	4,729,543,550	

Capital (Stocks and Bonds issued)

THE GAS AGE full paid subscribers have a capital of	\$3,274,630,109.00	95%
Non-subscribers	191,731,446.00	

Population Supplied

THE GAS AGE full paid subscribers supply a population of	38,523,771	96%
Non-subscribers	2,145,491	

Consumers' Meters

THE GAS AGE full paid subscribers meters in service	7,737,060	97%
Non-subscribers	237,989	

Street Mains (in miles)

THE GAS AGE full paid subscribers street mains	58,039.86	94%
Non-subscribers	4,006.78	

The subscribers to THE GAS AGE (and they all pay \$3.00 per year for it) are the men who buy or direct the buying of over \$100,000,000 of

**Apparatus
Materials
Supplies
Appliances, Etc.**

used by the Gas Companies in the United States each year.

If you have anything to sell to the Gas Companies of America advertise in

THE GAS AGE

52 Vanderbilt Avenue

New York City

ENGINEERS CONSTRUCTORS

Consultation

NUMBER OF GAS COMPANIES IN THE UNITED STATES AND KIND OF GAS MADE

(Compiled From Brown's Directory of American Gas Companies for 1917)

	Coal Gas	Low (Water)	Coal & Low	Coke Oven	Oil Gas	Distrib- uting	Total Art.	Nat- ural	Acet- ylene	Gas- oline
Alabama	7	..	5	5	..	..	17	3	1	..
Arizona .....	..	6	..	..	3	..	9	..	..	..
Arkansas .....	..	..	1	..	..	..	1	13	..	..
California	1	23	..	..	36	8	68	31	..	..
Colorado	4	3	3	1	..	..	11	..	3	..
Connecticut	2	14	7	..	..	4	27	..	1	..
Delaware	2	4	..	..	..	..	6	..	1	1
District of Columbia ..	..	1	1	..	..	..	2	..	..	..
Florida	1	14	1	..	..	1	17	..	2	..
Georgia	9	5	2	..	..	1	17	..	1	..
Idaho	4	..	..	..	..	..	4	..	..	..
Illinois	22	26	13	3	2	7	73	6	1	2
Indiana	17	7	8	4	1	1	38	91	15	..
Iowa	5	43	11	..	..	..	59	..	2	27
Kansas	1	5	1	..	..	..	7	77	2	..
Kentucky	8	1	..	1	..	..	10	14	..	..
Louisiana	1	3	..	..	1	..	5	8	1	..
Maine	7	3	1	..	..	2	13	..	3	..
Maryland	5	8	..	1	..	1	15	2	4	..
Massachusetts	12	18	18	1	1	12	62	..	7	..
Michigan	35	5	12	..	..	..	52	..	..	1
Minnesota	5	14	3	4	1	1	28	..	6	6
Mississippi	7	1	..	..	..	..	8	..	..	..
Missouri	9	12	2	..	1	..	24	10	2	..
Montana	2	3	1	..	..	..	6	5	..	..
Nebraska .....	..	19	2	..	..	..	21	..	10	3
Nevada .....	..	2	..	..	2	..	4	..	..	1
New Hampshire	2	5	3	..	1	..	11	..	1	1
New Jersey	3	26	..	4	..	16	49	..	3	1
New Mexico	1	..	..	..	1	..	2	..	..	..
New York	20	48	16	3	..	19	106	49	19	13
North Carolina	6	12	2	..	..	..	20	..	1	..
North Dakota	2	3	1	..	..	..	6	..	2	..
Ohio	10	3	2	2	8	2	27	106	1	..
Oklahoma .....	..	..	1	..	..	..	1	11	..	..
Oregon	3	2	..	..	5	1	11	..	..	..
Pennsylvania	12	67	3	6	1	6	95	151	9	..
Rhode Island .....	..	2	3	..	..	3	8	..	..	..
South Carolina	1	7	..	..	..	..	8	..	1	..
South Dakota	1	7	1	..	..	..	9	..	..	4
Tennessee	3	2	3	1	..	..	9	..	1	..
Texas	1	17	1	..	3	..	22	25	1	..
Utah	2	..	1	..	..	..	3	..	..	..
Vermont	1	7	1	..	..	..	9	..	..	..
Virginia	6	3	6	..	..	1	16	..	5	..
Washington (a)	6	2	4	..	..	2	14	..	..	..
West Virginia	2	2	..	..	..	..	4	79	1	..
Wisconsin	13	13	5	2	1	5	39	..	2	10
Wyoming	2	..	..	..	..	..	2	1	..	..
Total U. S.....	263	468	145	38	68	93	1075	682	109	70
Foreign Possessions:										
Hawaii .....	..	1	..	..	1	..	2	..	..	..
Panama .....	..	..	..	..	2	..	2	..	..	..
Philippine Islands .....	..	1	..	..	..	..	1	..	..	..
West Indies.....	1	2	..	..	..	..	3	..	..	..
Total U. S. and Possessions...	264	472	145	38	71	93	1083	682	109	70

(a) Includes under coal gas, one plant making gas from wood.

Summary of Above Table

	Artificial	Natural		Artificial	Natural
New England States.....	143	0	Western States	387	37
Middle Atlantic States.....	324	202	U. S. Possessions.....	8	..
Southern and S. W. States.	175	137			
Middle States	225	306	Grand total	1262	682

WILLIAM W. RANDOLPH, M. E.
CONSULTING ENGINEER

EXAMINATION

REPORTS

VALUATION

PURCHASE

CONSTRUCTION

MANAGEMENT

GAS
ELECTRIC LIGHT
AND
POWER PROPERTIES

CONSULTATION AND DIRECTION
OF RATE CASES

233 BROADWAY
NEW YORK

WOOLWORTH
BUILDING

The Stacey
**Manufacturing
Company**

ESTABLISHED 1851

**ENGINEERS
AND
CONSTRUCTORS**

Gas Plant Equipment
GAS HOLDERS

Plate and Structural Metal Work

**Cincinnati
Ohio**

MEASUREMENT AND CONTROL

Gas Meters

Gas Regulators

Gas Governors

Gas Valves

Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

GAS PRESSURE CONVERSION TABLE

Inches Water	Ounces	Lbs. per sq. in.	Lbs. per sq. ft.	Inches Water	Ounces	Lbs. per sq. in.	Lbs. per sq. ft.
0.05	0.03	0.00181	0.260	2.9	1.67	0.1048	15.089
0.1	0.06	0.00361	0.520	3.0	1.73	0.1084	15.610
0.2	0.12	0.00723	1.040	3.1	1.79	0.1120	16.130
0.3	0.17	0.01084	1.561	3.2	1.85	0.1156	16.650
0.4	0.23	0.01445	2.081	3.3	1.91	0.1192	17.171
0.5	0.29	0.01807	2.602	3.4	1.96	0.1228	17.691
0.6	0.35	0.02168	3.122	3.5	2.02	0.1264	18.212
0.7	0.40	0.02529	3.642	3.6	2.08	0.1300	18.732
0.8	0.48	0.02891	4.163	3.7	2.14	0.1336	19.252
0.9	0.52	0.03252	4.683	3.8	2.19	0.1373	19.773
1.0	0.58	0.03610	5.203	3.9	2.25	0.1409	20.293
1.1	0.63	0.03971	5.723	4.0	2.31	0.1445	20.813
1.2	0.69	0.04333	6.243	4.1	2.37	0.1481	21.333
1.3	0.75	0.04694	6.764	4.2	2.42	0.1517	21.853
1.4	0.81	0.05055	7.284	4.3	2.48	0.1553	22.374
1.5	0.87	0.05417	7.805	4.4	2.54	0.1589	22.894
1.6	0.93	0.05778	8.325	4.5	2.60	0.1625	23.415
1.7	0.98	0.06139	8.845	4.6	2.66	0.1661	23.935
1.8	1.04	0.06501	9.366	4.7	2.72	0.1697	24.455
1.9	1.09	0.06862	9.886	4.8	2.77	0.1734	24.976
2.0	1.16	0.07230	10.406	4.9	2.83	0.1770	25.495
2.1	1.21	0.0759	10.926	5.0	2.89	0.1807	26.016
2.2	1.27	0.0795	11.446	6.0	3.47	0.2168	31.219
2.3	1.33	0.0851	11.967	7.0	4.04	0.2529	36.422
2.4	1.38	0.0867	12.487	8.0	4.62	0.2891	41.626
2.5	1.44	0.0903	13.008	9.0	5.20	0.3252	46.829
2.6	1.50	0.0939	13.528	10.0	5.78	0.3613	52.032
2.7	1.56	0.0975	14.048	11.0	6.36	0.3975	57.235
2.8	1.62	0.1012	14.569				

ESTIMATED HEATING VALUES OF VARIOUS COMMERCIAL GASES

(From Circular No. 32, U. S. Bureau of Standards)

Kind of gas	—B. t. u. per cu. ft.— Range Normal	Kind of gas	—B. t. u. per cu. ft.— Range Normal
Carburetted water gas.....	600—640 600	By-product gas (enriched)....	575—600 585
Unenriched coal gas (retort)..	575—625 585	Mixed gas (carburetted water gas and coal gas)	580—630 600
Enriched coal gas	575—625 600	Oil gas (Lowe or Jones process from crude oil)	575—620 600
By-product gas (run of oven)..	525—575 550		
By-product gas (washed).....	500—550 525		

EFFECT OF ALTITUDE ON CANDLE POWER AND HEAT VALUE OF
A 600 B.T.U. 16 C.P. Gas

(From Technical Paper No. 14 of the U. S. Bureau of Standards)

Attitude (feet)	Barometer (inches)	Candle Power	B. t. u. (cu. ft.)	Attitude (feet)	Barometer (inches)	Candle Power	B. t. u. (cu. ft.)
10,000	20.70	7.6	414	3,000	26.78	13.3	536
9,000	21.47	8.4	429	2,000	27.78	14.2	556
8,000	22.38	9.1	445	1,000	28.82	15.0	576
7,000	23.11	10.0	462	500	29.35	15.4	587
6,000	23.98	10.9	480	Sea Level	29.90	15.9	598
5,000	24.91	11.6	498	100	30.00	16.0	600
4,000	25.81	12.4	516				

CONVERSION OF GALLONS TO CUBIC FEET

(National Tube Co.)

Gallons	Cu. ft.	Gallons	Cu. ft.	Gallons	Cu. ft.
1	0.134	1,000	133,681	1,000,000	133,680.6
2	0.267	2,000	267,361	2,000,000	267,361.1
3	0.401	3,000	401,042	3,000,000	401,041.7
4	0.535	4,000	534,722	4,000,000	534,722.2
5	0.668	5,000	668,403	5,000,000	668,402.8
6	0.802	6,000	802,083	6,000,000	802,083.4
7	0.936	7,000	935,764	7,000,000	935,733.9
8	1.069	8,000	1,069,444	8,000,000	1,069,444.5
9	1.203	9,000	1,203,125	9,000,000	1,203,125.0
10	1.337	10,000	1,336,806	10,000,000	1,336,805.6

Gas Meters For Every Purpose



"Ironclad" Gas Meter

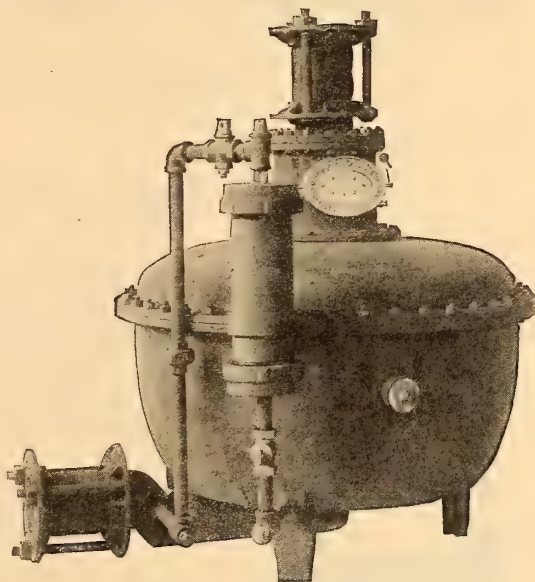
"Ironclad" Cast Iron, Dry Gas Meters

For Domestic, Commercial,
and Industrial Use

Westinghouse Improved Positive and Proportional Gas Meters

with automatic seal overflow

For measuring casinghead
gas, artificial gas, or any gas
impregnated with gasoline or
other condensate, whether
under vacuum or pressure.



Westinghouse Positive Gas Meter

Pittsburgh Meter Co.

General Office and Works, East Pittsburgh, Pa.

New York	Chicago	Kansas City	Columbia, S. C.	Los Angeles	Seattle
149 Broadway	5 So. Wabash Ave.	6 W. 10th St.	1433 Main St.	931-2 Union Oil Bldg.	802 Madison St.

Also manufacturers of Keystone, Arctic, Eureka, Keystone-Compound and Utility Water Meters and Meter Provers

METRIC METAL WORKS

ERIE, PENNSYLVANIA

ESTABLISHED 1888

MANUFACTURERS

GAS METERS

FOR ANY SERVICE



Our B Type Ironcase Meters are an exact reproduction of the Glover Slide Valve, Two-diaphragm Meter, which is the standard for measuring both artificial and natural gas.



This type of meter is made in the following sizes:

5-B, 10-B, 20-B, 30-B and 60-B.

Write for prices and capacities

The 20-B, 30-B and 60-B are also made for high pressure.

Makers of large Capacity Meters for any volume or pressure.

MARYLAND METER WORKS

OF

AMERICAN METER CO., INC.

ESTABLISHED IN BALTIMORE, 1866

MANUFACTURERS OF

GAS METERS

AND

GAS METER ACCESSORIES

ARTIFICIAL and NATURAL GAS METERS

PREPAYMENT METERS

COMPLAINT METERS

STATION METERS

METER PROVERS, Etc.

SPECIAL ATTENTION TO ALL REPAIR WORK

Northwest Representative

NORTHWEST GAS & ELECTRIC EQUIPMENT CO.

412-415 Gasco Building, Portland, Ore.

NATHANIEL TUFTS METER WORKS

OF THE

AMERICAN METER COMPANY

455 Commercial Street, Boston, Mass.

ESTABLISHED 1860

Manufacturers of

GAS METERS

Positive Prepayment
Gas Meters

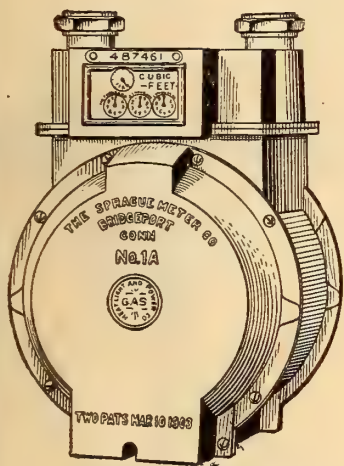
The Hinman Station
Meter Drum

Experimental Apparatus

A Thorough and Complete Department for
METER REPAIRING of all Descriptions

SPRAGUE

CAST IRON METERS



We are the pioneers in making a Cast Iron Meter which can be used interchangeably for either natural or manufactured gas.

WRITE FOR RECENT LITERATURE

Economy in Investment Economy in Maintenance

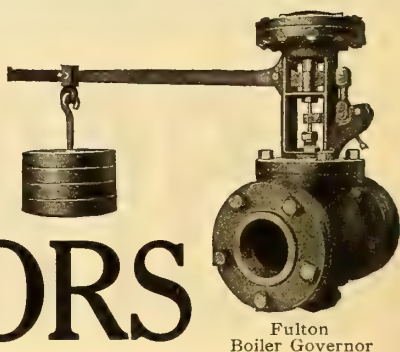
Lower material cost. Less equipment and equipment overhead necessary. Not necessary to carry as large a stock of idle meters. Lower labor costs, because a man can repair six Sprague meters to one tin meter; therefore only one-sixth of the overhead created by employing labor. Complete repairs can be made in thirty to forty minutes. No soldering. No tinsmith's services necessary. Any man with mechanical skill can handle repair work.

Let us send a case of five Sprague No. 1-A Meters for you to test.

The Sprague Meter Company
Bridgeport, Conn.

METERS

FULTON GOVERNORS



Fulton
Boiler Governor

**We make them to fit
any condition**

**For Artificial or Natural Gas
For District or Individual Service
Pressure Control Problems have
been our Specialty for more than
30 YEARS**

Fulton Duplex Sensitive Governors.
Fulton High Pressure or Reducing Regulators.
Fulton High Pressure Regulators.
Fulton Low Pressure Regulators with Automatic Cut-off.
Fulton Low Pressure Regulators without Automatic Cut-off.
Fulton Regulator Dash-pot or Sensitizers.
Fulton House Regulators with Automatic Cut-off.
Fulton Illuminating or Dead Weight House Regulators.
Fulton House Service Regulators (Spring Style.)
Fulton Sensitive Service Governors.

Fulton High Pressure House
Service Regulators.

Fulton Gas-Fuel Steam Boiler
Regulators.

Fulton Gas Relief Valves for Nat-
ural Gas — Gasoline Plants.

Fulton Back or Check
Pressure Regula-
tors.

The Fulton Vacuum
Regulators.

The Vigilant Oil Level
Regulators.

Little Hercules High Pressure Gas Regulators.

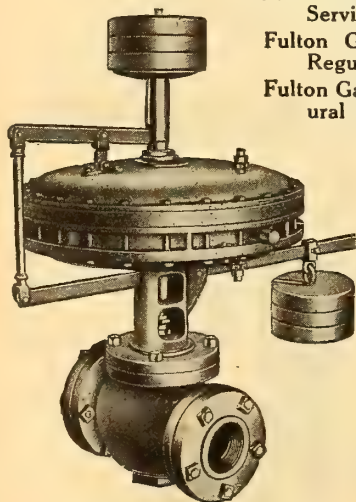
Low Pressure Dead Weight Safety Valves.

Low Pressure Regulating Stations with By-pass.

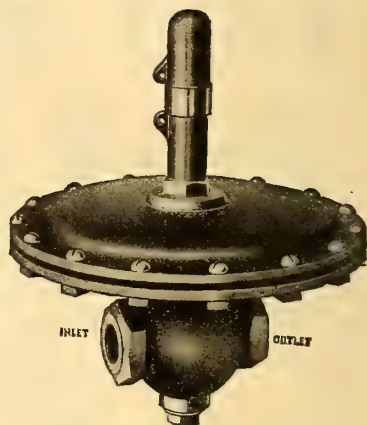
The Fulton Differential Gas Relief Valves.

If you have problems in the reduction of High Pressure gas to solve, consult us.

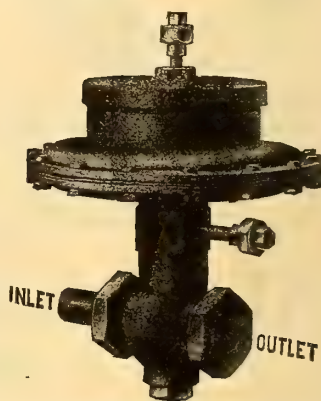
Catalog on request.



Fulton Duplex Sensitive Gas Governor

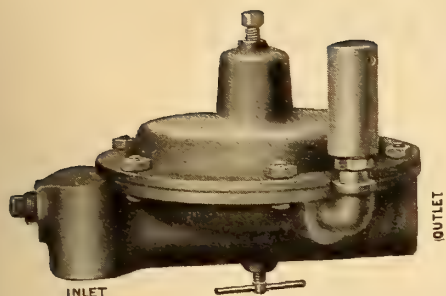


Fulton House Service Regulator
Spring Style



Fulton Illuminating or Dead Weight
House Regulators

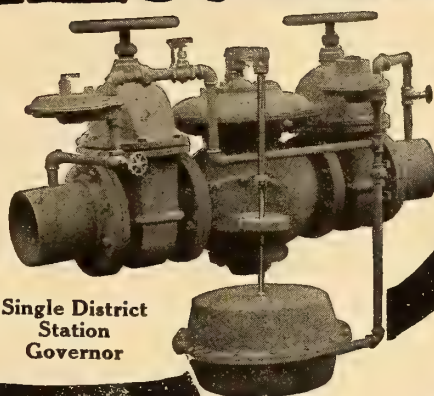
The Chaplin-Fulton Mfg. Co.
PITTSBURGH, PA.



FAMOUS
LITTLE GIANT
NATURAL GAS
HOUSE
REGULATOR

REYNOLDS GAS REGULATORS

INSURE CONSTANT
PRESSURE
AT ALL TIMES



Single District
Station
Governor



COMBINATION STYLE
WITH MERCURY SEAL

FOR ALL KINDS
OF PRESSURE
REDUCTION



"OLD STYLE"
WITHOUT SEAL

FOR EITHER ARTIFICIAL OR NATURAL GAS
WRITE FOR CATALOG

Reynolds Gas Regulator Co.

MAIN OFFICE } ANDERSON, INDIANA
AND FACTORY }

PACIFIC COAST REPRESENTATIVE:
C. B. BABCOCK CO., 768 MISSION ST., SAN FRANCISCO

BOOKS FOR GAS MEN

Instructions to Gas

Appliance Salesmen

By J. E. BULLARD

A salesman's manual of modern selling methods selected with the sale of gas appliances ever in mind. This book is the first to place at the command of the gas company salesmen and sales manager a concise and practical treatment of the methods that have built up the prestige of many of the most successful commercial men in the field.

The book is written for the salesman who has not had the advantages of previous contact with the most recent developments of systematic salesmanship, and provides a groundwork of theory to support the greater detail of the particular plans recommended for gas company practice.

Chapter Headings

I. Preparation. II. Straight Canvassing. III. Soliciting. IV. Personal Suggestions. V. General Instructions. VI. Scientific Sales Management.

128 pages, 5x7, 21 illustrations and 9 tables. \$1.00 net, postpaid.

Gas Appliance and Display Demonstration

By J. E. BULLARD

A practical description and discussion of the most successful methods of display and demonstration of gas appliances at the present time, with incisive analyses of the principles on which success depends; the wealth of illustrations, showing the good, with suggestions for adaptation to local conditions—and the less successful with indications of the elements to be avoided—give the book a day-in and day-out value not often attained.

The customer's point of view is studied from every angle. Window displays and arrangement of demonstration floors are considered from the standpoint of making sales and creating confidence and good will. Special demonstrations and campaigns are treated comprehensively, as well as the problems involved in gas company advertising.

Chapter Headings

I. General Theory of Presentation. II. Gas Offices and Branch Stores. III. Gas Office Display Rooms (Domestic). IV. Gas Office Display Rooms (Industrial). V. Window Displays. VI. Exhibitions and Special Displays.

VII. Demonstration of Cooking Appliances. VIII. Demonstration of Specialties. IX. Demonstration of Industrial Appliances. X. Advertising. XI. Interrelation of Departments. XII. Appendix containing Bibliography. Very complete index.

448 pages, 5x7, 213 illustrations. \$2.00 net, postpaid.

Chemical Control of Gas Manufacture

By WALTER M. RUSSELL

—and—

FRANK WILLS

A handbook describing the chemical and physical tests used in the control of gas manufacture, and showing how the interpretation of the results of these tests can be used to perfect the operation, and increase the efficiency of gas manufacturing and by-product plants. The book deals with American practice in a condensed, simplified and comprehensive manner.

The authors have had wide practical and successful experience in both small and large companies, and are enabled to treat the subject with the authority of complete knowledge of prevailing conditions in the field. While much information on the subject has appeared in the technical Press, and in the publications of the technical societies, this is the first time that there has been made available a manual including the necessary working procedure in one volume.

The book is divided into two sections. Part 1 deals with the practical application of chemical control to every affected part of the plant, giving details for carrying out and interpreting tests. Part 2 gives elementary instruction in chemical theory necessary to the work of Part 1. The book will enable a superintendent, foreman, or intelligent workman to go out into the plant and secure and use the benefits of scientific chemical control of gas manufacturing processes.

Chapter Headings

Part One: I. General. II. The Retort House. III. Ammonia Recovery. IV. The Condenser Room. V. The Purifying Plant. VI. Calorimetry and Photometry. VII. Chemical Tests for Purity. VIII. Gas Analysis. IX. The Water Gas Machine. X. The Laboratory and Its Equipment. XI. Physical Control.

Part Two: XII. Elementary Chemistry. XIII. Chemical Tests. XIV. Analytical Chemistry.

152 pages, 5x7, 48 illustrations, 21 tables. \$1.50, postpaid.

PUBLISHED AND FOR SALE BY

THE GAS AGE BOOK DEPARTMENT

52 VANDERBILT AVENUE

NEW YORK

GAS APPLIANCES

Heating
Lighting

Domestic
Industrial

Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

TABLE OF WIND VELOCITIES AND PRESSURES

Velocity of Wind Miles per Hour	Feet per Second	Pressure In Pounds per Square Foot	Common Appellation of Force of Winds
1 ..	1.47	0.005	Hardly perceptible
2 ..	2.93	0.020	{ Just perceptible
3 ..	4.40	0.044	
4 ..	5.87	0.079	
5 ..	7.33	0.123	{ Gentle, pleasant wind
10 ..	14.67	0.492	{ Pleasant, brisk gale
15 ..	22.00	1.107	
20 ..	29.34	1.968	
25 ..	36.67	3.075	{ Very brisk
30 ..	44.01	4.429	
35 ..	51.34	6.027	
40 ..	58.68	7.873	{ High wind
45 ..	66.01	9.963	{ Very high storm
50 ..	73.35	12.300	
60 ..	88.02	12.715	
70 ..	{ 117.36	{ 31.490	{ A hurricane that blows down trees, etc.
80 ..			
90 ..			
100 ..	{ 146.70	{ 49.200	{ Immense hurricane

STATISTICS FROM U. S. GEOLOGICAL SURVEY REPORT

(From Mineral Resources for 1915)

Coal Gas Plants only	271
Coal Gas and Water Gas, combined.....	123
Coal Gas and Oil Gas, combined.....	2
Total Coal Gas Plants.....	396
Water Gas Plants	430
Water Gas with Coal Gas Plants, com- bined	123
Total Water Gas Plants.....	553
Oil Gas Plants	91
Oil Gas and Coal Gas Plants, combined..	2
Total Oil Gas Plants.....	93
Grand total	1042

CAPACITY OF DOUBLE SUPERHEATER WATER GAS APPARATUS

(Bulletin No. 210 Western Gas Const. Co.)

~ Diam. of shell in feet ~				Capacity, 24 hours cu. ft.	~ Diam. of shell in feet ~				Capacity, 24 hours cu. ft.
Genera- tor.	Carburet- ter.	Super- heater.	Height of oper. floor.		Genera- tor.	Carburet- ter.	Super- heater.	Height of oper. floor.	
3.75...	3.5	3.5	11	80,000—100,000	7.5....	7.0	7.0	14	475,000—676,000
4.0....	4.0	4.0	12	100,000—125,000	8.5....	8.0	8.0	15	800,000—950,000
4.5....	4.0	4.0	12	150,000—175,000	9.5....	9.0	9.0	15	1,000,000—1,300,000
5.0....	4.6	4.6	13	200,000—225,000	10.5....	10.0	10.0	16	1,275,000—1,600,000
5.5....	5.0	5.0	13	225,000—275,000	11.0....	10.5	10.6	16	1,500,000—1,850,000
6.5....	6.0	6.0	14	350,000—450,000	11.5....	11.0	11.0	17	1,650,000—2,000,000

CONVERSION TABLES TO AND FROM METRIC UNITS

1 Calorie (Cent. deg. per kg.) = 3.968 B.t.u. (Fah. deg. per lb.) = 2.2046 Pound Calorie (Cent. deg. per lb.).

0.252 Calorie (Cent. deg. per kg.) = 1.0 B.t.u. (Fah. deg. per lb.) = 0.5556 Pound Calorie (Cent. deg. per lb.).

0.4536 Calorie (Cent. deg. per kg.) = 1.8 B.t.u. (Fah. deg. per lb.) = 1 Pound Calorie (Cent. deg. per lb.).

1.0 Calorie per cubic meter = 0.11236 B.t.u. per cubic foot.

8.898 Calorie per cubic meter = 1.0 B.t.u. per cubic foot.

1.0 Calorie per kilogram = 1.8 B.t.u. per pound.

0.5556 Calorie per kilogram = 1.0 B.t.u. per pound.

1.0 lb. per sq. in. = 0.070308 kg. per sq. cm. = 27.71 in. water col. = 2.0416 in. mercury.

14.22 lb. per sq. in. = 1.0 kg. per sq. cm. = 394.1 in. water col. = 29.03 in. mercury.

0.0361 lb. per sq. in. = 0.0025 kg. per sq. cm. = 1.0 in. water col. = 0.0736 in. mercury.

0.49 lb. per sq. in. = 0.0344 kg. per sq. cm. = 13.98 in. water col. = 1.0 in. mercury.

1.0 B.t.u. = 778 ft. lbs. = 107.6 kg. m. = 0.000393 hp. hrs. = 0.000293 kw. hrs.

0.001285 B.t.u. = 1 ft. lbs. = 0.1383 kg. m. = 0.0000005 hp. hrs. = 0.00000038 kw. hrs.

0.0093 B.t.u. = 7.233 ft. lbs. = 1.0 kg. m. = 0.00000365 hp. hrs. = 0.00000272 kw. hrs.

2545. B.t.u. = 1,980,000 ft. lbs. = 273,740 kg. m. = 1.0 hp. hrs. = 0.746 kw. hrs.

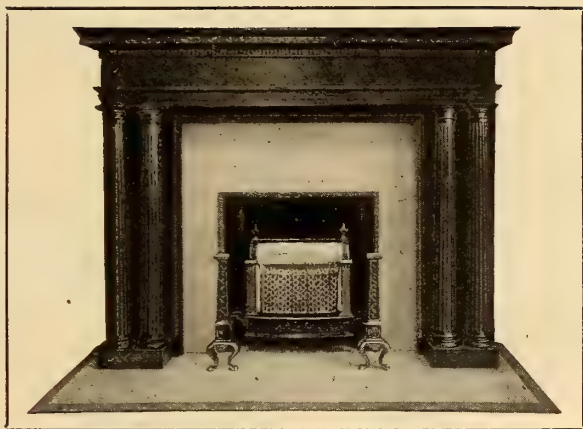
3412. B.t.u. = 2,654,200 ft. lbs. = 367,000 kg. m. = 1.34 hp. hrs. = 1.0 kw. hrs.

1 grain per 100 cu. ft. = 2.29 grammes per 100 cu. meters.

0.437 grain per 100 cu. ft. = 1.0 grammes per cu. meters.

THE HUMPHREY Radiantfire

A RADIANT GAS HEATER FOR THE OPEN FIREPLACE



THE HUMPHREY RADIANTFIRE is an entirely new departure in gas heating—a handsome and appropriate heater that sets back into the fireplace and throws out a flood of radiant heat and firelight—a perfect open fire with all the fascination of the wood blaze. The gas burns through lace-like porcelain radiants which become immediately incandescent. It burns without smell or noise and may be turned down low.

The RADIANTFIRE is made in styles and finishes to suit any room. It has been passed by the National Board of Fire Underwriters and adopted by leading gas companies throughout the country.

Write for full details.

GENERAL GAS LIGHT COMPANY

NEW YORK

KALAMAZOO

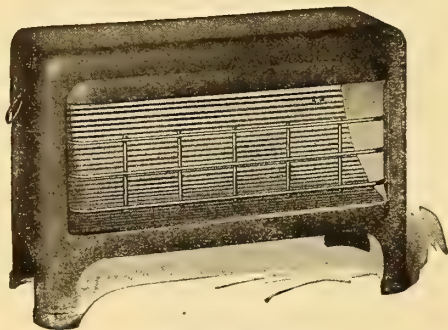
SAN FRANCISCO

OUR DETERMINATION TO MAKE GOOD



"ANGLIRON"

Made in Strict Accordance with the Specifications
of the National Commercial Gas Association.



HOT SPOT

The Heater with the
Genuine Copper Reflector.

gas stoves and ranges has resulted in the production of the **"ANGLIRON"** range and **HOT SPOT** heater, *acknowledged leaders absolutely in their respective fields.*

This same determination to "make good" has originated the NEW **"RELIABLE"** COMBINATION GAS AND COAL RANGE for which is assured the same splendid success as that achieved by our **"ANGLIRON"** ranges and **HOT SPOT** heaters.

"RELIABLE" COMBINATION GAS AND COAL RANGES, in common with our complete lines of **"RELIABLE"** GAS RANGES AND ROOM HEATERS; RESTAURANT, CLUB AND HOTEL RANGES; RANGES **"BUILT TO ORDER;"** COOKERS; WATER HEATERS; HOT PLATES; LAUNDRY STOVES; TINNERS' FURNACES; NURSERY STOVES; KITCHEN HEATERS AND COKE BURNERS (made in sizes and styles to meet all modern requirements), embody in appearance, construction and equipment, all features considered most desirable from the viewpoint of the gas company as well as that of the user, are sold at lowest prices consistent with their superior quality, are shipped promptly and are fully guaranteed by

RELIABLE STOVE COMPANY

DIVISION OF AMERICAN STOVE COMPANY

CLEVELAND, OHIO

47 West 34th Street
New York City

315-317 So. Wabash Avenue
Chicago, Illinois

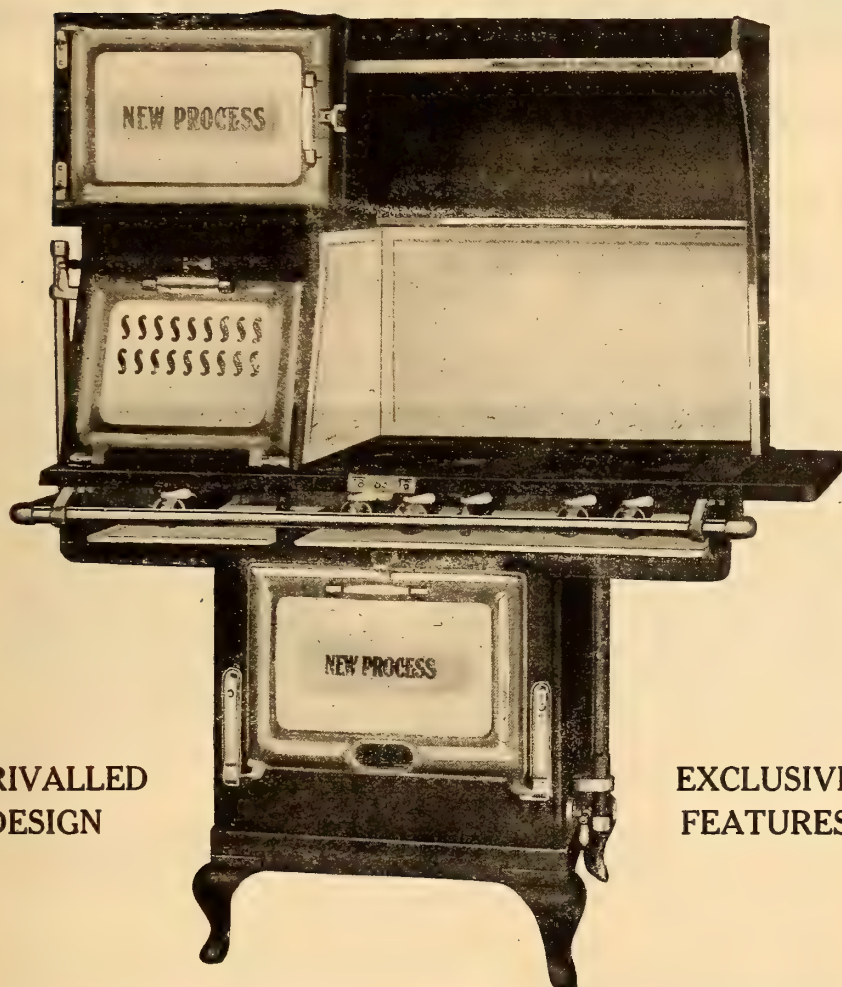
804 Higgins Building
Los Angeles

718 Mission Street
San Francisco, Cal.

WRITE NOW FOR OUR CATALOG, PRICE LIST AND ADVERTISING LITERATURE

“NEW PROCESS”

GAS RANGES



**UNRIVALLED
DESIGN**

**EXCLUSIVE
FEATURES**

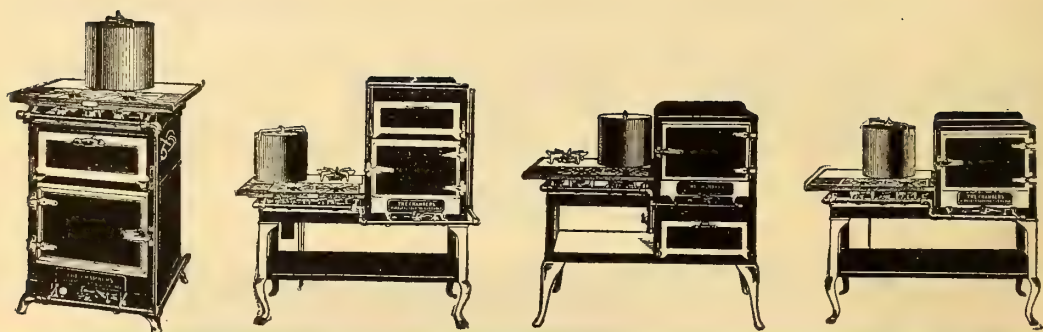
The exclusive “NEW PROCESS” appliances have been proved out. The range’s well deserved popularity is attested by its successful record of performance in thousands of homes.

WRITE FOR CATALOG SHOWING COMPLETE LINE

NEW PROCESS STOVE COMPANY

Division of American Stove Company

4427 Perkins Ave., CLEVELAND, OHIO, U. S. A.



The Chambers Line of GAS RANGES

Should be included in your
Campaign for Conservation

Because the CHAMBERS has won thousands of orders for gas companies by its economy of LABOR—ATTENTION—FOOD—AND FUEL.

The CHAMBERS is the ONE appliance in its field that has had a consistent record of success and service.

Every GAS COMPANY will find that its most exhaustive and broad-minded examination will recommend the CHAMBERS for immediate adoption.

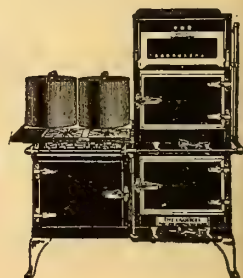
For the immediate needs of yourselves and your consumers—and for protection against loss of domestic services—get busy with the CHAMBERS right away.

Let us help you plan a big appeal to your customers with a FIRELESS Campaign.

Let us help you make your Campaign for Conservation a Campaign for REAL Conservation.



Chambers Mfg. Co.
Shelbyville, Ind.

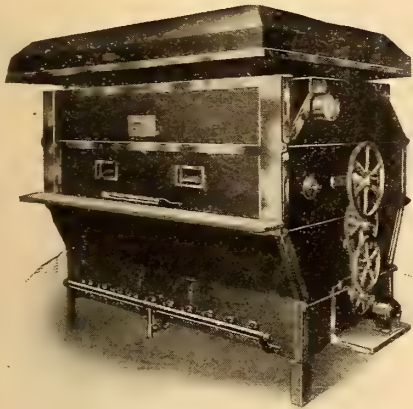


A FEW MEEK GAS APPLIANCES

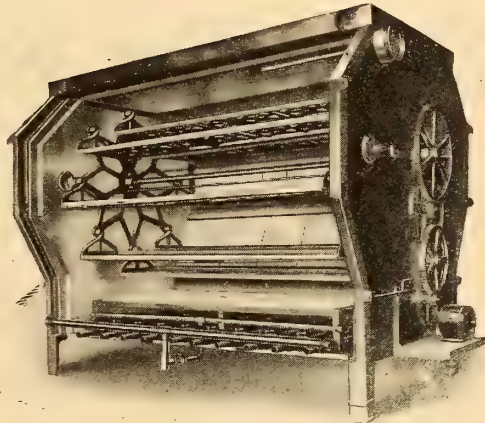
Sold Exclusively
Through Gas Companies



BAKERS' IDEAL FRYER



REEL GAS OVEN (closed)



REEL GAS OVEN (open)

Check the List Below and Send For N. C. G. A. Sheets

BAKE OVENS (Portable, Reel, Cabinet,)

STEAM TABLES

PLATE WARMERS

BATCH WARMERS

COFFEE URNS

FURNACES

CALDRONS

KETTLES

FRYERS

MEEK OVEN MFG. CO.

Sole Patentee of Meek Reel Gas Ovens

NEWBURYPORT,

:

:

:

:

MASS.



Select the Right Furnace For Each Installation

OUR engineers have made a life study of the successful application of gas to manufacturing processes. Their experience with what has been accomplished and their knowledge of what can be accomplished are at your service. Let them help you round out your case to convince your prospects.

Positive Pressure Blower

Gas Blast Furnace

Bench Forge

Tool Room Forge

Rivet Heater

Oven Furnace

Annealing Furnace

Case Hardening Furnace

Oil Tempering Furnace

Air Tempering Furnace

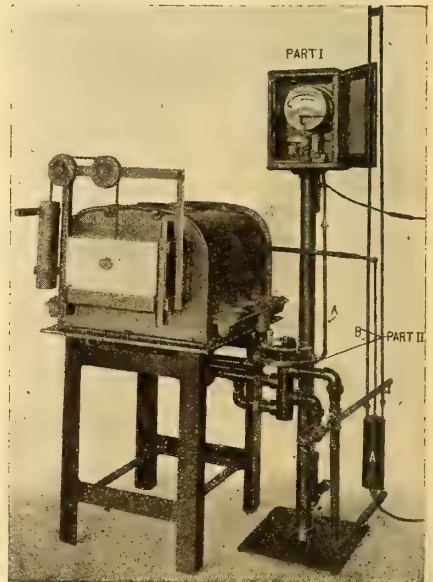
Melting Furnace

Crucible Furnace

Soft Metal Furnace

Muffle Furnace

Case Hardening Process by Gas—no solid carbons used. Automatic Heat Controller and Regulator, or some other of the many industrial appliances made by



Oven Furnace for Hardening and Annealing with Automatic Heat Controller and Regulator attached

AMERICAN GAS FURNACE COMPANY

24 JOHN STREET

Catalog is yours for the asking

NEW YORK

WELSBACH

Street Lighting Service

TO MUNICIPALITIES

Includes:

Co-operation in laying out street lighting systems and extensions.

Furnishing efficient gas street units for all regular or special requirements, also self-generating incandescent units to serve localities until gas mains are extended.

Operation of all units furnished under service contracts.

Faithful performance of contract obligations.

All of which have resulted in keeping *Gas Lighting* in the public service and representing the use of over *Two and one-half Billion Cubic Feet of Gas* annually in the United States.

Welsbach Street Lighting Company of America

1934 Market Street, Philadelphia, Pa.

New York

Chicago

Buffalo

St. Louis

Boston

San Francisco

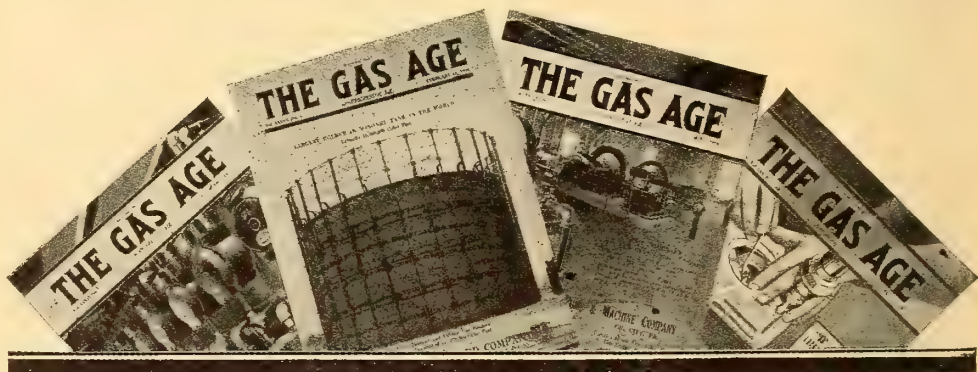
THE GAS AGE

Established 1873 Published Semi-monthly

The Gas Age is the recognized authority in the gas field. Gas manufacture (and manufacturing apparatus), gas distribution and gas sales; financial, legal, commission and patent information; commercial development, advertising, demonstrating and selling of heavy and light gas-consuming appliances for heating in home, office and factory, lighting in home, office, factory and street; association news and convention reports; selection and training of employes; and general news of the gas industry are covered in the sixty-odd pages of each issue.

The liveliest, freshest news of the activities of all departments of artificial and natural gas companies in the United States and England and on the European continent, is gathered and selected to furnish the maximum of interesting, practical and helpful information in the most conveniently accessible form.

The problems and the accomplishments of the manufacturers of gas making and distribution apparatus are studied with a view of giving gas companies and manufacturers the benefit of the latest developments. Likewise, new products of the manufacturers of gas-consuming appliances are followed closely and placed before the public at the earliest opportunity.



The paid subscribers of The Gas Age serve 94 per cent of the gas using population, sell 98 per cent of the gas, own 93 per cent of the street mains and 96 per cent of the meters in the manufactured gas field. A high percentage of the natural gas field is also reached. Such a covering power is phenomenal, and is unequaled by any trade publication, so far as we know, with the possible exception of one journal in an entirely different field.

This makes The Gas Age pre-eminent as an advertising medium for the manufacturers who sell any type of gas making, distribution or consuming apparatus and materials.

Subscription Rate: United States
\$3.00; Canada \$4.00; Foreign \$4.25

Advertising rates and advertising
copy suggestions on application

THE GAS AGE

52 Vanderbilt Avenue,

NEW YORK

INSTRUMENTS

Testing
Laboratory
Operating

Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

OUNCES STRENGTH AND SPECIFIC GRAVITY OF AMMONIA LIQUOR

(Newbeggins's Handbook)

Ounce Strength	Twaddell Deg.	Specific Gravity Water=1	Ounce Strength	Twaddell Deg.	Specific Gravity Water=1	Ounce Strength	Twaddell Deg.	Specific Gravity Water=1
0	0	1.0000	17	8.5	1.0425	34	17.0	1.0850
1	0.5	1.0025	18	9.0	1.0450	35	17.5	1.0875
2	1.0	1.0050	19	9.5	1.0475	36	18.0	1.0900
3	1.5	1.0075	20	10.0	1.0500	37	18.5	1.0925
4	2.0	1.0100	21	10.5	1.0525	38	19.0	1.0950
5	2.5	1.0125	22	11.0	1.0550	39	19.5	1.0975
6	3.0	1.0150	23	11.5	1.0575	40	20.0	1.1000
7	3.5	1.0175	24	12.0	1.0600	41	20.5	1.1025
8	4.0	1.0200	25	12.5	1.0625	42	21.0	1.1050
9	4.5	1.0225	26	13.0	1.0650	43	21.5	1.1075
10	5.0	1.0250	27	13.5	1.0675	44	22.0	1.1100
11	5.5	1.0275	28	14.0	1.0700	45	22.5	1.1125
12	6.0	1.0300	29	14.5	1.0725	46	23.0	1.1150
13	6.5	1.0325	30	15.0	1.0750	47	23.5	1.1175
14	7.0	1.0350	31	15.5	1.0775	48	24.0	1.1200
15	7.5	1.0375	32	16.0	1.0800	50	25.0	1.1250
16	8.0	1.0400	33	16.5	1.0825			

For each deg. Twaddell of strength of ammoniacal liquor two ounces of sulphuric acid (specific gravity 1.845) is required to neutralize the ammonia. Each ounce strength equals 0.347 ounces of ammonia per gallon of liquor. One deg. Twaddell equals 350 grains of water.

COLOR SENSATIONS COMPARED WITH BLACK BODY RADIATION

Luckiesch—Color and Its Applications

	Red	Green	Blue		Red	Green	Blue
Black body (5,000 deg. abs)...	33.3	33.3	33.3	Electric glower (Nernst)....	49.2	4.7	11.1
Blue sky (screen).....	26.8	27.2	46.0	Welsbach (¾% cerium)....	42.5	40.8	16.7
Blue sky (prism).....	32.0	32.0	35.8	Welsbach (¾% cerium)....	45.4	42.0	12.6
Overcast sky	34.6	33.9	31.5	Welsbach (1¼% cerium)....	47.2	41.8	11.0
Afternoon sun	37.7	37.3	25.0	Electric arc (direct cur.)....	41.0	36.3	22.7
Hefner lamp	54.3	39.5	6.2	Electric arc (mercury).....	29.0	30.3	40.7
Electric incand. (carbon)....	51.1	40.5	5.4	Electric arc (yellow flame)..	52.0	37.5	10.5
Acetylene	48.6	40.8	10.6	Electric CO ₂ tube (Moore)..	31.3	31.0	37.7
Electric incand. (tungsten)...	48.3	40.8	10.9				

MELTING POINTS ADOPTED BY THE U. S. BUREAU OF STANDARDS

	Deg. Cent.	Deg. Fah.		Deg. Cent.	Deg. Fah.
Hydrogen	-259	-434	Silver	960	1761
Oxygen	-218	-360	Gold	1063	1945
Nitrogen	-210	-346	Copper	1083	1981
Chlorine	-102	-151	Manganese	1260	2300
Mercury	-39	-38	Nickel	1452	2646
Phosphorus	+44	+111	Cobalt	1480	2696
Sulphur	113	236	Iron	1530	2786
Tin	232	450	Thorium (est.)	1700	3090
Bismuth	271	520	Platinum	1755	3191
Lead	327	621	Titanium (est.).....	1800	3272
Zinc	419	787	Iridium (est.)	2350	4262
Antimony	630	1166	Osmium (est.).....	2700	4892
Cerium	640	1184	Tantalum (est.).....	2850	5160
Magnesium	651	1204	Tungsten (est.).....	3000	5430
Aluminum	659	1218	Carbon (est.).....	3600	6510

COLORS CORRESPONDING TO THE TEMPERATURES OF BRICKWORK OR STEEL BEING HEATED ESTIMATED BY BARIOUS AUHORITIES

Bethlehem Steel Co.	Deg. Fah.	Pouillet (Kent)	Deg. Fah.
Faint Red	990	Incipient red	977
Blood red	1050	Dull red	1292
Dark cherry	1175	Incipient cherry	1472
Medium cherry	1250	Cherry red	1652
Cherry or full red	1375	Clear cherry	1832
Bright red	1550	Deep orange	2021
Salmon	1650	Clear orange	2192
Orange	1725	White	2372
Lemon	1825	Bright white	2552
Light yellow	1975	Dazzling white	2732
White	2200		

NEW BOOK FREE "CALORIMETRY"

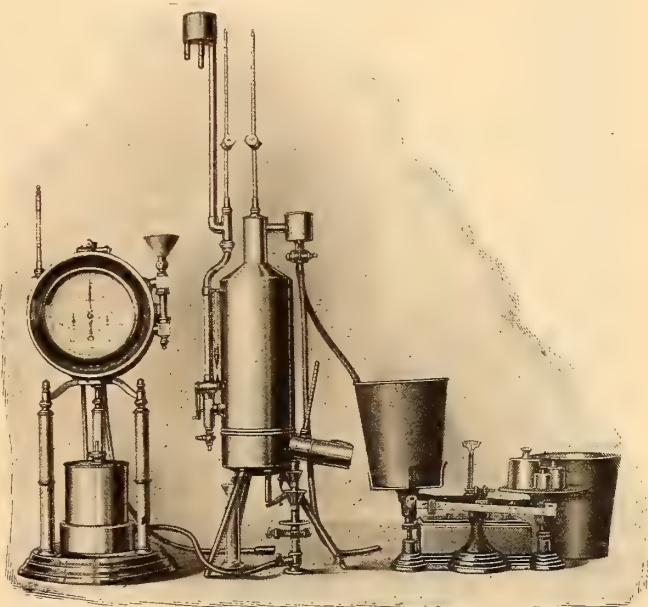
All you have to do is to ask for this book. It will be sent to you upon request without charge

Test Your Gas

Absolutely necessary if you wish to give best service and save trouble.

This Calorimeter is SIMPLE TO OPERATE—ABSOLUTELY ACCURATE. No expert operator required.

Calorimetry is displacing photometry. The increasing use of gas fuel burning appliances requires that you be constantly provided with proper apparatus to enable you to test the thermal value of your gas.



THE HINMAN-JUNKERS' CALORIMETER

The Perfected Hinman-Junkers' Calorimeter

embodies all the improvements suggested by the Committee on Calorimetry of the American Gas Institute.

Declared by the N. Y. Public Service Commission to show an efficiency of 99.8 per cent.

NEW FEATURES

Can be taken apart and all parts accessible—Three-way cock on outlet permits continuous operation—Water thermometers close together and on same level—Telescopic sights—Burner stands upright—Meter mounted on stand and governor placed beneath meter. Meter rings bell automatically on revolution of large pointer.

WRITE FOR NEW BOOK, "CALORIMETRY."

THE AMERICAN METER CO.

105 West 40th Street, New York City



A Specialized for each and every

CO-OPERATION

You know what you need in temperature instruments, and you are entitled to have your views respected when it comes to buying them.

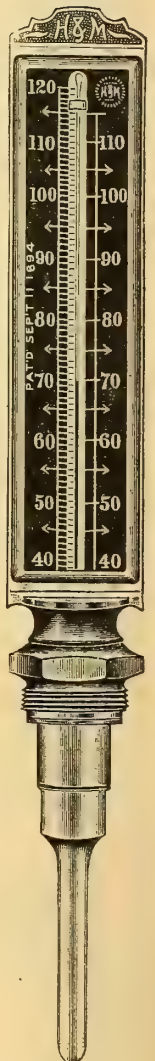
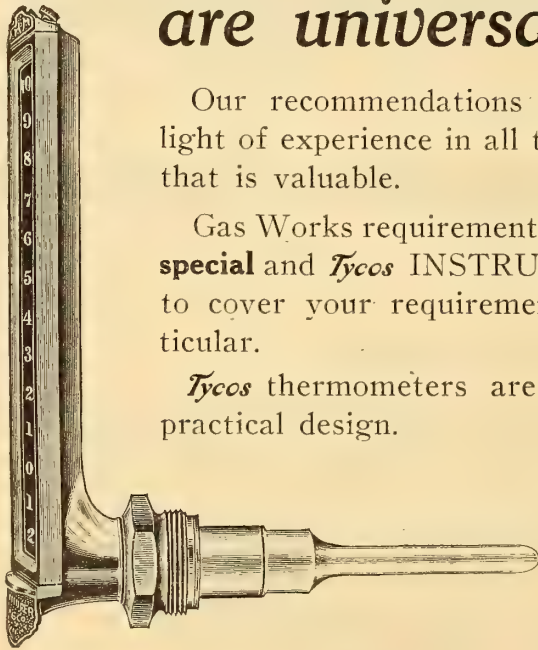
The moment you decide to buy from the Taylor Instrument Companies an engineering organization is placed at your disposal, having an experience covering over 50 years in design, manufacture and application—not merely selling.

Tycos Instruments are universally used

Our recommendations are made in the light of experience in all these factors—and that is valuable.

Gas Works requirements are considered as **special** and *Tycos* INSTRUMENTS are made to cover your requirements in every particular.

Tycos thermometers are of demonstrated practical design.



Straight
Gas Mains
Thermometer

Thermometer

Gas Works requirement



We still continue to say that in service there are none their equal. There is a good reason for this—we have spared no labor or expense to procure the best designs that modern science could produce—then we followed these designs faithfully in our shops—without sacrificing a single detail to reduce manufacturing costs.

Tycos

TEMPERATURE INSTRUMENTS

INDICATING RECORDING
CONTROLLING

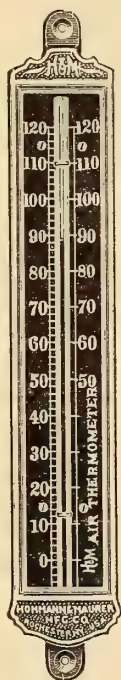
Special Adaptions of Standardized Forms

The *Tycos* line of Thermometers are adapted for every purpose.

Our Catalogue 600 gives specific information regarding the construction and advantages of each type.

SEND FOR CATALOGUE 600

Gas Gauges—Recording Thermometers—Automatic Temperature Regulators—Differential Gauges—Industrial Hydrometers—Thermo-electric Pyrometers—Barometers—Mercury Vacuum Gauges.



Meter Prover
Air
Thermometer



Meter Prover
Water
Thermometer



Syphon Gas
Gauge
Without Armor

Taylor Instrument Companies

Rochester, N. Y.



A Specialized for each and every

CO-OPERATION

You know what you need in temperature instruments, and you are entitled to have your views respected when it comes to buying them.

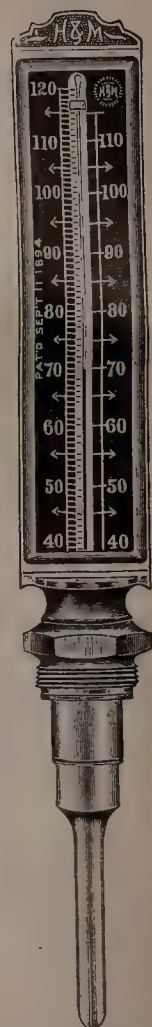
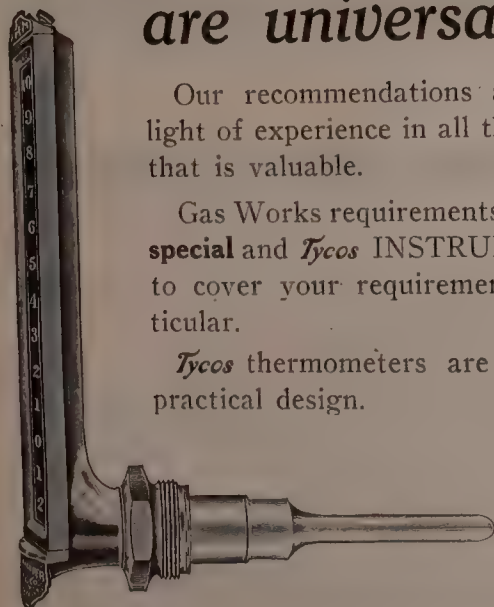
The moment you decide to buy from the Taylor Instrument Companies an engineering organization is placed at your disposal, having an experience covering over 50 years in design, manufacture and application—not merely selling.

Tycos Instruments
are universally used

Our recommendations are made in the light of experience in all these factors—and that is valuable.

Gas Works requirements are considered as **special** and *Tycos* INSTRUMENTS are made to cover your requirements in every particular.

Tycos thermometers are of demonstrated practical design.



Straight
Gas Mains
Thermometer



Thermometer Gas Works requirement

We still continue to say that in service there are none their equal. There is a good reason for this—we have spared no labor or expense to procure the best designs that modern science could produce—then we followed these designs faithfully in our shops—without sacrificing a single detail to reduce manufacturing costs.

Tycos

TEMPERATURE INSTRUMENTS

INDICATING RECORDING
CONTROLLING

Special Adaptions of Standardized Forms

The *Tycos* line of Thermometers are adapted for every purpose.

Our Catalogue 600 gives specific information regarding the construction and advantages of each type.

SEND FOR CATALOGUE 600

Gas Gauges—Recording Thermometers—Automatic Temperature Regulators—Differential Gauges—Industrial Hydrometers—Thermo-electric Pyrometers—Barometers—Mercury Vacuum Gauges.



Meter Prover
Air
Thermometer



Meter Prover
Water
Thermometer

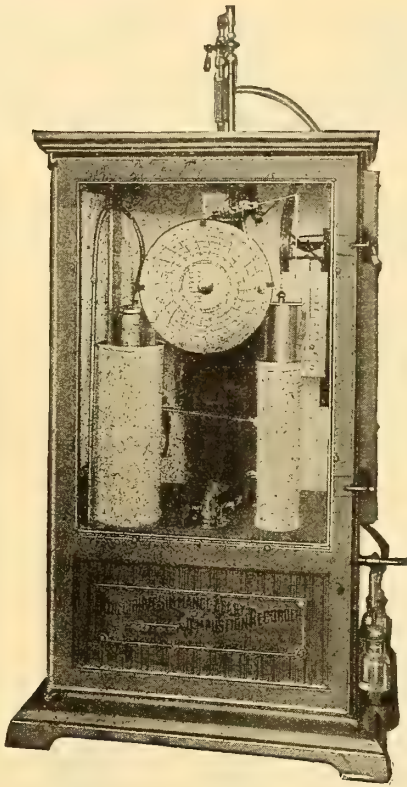


Syphon Gas
Gauge
Without Armor

Taylor Instrument Companies

Rochester, N. Y.

ARE YOU GUARDING ? YOUR COAL PILE ?



Precision Patent Automatic CO₂MBUSTION RECORDER

It is a scientific fact that the fuel loss increases as percentage of CO₂ decreases. Thus 5 per cent CO₂ equals a loss of 35 per cent of fuel, while 12 per cent CO₂ equals a loss of 15 per cent of fuel, so that if a 5 per cent CO₂ result can be converted into a 12 per cent CO₂ result, the saving is 35-15 of 20 per cent of the fuel. Apply these everyday figures to a coal bill of \$5,000 per annum. They show a possibility, nay a practical certainty, of saving \$1,000 per annum if a CO₂MBUSTION RECORDER is used and worked up to. This is a hard fact, and does not admit of argument. The smaller the percentage of CO₂ the greater the monetary loss in fuel. One pound of coal burned to CO₂ yields three times the heat that is produced if the coal is only burned to CO.

The Book Tells You All.

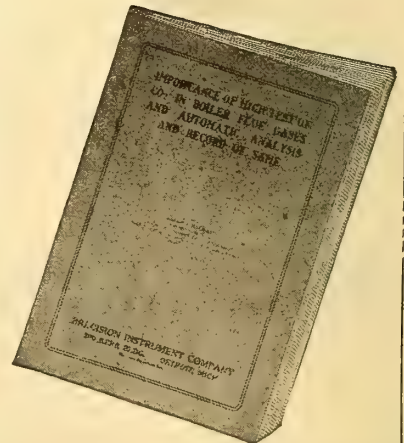
Precision Instrument Co.
ENGINEERS

Detroit

Michigan

Do you, according to the fuel you use, so thoroughly extract all the heat that you get 19 per cent or 16½ per cent of CO₂? It may be taken for granted that in nine cases out of ten where the CO₂MBUSTION RECORDER is not used, these figures are not being even approached, and it is manifest that the lower the CO₂ figures the greater the waste.

*Write for Booklet by
Mr. A. T. Baldwin
demonstrating econ-
omy and all the bene-
fits of checking up
combustion by the
CO₂MBUSTION
RECORDER.*



WELL DRILLING EQUIPMENT

Oil
Gas

Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

PROPERTIES OF SATURATED STEAM

(From Steam Tables by Marks and Davis)

Pressure; lbs. —per sq. in.— Steam Gage	Ab- solute	Temper- ature Deg. Fah.	Total heat; B. t. u.	Volume per pound; Cu. ft.	Weight per cu. ft. Pounds	Pressure; lbs. —per sq. in.— Steam Gage	Ab- solute	Temper- ature Deg. Fah.	Total heat; B. t. u.	Volume per pound; Cu. ft.	Weight per cu. ft. Pounds
0.0	14.7	212	1150.4	26.79	0.03732	121.3	136	350.8	1191.7	3.308	0.3023
10.3	25	240.1	1160.4	16.30	0.0614	141.3	156	361.5	1194.1	3.012	0.3023
20.3	35	259.3	1166.8	11.89	0.0841	135.3	150	358.5	1193.4	2.902	0.3320
30.3	45	274.5	1171.6	9.39	0.1065	151.3	166	366.5	1195.1	2.737	0.3654
40.3	55	287.1	1175.4	7.78	0.1285	161.3	176	371.3	1196.0	2.588	0.3864
50.3	65	289.0	1178.5	6.65	0.1503	171.3	186	375.8	1196.9	2.455	0.4073
60.3	75	307.6	1181.1	5.81	0.1721	181.3	196	380.2	1197.8	2.335	0.4283
70.3	85	316.3	1183.4	5.16	0.1837	190.3	205	384.0	1198.5	2.237	0.447
80.3	95	324.1	1185.4	4.65	0.2151	200.3	215	388.0	1199.2	2.138	0.468
85.3	100	327.8	1186.3	4.43	0.2258	225.3	240	397.4	1200.9	1.924	0.520
91.3	106	332.0	1187.4	4.19	0.2336	255.3	270	407.9	1202.6	1.718	0.582
101.3	116	338.7	1189.0	3.848	0.2599	275.3	290	414.4	1203.6	1.602	0.624
111.3	126	345.0	1190.4	3.556	0.2812	305.3	320	423.4	1204.9	1.456	0.687
115.3	130	347.4	1191.0	3.452	0.2897						

COMPARISON OF SPECIFIC GRAVITY, HYDROMETER DEGREES AND VOLUME— WEIGHTS OF LIQUIDS LIGHTER THAN WATER

(From Circular No. 19, U. S. Bureau of Standards)

Spec. Grav.	Degrees Beaume	Pounds per gallon	Gallons per pound	Spec. Grav.	Degrees Beaume	Pounds per gallon	Gallons per pound
0.60	103.33	4.993	0.2003	0.81	42.84	6.744	0.1483
0.61	99.51	5.076	0.1970	0.82	40.73	6.827	0.1465
0.62	95.81	5.160	0.1938	0.83	38.68	6.911	0.1447
0.63	92.22	5.243	0.1907	0.84	36.67	6.994	0.1430
0.64	88.75	5.326	0.1877	0.85	34.71	7.078	0.1413
0.65	85.38	5.410	0.1848	0.86	32.79	7.161	0.1396
0.66	82.12	5.493	0.1820	0.87	30.92	7.244	0.1380
0.67	78.96	5.577	0.1793	0.88	29.09	7.328	0.1365
0.68	75.88	5.660	0.1767	0.89	27.30	7.411	0.1349
0.69	72.90	5.743	0.1741	0.90	25.56	7.494	0.1334
0.70	70.00	5.827	0.1716	0.91	23.85	7.578	0.1320
0.71	67.18	5.910	0.1692	0.92	22.17	7.661	0.1305
0.72	64.44	5.994	0.1668	0.93	20.50	7.745	0.1291
0.73	61.78	6.077	0.1646	0.94	18.94	7.828	0.1278
0.74	59.19	6.160	0.1623	0.95	13.37	7.911	0.1264
0.75	56.67	6.244	0.1602	0.96	15.83	7.995	0.1251
0.76	54.21	6.327	0.1580	0.97	14.33	8.078	0.1238
0.77	51.82	6.410	0.1560	0.98	12.86	8.162	0.1225
0.78	49.49	6.494	0.1540	0.99	11.41	8.245	0.1213
0.79	47.22	6.577	0.1520	1.00	10.00	8.328	0.1201
0.80	45.00	6.661	0.1501				

$$\text{Specific Gravity} = 145 \div (145 - \text{Beaumé deg.}) = 1 + (\text{Twaddell deg} \times 5) \div 1,000.$$

GAS ENGINE FUEL EFFICIENCY (Lewes)

	B. t. u. per lb.	—B. t. u. Utilised— Efficiency B. t. u. × per b.h.p. Efficiency		B. t. u. per lb.	—B. t. u. Utilised— Efficiency B. t. u. × per b.h.p. Efficiency
Coal (steam engine)...	14,800	0.086	1,273	Coal gas	19,220 0.25 4,805
Coal (steam turbine)...	14,800	0.12	1,776	Mond gas (producer)...	2,525 0.26 656
Oil (Diesel engine)...	19,440	0.32	6,220	Dowson gas (prod'cr)...	2,353 0.26 612
Petrol (or gasoline)...	20,923	0.22	4,603	Suction gas (producer)...	2,160 0.26 562
Alcohol (industrial) ..	11,160	0.38	4,241	Blast furnace gas.....	951 0.25 243

HEAT DATA OF COMMERCIAL GASES (Lewes)

	Cu. ft. per lb. at 60° F.	British Thermal Units Cu.ft. gross	Pound		Cu. ft. per lb. at 60° F.	British Thermal Units Cu.ft. gross	Pound
Coal gas (London)....	31.0	620	19,220	Dowson gas (producer)	15.9	148	2,353
Water gas	26.6	300	7,980	Suction plant (prod'cr)	16.0	135	2,160
Mond gas (producer) ..	16.4	154	2,525				

Everything
for
Oil and Gas
Wells



Branch Stores
in all
Oil Fields



75,000,000 cubic feet per day

We manufacture equipment of every description for drilling or boring deep wells for oil, gas, water, or for any purpose, anywhere, in any formation, to any depth.

We are the oldest and largest manufacturers of well drilling plant in the world, and our experience is world-wide. Our Factories cover 74 acres, and our Branch Stores are located in all the prominent oil fields.

We can furnish everything or anything used in drilling by the American Cable System, the Rotary System, the Canadian System, the Combination System, the Hydraulic Circulating System, the Stove Pipe and Mud Scur System, or Portable Drilling Machines.

OIL WELL SUPPLY CO.

General Offices: Pittsburgh

New York

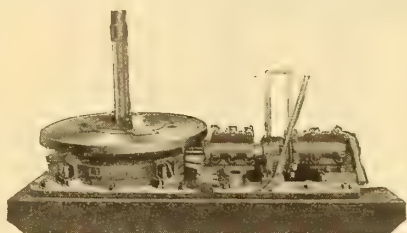
Los Angeles

San Francisco

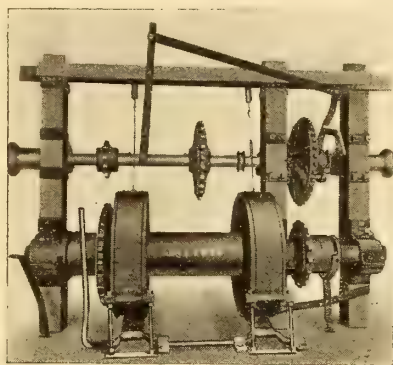
Tampico

London

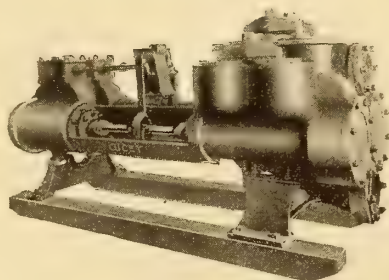
THE SUN NEVER SETS ON A LUCEY OUTFIT



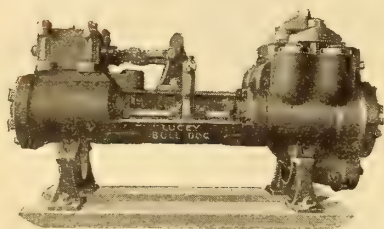
LUCEY REX ALL-STEEL ROTARY



LUCEY REX DRAW WORKS



LUCEY 12x6x14 PUMP



LUCEY 6x4x6 PUMP

**OIL-GAS-WATER WELL
AND PROSPECTOR'S
TOOLS AND SUPPLIES**

**ROTARY DRILLING
EQUIPMENT**

STANDARD TOOLS

PUMPS-RIG IRONS

**Pumping Barrels
Sucker Rods and
Pumping Equipment**

**Steam Turbine Electric
Lighting Plants**

Portable Steel Buildings



LUCEY MANUFACTURING CORPORATION

WOOLWORTH BLDG.

NEW YORK

CHATTANOOGA

HOUSTON

PITTSBURGH

TAMPICO

LONDON

LOS ANGELES



MISCELLANEOUS

Alphabetical Index to Advertisers, see page IX
Classified Index to Advertisers, pages X and XI

CHART FOR ESTIMATING THE CALORIFIC VALUE OF COAL

By W. F. SCHAPHORST, in the Gas Age, Jan. 1, 1917

An interesting card distributed by Peale, Peacock & Kerr, of New York, entitled, "To Calculate British Thermal Units." In this calculation Dulong's formula is not used. Oxygen and hydrogen are not even mentioned. The calculation is based on the proximate analysis of the coal.

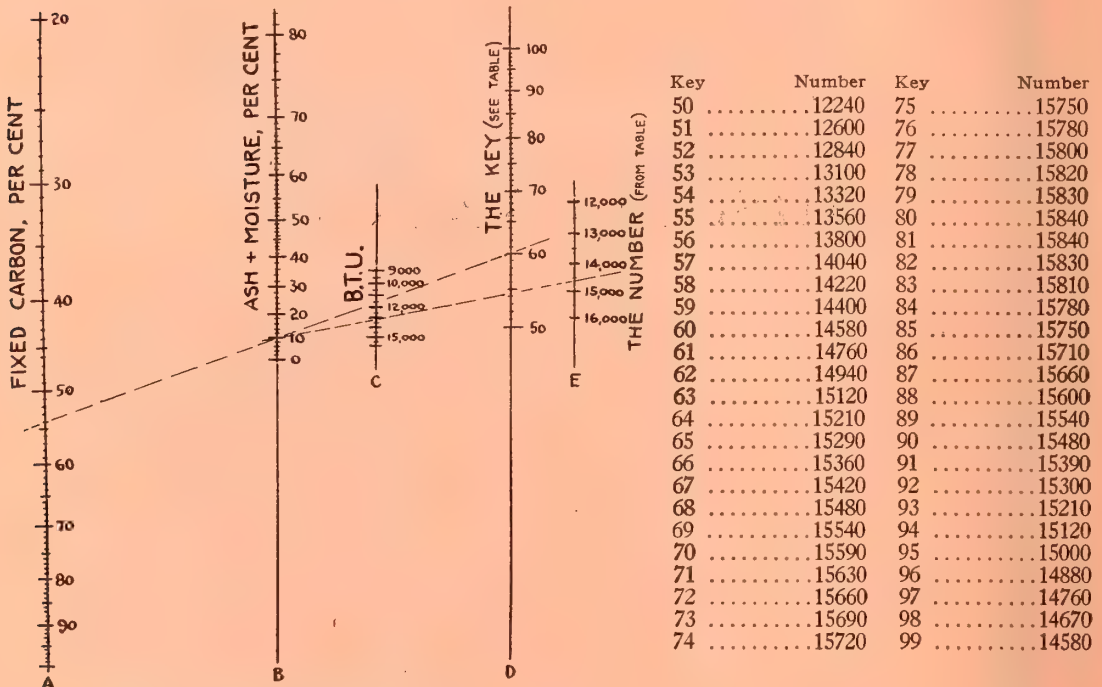
In order to use this chart, it is necessary to know the percentages of three constituents: (1) fixed carbon, (2) ash, and (3) moisture.

Run a straight line from the fixed carbon (column A) to the sum of moisture and ash (column B) and locate the key in column D. Using this key you now refer to the table and find the number corresponding with the key. Locate this number in column E and connect it with the sum of moisture and ash (which has already been located in column B) and the

intersection with column C gives the heat value of the coal.

Example: Let us take a sample of coal showing 54 per cent fixed carbon (column A), and the sum of moisture and ash amounting to 10 per cent (column B). The extended dotted line gives us 60 (column D) as the key. Referring to the table we find the corresponding number to be 14,580. Locating that number as closely as possible on column E we run a line over to the 10 (column B) and the intersection with column C shows the heat value of the coal to be very close to 13,100 B.t.u. The dotted lines indicate the two positions of the straightedge necessary for the determination of heat value.

It is stated on the card published by Peale, Peacock & Kerr that this method is accurate within 100 B.t.u.



Graphic Determination of B.t.u. in Coal

CAPACITY OF TANKS ONE FOOT IN DEPTH

(National Tube Co.)

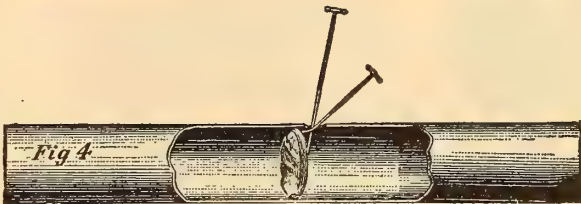
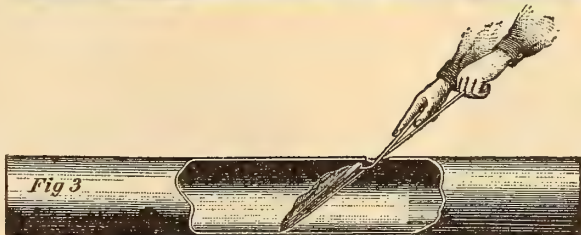
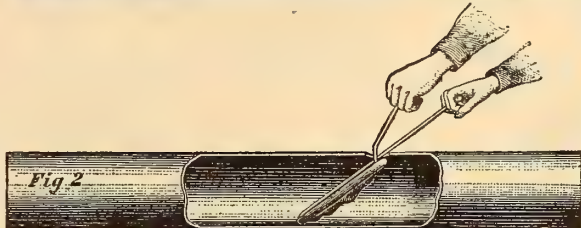
Ft. Diam.	Gallons	Ft. Diam.	Gallons	Ft. Diam.	Gallons
1	5.87	11	710.90	21	2,591.0
2	23.50	12	846.03	22	2,843.6
3	52.88	13	992.91	23	3,108.0
4	94.00	14	1,151.5	24	3,384.1
5	146.88	15	1,321.9	25	3,672.0
6	211.51	16	1,504.1	26	3,971.6
7	287.88	17	1,697.9	27	4,283.0
8	376.01	18	1,903.6	28	4,606.2
9	475.89	19	2,120.9	29	4,941.0
10	587.52	20	2,350.1	30	5,287.7

IN HALF A MINUTE

You Can Stop Off Any
Gas Main, Gas Tight

GOODMAN Safety Gas Main Stoppers

are made in 17 standard sizes from 4 inches to 48 inches, and in special sizes to order. Every Gas Company should be provided with those that will be needed in the course of regular work or in emergencies.



Sold on free trial with an
unconditional guarantee.

Safety Gas Main Stopper Co.

PATRICK GOODMAN, SOLE OWNER

263 East 133rd Street

::

New York City

THE ALEXANDER MILBURN CO.

BALTIMORE—U. S. A.

BRANCHES:

NEW YORK
51 E. 42d St.

BOSTON
79 Milk St.

CHICAGO
1012 Kimball Bldg.

PITTSBURGH
406 Bessemer Bldg.

WASHINGTON, D. C.
711 Thirteenth St., N. W.

Manufacturers of

Portable Carbide Lights and Oxy-Acetylene Apparatus

For Construction or Trench Work,
For All Kinds of Night Work,
For Use in Dark Places, these

MILBURN PORTABLE LIGHTS

give powerful, cheap illumination. They are automatic in operation, easily cleaned, and burn ORDINARY carbide. *On Sale Everywhere.*

They do not require a change of water when recharging—and they CAN'T overgenerate. They come in all sizes, from 100 to 25,000 candle-power.



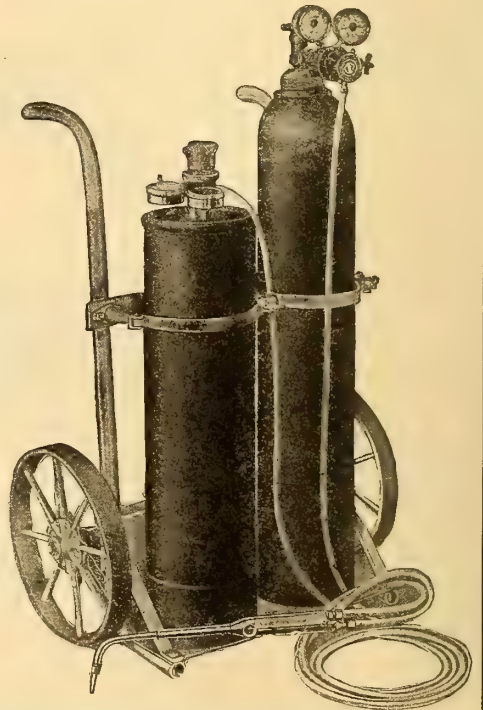
For Welding or
Cutting Gas Mains;
for making "Y," "X"
or "T" joints in the
field, right on the job;
for repairing machin-
ery, break-downs, use

MILBURN OXY-ACETYLENE PLANTS

the standard for a dozen years and
used in the Navy Yards; aboard over
100 Fighting Ships; by the leading
American Gas Companies.

TORCHES—GENERATORS COMPLETE OUTFITS

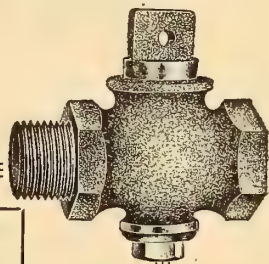
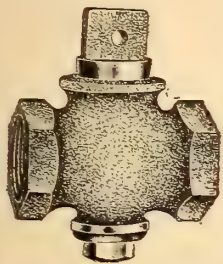
Send for Booklet 101



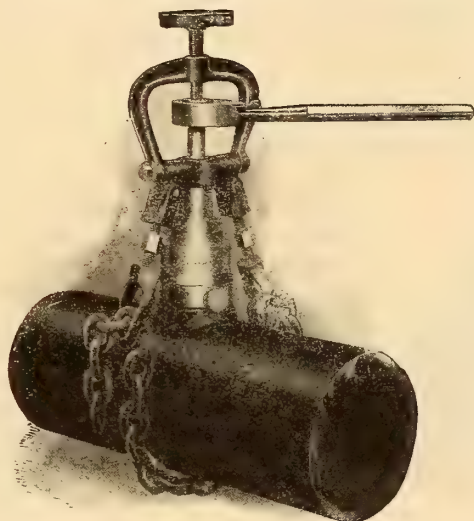
HAYS

GAS SERVICE PRODUCTS

"Good to the Core"



Payne's Patent
"Daisy" Gas Tapping Machine



For Tapping Gas Mains under pressure or Dry Mains.
No Escape of Gas while Drilling and Tapping.
Will Tap on Top, Side or at any Angle.

Most Complete Line
Most Complete Plant
Best Prices
Prompt Shipments
on Stock Orders
Natural Gas Fittings

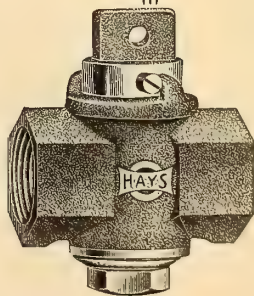
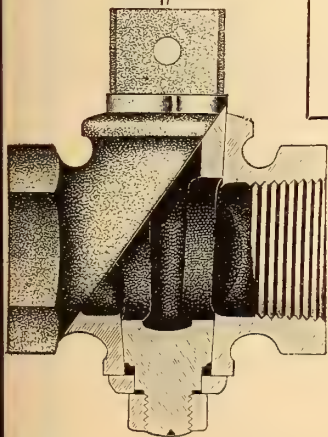
WRITE FOR CATALOG

HAYS MANUFACTURING CO.

ERIE

ESTABLISHED 1869

PENNA.



Foamite

SYSTEM FOR EXTINGUISHING OIL FIRES

Now protects thousands of Oil Storage Tanks and has practically superseded all other systems.

Several of the United States Naval Fuel-Oil Stations have FOAMITE protection.

No Tank protected by the FOAMITE SYSTEM has ever been lost! Its universal adoption by the leading Producers and Refiners has cut down substantially the enormous losses due to inadequate fire protection.

Send us full particulars about your risk. Let us give you specifications and prices covering a FOAMITE SYSTEM that will **surely** protect you against fire losses, and reduce your insurance rates.

FOAMITE should not be confused with imitations and infringements bearing somewhat similar names.



FOAMITE 3-gallon Fire-pail.

Utilizes Same Solutions as the FOAMITE SYSTEM.

Astonishingly efficient, especially on oil, paint, or grease. Produces 24 gallons of fire-smothering foam—enough to blanket a space of 50 square feet.

FOAMITE 3-gallon Hand Extinguisher.

Utilizes Same System as the FOAMITE SYSTEM.

Made of copper, finely finished and polished. It throws a steady, easily handled $\frac{1}{4}$ -inch stream,

and generates 20 gallons of FOAMITE fire-smothering foam that blankets the worst blaze, puts it out and makes reignition difficult. Its capacity is equivalent, by actual test, to eight ordinary extinguishers.



FOAMITE 40-gallon Chemical Fire Engine Utilizes Same Solutions as the FOAMITE SYSTEM.

Produces 320 gallons of the same fire-smothering foam that is utilized by the FOAMITE SYSTEM for extinguishing oil fires. Easily handled by one man.



Write for circulars describing the unequaled effectiveness of FOAMITE Fire Extinguishers, Fire Pails, and Fire Engines.

DEALERS WANTED EVERYWHERE

FOAMITE Fire Extinguisher Co.

197 Fifth Avenue, New York

CLARENDON GAS OIL --- --- FUEL OIL



CLARENDON REFINING CO.

REFINERY AND HOME OFFICE:

CLARENDON :: PA.

423 OLIVER BUILDING
PITTSBURGH, PA.

EASTERN SALES OFFICES: 11 BROADWAY, NEW YORK

GAS OIL FUEL OIL

Gasoline

Paint Oils

Naphtha

Turpentine Substitutes

Lubricating Oils

Hydrolene for Roofing and Paving

Road Oils

Asphalt Binders



SUN COMPANY

PHILADELPHIA, PA.

TOLEDO, OHIO

NEW YORK CITY

CHICAGO, ILL.

BALTIMORE, MD.

PITTSBURGH, PA.

BEAUMONT, TEXAS

DETROIT, MICH.

BOSTON, MASS.

CINCINNATI, OHIO

MINNEAPOLIS, MINN.

BUFFALO, N. Y.

GRAND RAPIDS, MICH.

GAS OIL

BEFORE you renew your contract for gas oil, let us quote you prices and tell you about deliveries and our service in general.

Tide Water gas oil has a sulphur content of less than three-tenths of one per cent—something which very few oil refiners can equal. It is also free from sediment.

Tide Water policy

Paraffine base crude is used exclusively by the Tide Water Oil Company.

It is the rule of this Company never to lower the standard of the products by forcing the yield from crude; quality is always first.

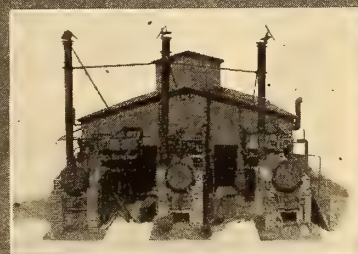
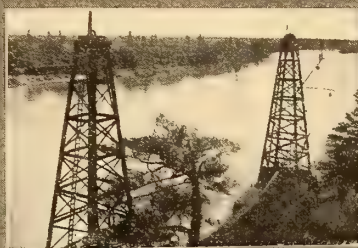
Each of our 150 products is the best that a choice of raw material, years of experience, and scientific research can produce.

Write us for prices and deliveries and tell us when your present contract expires.

TIDE WATER OIL COMPANY

11 BROADWAY

NEW YORK



WESTMORELAND COAL CO.

IN BUSINESS FOR SIXTY-FOUR YEARS.

Mines Situated on the Pennsylvania Railroad and the
Youghiogeny River in Westmoreland
County, Pennsylvania.

Points of Shipment: Philadelphia, Pa.; Baltimore, Md.;
South Amboy, N. J.; Sodus Point, N. Y., and
New York Barge Canal Points.

The Standard Gas Coal of the United States

Principal Office:

224 S. 3d St., PHILADELPHIA, PA.

ESTABLISHED 1887.

Index to Contents, Page V

BROWN'S DIRECTORY

.. OF ..

American Gas Companies

GAS STATISTICS

PRICE, - - - - \$5.00

Compiled and Corrected Annually by
E. C. BROWN.

COPYRIGHTED 1918 BY PROGRESSIVE AGE PUBLISHING CO.

PUBLISHED BY
PROGRESSIVE AGE PUBLISHING CO.
52 VANDERBILT AVE.
NEW YORK

1918

WATER GAS SETS

ELEVATORS

SCRUBBERS

TAR EXTRACTORS

EXHAUSTERS

ROTARY SCRUBBERS

NAPHTHALENE WASHERS

GATE VALVES

AMMONIA CONCENTRATORS

STACKS

CONDENSERS

OXIDE TRAYS

NITROGEN RECOVERY APPARATUS

STRUCTURAL WORK

TANKS

ROOF TRUSSES

U-SHAPE MAINS

COKE OVEN MOUNTINGS

TAR STILL

IRON CASTINGS

OIL GAS SETS

NEUTRALIZING TANKS

COOLERS

OIL SPRAYS

ENGINEERING SERVICE

VALVES

EXTENSION ENDS

RIVETED PIPE

YARD DRIPS

TROLLEYS

HOLDERS

INDUSTRIAL PLANTS

NAPHTHA STILLS

GRATES

FORGINGS-FITTINGS

OIL HEATERS

RUBBER LUTES

ABSORBERS

GOVERNORS

AMMONIA WASHERS

SPECIALS

PURIFIERS

LIGHT OIL STILL

ANGLE VALVES

NAPHTHALENE PANS

TOWER SCRUBBERS

FORT WAYNE, INDIANA

BROWN'S DIRECTORY

.. OF ..

American Gas Companies.

GAS STATISTICS.

ALABAMA

Total population, 2,348,273.

Gulf States Steel Co., Alabama City.

RRs.: A. G. S.; So.; L. & N.; N. C. & St. L.

Main office, Birmingham, Ala.

Capital stock, pref., auth., \$3,000,000; issued, \$2,000,000. Second pref., auth., \$1,860,800; issued, \$860,800; com., auth., \$10,639,200; issued, \$8,139,200.

Ann. div., pref., 7 p. c.; 2d pref., 6 p. c.; com., 10 p. c.

President, James Bowron.

Vice-president, H. S. Smith.

Vice-president and treasurer, A. R. Forsyth.

Vice-pres. and general manager, C. A. Moffett.

Secretary, W. H. Moore.

Chief engineer, C. E. Bowron.

Purchasing agent, B. F. Tyler.

Superintendent, E. C. Plank.

37 Koppers cross regenerative by-product coke ovens.

Length, 37 ft.; width, 17 to 19½ in.; height, 9 ft. 10 in.

Coal charged per oven, 12¼ net tons.

Coke yield, 78 p. c. (furnace and breeze).

Time required for coking, 17 hrs.

Coal used: High volatile, 18 p. c.; low volatile, 82 p. c.

Gas used for heating ovens, 38 p. c.; used under boilers, 17 p. c.

Surplus gas used in steel plant, 45 p. c.

Calorific value, 525 B.t.u.

By-products: Gas made, 2,847,000 M. c. f. (all used by reporting company); tar, made and sold, 1,920,000 gals.; am. sulphate, 5,400,000 lbs.; pure benzol, 290,000 gals.; pure toluol, 84,000 gals.; solvent naphtha, 30,000 gals.; naphthalene, 75,000 lbs.; Coke blast furnace, 187,000 tons.

Alabama Power Co., Anniston.

RRs.: L. & N.; So. Ex.; So.

For capitalization, bonds, officers, etc., see Appendix.

Process manufacture, Coal.

Price of coal per ton, delivered, \$4.

Candlepower, 16.

Calorific value, 600 B. t. u.

Annual production, 50,500,000 c. f.

By-products made: Coke, 4,000 tons; tar, 60,000 gallons.

Gas holder capacity, 154,000 c. f.

Holder pressure, 6.5 in.

Street mains, approximate, 20.5 miles; pressures, max., 5.6 in.; min., 2.4 in.

Max. day's send out, 210,000 c. f.

Annual sales, approx., 50,500,000 c. f.

Gas unaccounted for, 12.3 p. c.

By-products sold: Coke, 4,000 tons; tar, 60,000 gallons.

Pop. of city, 12,794 (1910); dist. supplied, 14,000.

No. consumers, 1,288.

No. meters, reg., 1,145; prepay., 208.

Price gas: Light, gross, \$1.50; net, \$1.40; Fuel, gross, \$1.10; net, \$1; com. and dom-heating: 1st, 10,000 c. f., \$1; 2d, 10,000 c. f., 80c; 3d, 10,000 c. f., 75c; over, 30,000 c. f., 70c.

Ranges in use, 1.157; heaters, 384; water heaters, 320.

No. commercial gas arc lamps, 31.

Supplies Anniston.



PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated: Arc and incand., A. C. 60 cycles; power, A. C.
 Voltage: Arcs, 75; incand., 110; power, 110-220.
 City lighting contract: Lamps lighted on moonlight schedule.
 No. public arcs, 101; 435 watt. Price per year, \$65.
 Commercial lighting: No. arcs, 101. No. incand., 18,500.
 Price current per kw. hr., gross, dom., 12c. Quantity discounts.
 Maintenance and investment charge: \$1.50 per h. p. connected for first ten h. p.; \$1 per h. p. connected next 40 h. p.; all above 50 h. p., \$1 per h. p.
 Power circuits: Motors, 2,379 h. p.
 Energy rate, 1c. per kw. hr.
 Other uses: Operates railway.

Bessemer Gas Co., Bessemer.

RRs.: St. L. & S. F.; Ala. Gt. So.; So.; L. & N.; S. A. L. Ex.: So.

(Controlled by Birm. Ry., Lt. & Pr. Co. For capitalization, officers, etc., see Appendix.)
 Process manufacture. Coal and Lowe.
 Price coke per ton, delivered, \$6.
 Price oil per gallon, delivered, 548c.
 Annual production, 20,113,400 c. f.
 Average candle-power, 18.
 Calorific value, 600 B. t. u.
 Total gas-holder capacity, 65,000 c. f.
 Holder press., 7 to 10 lbs.
 High pressure mains, 9 miles; pressure, 5 to 15 lbs.
 Annual sales, approx., 14,084,500 c. f.
 Gas unaccounted for, 27.25 p. c.
 Pop. dist. supplied, 7,000; of city, 10,864.
 No. consumers, 712.
 No. meters, reg., 559; prepay., 153.
 Price of gas: Light and Fuel, \$1.50; 1,001 c. f. or over, per meter, per month, \$1.
 Ranges in use, 231; water heaters, 74.
 No. commercial gas arc lamps, 179.
 Supplies Bessemer.

Birmingham Railway, Light & Power Co., Birmingham.

RRs.: Cen. of Ga.; So.; Ala. Gt. So.; Ill. Cen.; L. & N.; St. L. & S. F.; S. A. L.; A. B. & A. Ex.: Am., So.

Controlled by American Cities Co.
 (For capitalization and bonds, see Appendix.)
 President and gen. mgr., J. S. Pevear.
 Secretary and treas., J. P. Ross.
 Purchasing agent, C. T. Doerr.
 Supt. gas dept., J. E. Montgomery.
 Engineer, H. E. Cox.
 New bus. mgr., N. H. Hawkins.
 Process manufacture, Coal and Lowe.
 Avge. Candle-power, 15; cal. value, 575 B. t. u.
 Price of coal per ton, \$2.51; oil per gal., 54c.
 Annual production: Coal gas, 354,742,000 c. f.; water gas, 236,132,000 c. f.
 Total gas holders capacity, 3,921,509 c. f.
 Holder pressures, max. 27.5 in.

Max. day's send out, 2,100,000 c. f.
 Miles of mains, approx., 205.5.
 Street main pressures, max., 7 in.; min., 5 in.
 High press. mains, 18 mi.; press., 2.5 lbs.
 Annual sales, approx., 522,394,000 c. f.
 Gas unaccounted for, 10.28 p. c.
 Pop. city, 132,685; of dist. supplied, 220,000.
 No. consumers, 14,633.
 No. meters, reg., 13,114; prepay., 1,519.
 Price gas: First 10 M. c. f., \$1; next 10 M., 90c.; next 10 M., 80c.; over 30 M., 75c.
 Disc., 5c., 10 days. Min. charge, 50c.
 No. public incand. gas lamps, 981.
 Contract includes repairs, care, lighting and extinguishing.
 Hours each lamp is lighted per year, 4,000.
 Ranges in use, 14,497; heaters, 3,500; water heaters, 6,182.
 No. of commercial gas arc lamps, 3,845.
 Supplies Greater Birmingham, including Ensley, West End, Woodlawn, East Lake, North Birmingham.

ELECTRIC LIGHTING DEPARTMENT.

System operated: Arc, 7.5 amp. series, A. C. 60 cycles; incand., A. C. and D. C.; power, A. C., 60 cycles, 3 phase, and D. C.
 Generating capacity: 17,400 kw.
 Voltage: Arcs, 72; incand., 113 A. C. and D. C.; power, 220-240 A. C.; 220 D. C.
 City lighting contract: Hours lighted per year, arc and incand., 4,000.
 No. public arcs, 559; 550 watt; price per year, \$54.
 No. public incand., 354; 85 watt; price per year, \$18.
 Price com'l per kw. hr., gross, 8.5c.; quantity discounts, 10 to 50 p. c.; 10 p. c. penalty, 10 days.
 Power circuits: Motors, 19,102 h. p.; price per kw. hr., 7c.; quantity discount to 15 p. c.; wholesale rate of \$1 per h. p., max. demand plus $\frac{1}{4}$ c. per kw. hr. for all current consumed; for larger customers, diff. rate, min. \$1 per h. p. up to 15 h. p. and 50c. for all over 15. Also 7c. with quantity disc. to 20 p. c. and further from 4 p. c. to 40 p. c.
 Output of station, kw. hrs. for year, 86,665,534.
 Generating power used, Water; purchased.
 Cost of station boiler coal, per ton, \$2.50 to \$4.

Tennessee Coal, Iron and Railroad Co., Birmingham.

Office, Brown-Marx Building.
 Engineer, F. Tschudy.
 Operate Kopper's coke-ovens at Fairfield, Ala.
 This company does not manufacture gas to sell.

Alabama Power Co., Decatur and New Decatur.

RRs.: L. & N. Ex.: So.

Controlled by Alabama Traction, Light & Power Co.
 For capitalization, bonds, officers, etc., see Appendix.
 Local mgr., T. L. Beauchamp, New Decatur.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$4.



R. D. WOOD & CO., PHILA., PA.
GAS HOLDERS, PURIFIERS, CAST IRON PIPE



Candle-power, 16. Calorific value, 550 B.t.u.
By-products made: Coke, 600 tons; tar, 7,500 gallons.

Gas holder capacity, 40,000 c. f.
Holder pressure, max., 4 in.
Max. day's send out, 31,260 c. f.
Street mains, approximate, 14 miles; pressures, max., 3 in.; min., 2.4 in.

Annual sales, approximate \$345,070 c. f.
Gas unaccounted for, 10 p. c.
By-products sold: Coke, 240 tons; tar, 7,500 gallons.

Population of cities, Decatur, 4,228; New Decatur, 6,118 (1910); dist. supplied, 10,800.

No. consumers, 545.

No. meters, reg., 308; prepay., 237.

Price gas: Light, gross, \$1.65; net, \$1.50.
Fuel, for first 10,000 c. f., \$1.35; all over 10,000 c. f., 70c. Discount of 10c. per 1,000 c. f. for prompt payment. Com. and dom. heating: 1st 10,000 c. f., \$1 per 1,000 c. f.; 2d 10,000 c. f., 80c.; 3d 10,000 c. f., 75c.; all over 30,000 c. f., 70c.

Gas appliances in use: Ranges, 500; heaters, 121; water heaters, 118.

No. commercial gas arc lamps in use, 59.

Supplies Decatur and New Decatur.

ELECTRICAL DEPARTMENT.

(Operated under the same name as gas company.)

System operated: Arcs, D. C.; incand., single phase, 60 cycles; power, 3 phase, 60 cycles.

Generating capacity: Lighting, 450 kw.; power, 200 kw. D. C.

Voltage: Arcs, series; incand., 110; power, 220 to 2,300.

City lighting contract: Hours lighted per year: Arcs, 4,000; incand., 4,000.

No. public arcs, 63; 425 watt. Price per year, \$72.50, in New Decatur; \$65 in Decatur.

No. public incand., 63; 60 c. p. Price per year, \$24.

Commercial lighting: Price current per kw. hr., gross, 12c. Discount, 10 to 50 p. c.

Power circuits: No. motors, 55; 397 h. p.

Power rates: Min. per mo., \$1.50 per h. p., connected for 1st 10; \$1 per h. p. for all over 10 up to 50 h. p., connected; 7c. per kw. hr. for 1st 200 kw. per mo.; 3.5c. for next 300 kw. hr.; 2c. for all over 500 kw. hr.

Output of station, kw. hrs. for year, 1,141,173.

Generating power used, Steam; rated 750 h. p.

Cost of station boiler coal, per ton, \$3.75.

Semet-Solvay Co., Ensley.

(Operate coke-oven plant here.)

City of Eufaula (Water and Light Dept.), Eufaula.

RRs.: Cen. of Ga. S. Bs.: Chat. R. Ex.: So.

Town Clerk, A. A. Courik.

Superintendent, J. L. Skinner.

Process manufacture, Coal.

Price gas: Light and Fuel, \$1.60.

Candle-power, 18.

Gas holder capacity, 10,000 c. f.

Max. day's send-out, 10,000 c. f.

Miles of mains, approximate, 5.

Street main pressures, max., 2 in.

Annual sales, approx., 2,000,000 c. f.

Gas unaccounted for, 20 p. c.

Pop. dist. supplied, 4,000; of city, 4,259.

No. consumers, 250.

No. meters, reg., 225; prepay., 25.

Price gas: Light, gross, \$1.50; net, \$1.35.

Fuel, gross, \$1.35; net, \$1.21.

Ranges in use, 50; heaters, 6; water heaters, 25.

Supplies Eufaula.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycle.

Generating capacity, kw. hrs.: Lighting, 225.

Voltage: Arcs, St. series only; incand., 110; power, 110-220.

City lighting contract: Hours lighted per year:

Arc and incand., all night, every night.

No. public arcs, 200; 100 watt Tungsten.

No. public incand., 60, 100 watt.

Com. and dom. lighting: Price current per kw. hr., gross, 15c. Discount, 15 p. c.

Power circuits: Price per kw. hr., 7c.

Generating power used, Steam, rated 325 h. p.

Cost of boiler coal per ton, \$3.00.

(No 1918 report.)

Northern Alabama Gas Co., Florence.

RRs.: L. & N.; So. S. Bs.: St. L. & T. R.

Packet; Chat. Packet. Ex.: So.

Operated by The C. H. Geist Co., Philadelphia.

Capital stock, \$100,000.

Bonds, \$145,000; due 1925; interest, 5 p. c.

President, C. H. Geist.

Vice-pres., C. H. Weak.

Secretary, H. A. Lang.

Treasurer, H. A. Lang.

Gen'l manager, H. S. Schutt, Philadelphia.

Manager, L. P. Kleitz.

Process manufacture, Coal.

Candle-power, 14.

Calorific value, 600 B. t. u.

Annual production, 12,000,000 c. f.

Gas holder capacity, 75,000 c. f.

Max. day's send out, 57,500 c. f.

Miles of mains, approximate, 25.

High pressure mains, miles, 16; press., 10 lbs.

Street main pressures, max., 4 in.; min., 2 in.

Annual sales, approx., 9,300,000 c. f.

Gas unaccounted for, 22 p. c.

Pop. dist. supplied, 20,000; of city, 6,689.

No. consumers, 747.

No. meters, reg., 534; prepay., 213.

Price gas: Light and Fuel, gross, \$1.65; net, \$1.50.

No. public Welsbach lamps, total, 29; lighted 4,000 hrs.

Ranges, 700; heaters, 100; water heaters, 35.

No. commercial gas arc lamps, 300.

Supplies Florence, Sheffield and Tusculmbia.

Gulf States Steel Co., Gadsden.

Operate Koppers coke-ovens.

(See report under Alabama City, Ala.)



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Tri City Gas Co., Gadsden.

RRs.: Chat. So.; L. & N.; N. C. & St. L.; So.;
Ala. Gt. So. S. B.; G. & A. Ex.: So.

Capital stock, \$150,000.

President and treas., H. C. Higgins (Centralia, Ill.).

Pur. agent, Susie Christopher.

Superintendent, Robert H. Dols.

Engineer, R. H. Dols.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.

Candle-power, 18.

Gas holder capacity, 100,000 c. f.

Pressure holder, 4.5 in.

Max. day's send out, 83,000 c. f.

Miles of mains, approx., 11.

Street main pressure, max., 4.5 in.; min., 3.5 in.

Annual sales, approx., 25,550,000 c. f.

Gas unaccounted for, 1 p. c.

Pop. of city, est., 15,000; of dist. supplied, 15,000.

No. consumers and meters, 700.

Price of gas to consumers: Light and Fuel, \$1.50; net, \$1.25.

No. gas ranges, 600; heaters, 300.

No. commercial gas arc lamps, 304.

Supplies Gadsden.

Central Iron & Coal Co., Holt.

RRs.: M. & O. Ex.: So.

Semet-Solvay ovens, 60.

Coke used for blast furnace and foundry.

Huntsville Consolidated Gas Co., Huntsville.

RRs.: N. C. & St. L.; So. Ex.: So.

Capital stock, auth. and issued, \$500,000.

Bonds, \$215,500; due 1944; int., 5 p. c.

President, T. W. Pratt.

Sec'y and treas., E. C. Dillon.

Pur. agt. and gen. mgr., E. C. Dillon.

Superintendent and engineer, H. G. Crunk.

New bus. mgr., O. K. Stegall.

Process manufacture, Coal and Lowe.

Price coal per ton, delivered, \$5.40.

Price of oil per gal., delivered, 8.5c.

Candle-power, 16.

Calorific value, 590 B. t. u.

Annual production, coal gas, 15,000,000 c. f.; water gas, 10,000,000 c. f.

Gas holder capacity, 100,000 c. f.

Holder pressure, 2.25 in.

Max. day's send out, 110,000 c. f.

Miles of mains, approx., 15.

Street main pressures, max., 2.25 in.; min., 2 in.

Annual sales, approx., 25,000,000 c. f.

Gas unaccounted for, 14 p. c.

Pop. of city, 7,611; dist. supplied, 17,000.

No. of consumers, 937.

No. meters, reg., 480; prepay., 457.

Price gas: Light and Fuel, gross \$1.50; net \$1.40.

Gas appliances in use: Ranges, 687; heaters, 340; water heaters, 139.

No. commercial gas arc lamps in use, 210.

Supplies Huntsville and West Huntsville.

(Natural gas also; see Natural Gas Dept.)

Mobile Gas Co., Mobile.

RRs.: So.; L. & N.; M. & O.; M., J. & K. C. S. Bs.; M. S. S.; M. & A. R. S. S.; T. & B. W. R. S. S.; P. S. & G. S. S.; E. S. T.; M. & G. S. S. Ex.: So.

(For capitalization, see Appendix.)

President, Rufus C. Dawes.

Secretary, H. B. Hurd.

Treasurer and pur. agt., L. J. Davis.

Manager, L. J. Davis.

New business mgr., R. B. Wright.

Supt. and engineer, A. F. Kersting.

Process manufacture, Coal and Lowe.

Candle-power, 15.5; calorific value, 600 B. t. u.

Annual production: Coal gas, 219,777,000 c. f.; water gas, 19,470,000 c. f.

By-products made: Coke, 12,900 tons; tar, 207,600 gals.; ammonia, 92,700 lbs.

Total gas holders capacity, 1,550,000 c. f.

Holder pressure, max., 9.4 in.

Maximum day's send out, 1,100,000 c. f.

Miles of mains, approx., 85.

Street main pressures, max., 5 in.; min., 3 in.

Annual sales, approx., 219,000,000 c. f.

By-products sold: Coke, 9,990 tons; tar, 195,850 gals.; ammonia, 91,125 lbs.

Pop. dist. supplied, 50,000; of city, 51,521.

No. consumers, 7,440.

No. meters, reg., 3,866; prepay., 3,480.

Price gas: Light and Fuel, gross, \$1.20; net, \$1.10.

No. gas ranges, 8,424; heaters, 5,325; water heaters, 1,737.

No. commercial gas arc lamps, 1,305; reflex lights, 984.

Supplies Mobile.

Montgomery Light and Water Power Co., Montgomery.

RRs.: A. & W. P. & W.; Cen. of Ga.; L. & N.; A. C. L.; S. A. L.; M. & O.; M. & A. R. S. S. Ex.: So.

Operated by the Doherty Organization, New York City.

Capital stock, \$2,000,000.

Bonds, \$2,026,200; due 1943; int., 5 p. c.; \$300,000; due 1947; int., 5 p. c.; \$23,800, due 1947.

President, Henry L. Doherty.

1st Vice-Pres., F. W. Frueauff.

2d Vice-Pres., and gen. mgr., S. B. Ireland.

Secretary and treas., E. C. Pfenning.

Assistant treasurer, C. B. Gilbert.

Assistant treasurer, T. A. Wallace.

Process manufacture, Coal and Lowe.

Price of coal per ton, delivered, \$3.75.

Price oil per gal., delivered, 6.61c.

Calorific value, 570 B. t. u.

Candle-power, 18.

Gas holder capacity, 173,000 c. f.

Maximum day's send out, 601,000 c. f.

Miles of mains, approx., 64.1.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, 96,978,000 c. f.

Gas unaccounted for, 20.1 p. c.

Pop. dist. supplied, 43,810; of city, 38,136.

No. consumers, 3,275.

HUNT INDUSTRIAL RAILWAYS are particularly adapted to

handling quenched coke from the quenching bins to storage cars, tracks, curves, switches in standard designs and sizes can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

No. meters, 3,343.
Price gas: Light, \$1.08. Fuel, sliding scale.
Supplies Montgomery and towns of Cloverdale and Capitol Heights.

ELECTRICAL DEPARTMENT.

Arc system, G. E. mag., 4 amp., 280 watt.
Incand. system, G. E., Stanley, 100,000 lamps capac.
Power generators, 7,125 kw. capacity.
Voltage: Line, 2,300; incand., 110; power, 2,300 A. C., 600 D. C. and 220-440 A. C.
No. public arcs, 403; 280 watt; lighted all and every night.
Commercial lighting: Connected load, 4,737 kw.
Price per kw. hr., special rates.
Power circuits: H. P. motors, 6,940. Price current per kw. hr., 15c. Discount, sliding scale.
Output of station, kw. hr., total for year, 24,454,320.
Power used, Water and Steam. Rated h. p., 6,000 hyd.; 3,500, steam.
Cost boiler coal per ton, \$4.

Selma Lighting Co., Selma.

RRs.: A. & W. P. & W.; L. & N.; So.; M. & A. R. S. S. Ex.: So.

Controlled by American Pipe & Construction Co.

General office, 112 No. Broad St., Philadelphia, Pa.

Capital stock, \$100,000.

Bonds, \$250,000; year due, 1932; int., 5 p. c. \$142,500; due, 1939; interest, 5 p. c.

President, Robert Wetherill.

Secretary, William H. Roth.

Treasurer, H. Bayard Hodge.

Assistant secretary, Erwin Lyndall.

Gen'l manager, A. H. Kneen.

Pur. agent, A. H. Kneen.

Superintendent and engr., Robert L. Ellis.

Process manufacture, Coal and Lowe (Phoenix Gas & Imp. Co.—hydroxide used for purifying gas), 100 p. c. coal.

Price coal per ton, delivered, \$4.21.

Calorific value, 525 B. t. u.

Annual production, 30,554,660 c. f.

Total gas holders capacity, 140,000 c. f.

Maximum day's send out, 100,000 c. f.

Miles of mains, approx., 27.

Street main pressures, max., 5 in.; min., 3 in.

High pressure mains, 2 miles; pressure 10 lbs.

Annual sales, approx., 21,500,000 c. f.

Gas unaccounted for, 25 p. c.

Pop. dist. supplied, est., 13,700; city, 13,649 (1910).

No. consumers, 818.

No. meters, 812.

Price gas: Light and Fuel, gross, \$1.75; net, \$1.25.

No. public incand. gas lamps, 50.

Price per year, \$30.

No. hrs. each public lamp is lighted per year, 3,841.

Contract includes repairs, cars, lighting and extinguishing.

No. gas ranges, 528; heaters, 71; water heaters, 197.

No. commercial gas arc lamps, 125.
Supplies Selma.

ELECTRICAL DEPARTMENT.

Operated under same name as gas company.

System operated: Arc, series, A. C.; incand., A. C.; power, A. C. 3 phase, 60 cycles.

Generating capacity: 1,500 kw.

Voltage: Arcs, series; incand., 110; power, 220-2,300.

City lighting contract: Hours lighted per year, arcs and incand., 3,600.

No. public arcs, 113; 7.5 amp.; price per year, \$66.

No. public incand., 71; 100 watt. Price per year, \$24.

Price current per kw. hr., gross, 7.5c. per kw. for first 500 kw. per mo.; 6c. for all in excess; discounts, 20 p. c. ten days.

Power circuits: Motors, 750 h. p.

Price of power per kw. hr., 4c.; disc., 20 p. c.

Output of station, kw. hrs., for year, 2,043,537.

Generating power used, Steam; rated kw. hrs., 1,500.

Cost of station boiler coal, per ton, \$3.50.

Talladega Light and Water Commission, Talladega.

RRs.: Birm. & At.; So.; L. & N.; A. B. & A. Ex.: So.

(Municipal plant.)

Bonds, \$50,000; due 1935; interest, 5 p. c.

Pres. of Bd. of Comms., A. W. Argo.

Treasurer, W. H. Boynton.

Superintendent and engineer, J. R. Keller.

New business manager, J. R. Keller.

Process manufacture, Coal.

Candle-power, 16; calorific value, 600 B. t. u.

Annual production, 16,000,000 c. f.

By-products made: Coke, 900 tons; tar, 10,000 gallons.

Total gas holder capacity, 30,000 c. f.

Holder pressure, max., 2.7 in.

Maximum day's send out, 52,000 c. f.

Miles of mains, approx., 8.

Street main press., max., 2.7 in.; min., 1.8 in.

Annual sales, approx., 14,400,000 c. f.

By-products sold: Coke, 576 tons; tar, 10,000 gallons.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 3,500; pop. city, 5,854.

No. consumers, 475.

No. meters, reg., 405; prepay., 70.

Price gas: Light, \$1.50 gross; \$1.25 net. Fuel, \$1.50 gross; \$1.25 net.

Gas ranges in use, 260; heaters, 135; water heaters, 100.

No. commercial gas arc lamps, 160.

Supplies Talladega.

Tuscaloosa Railway and Utilities Co., Tuscaloosa.

RRs.: M. & O.; Cin., N. O. & Tex. Pac.; T. & B. W. Riv. SBs. Ex.: So.

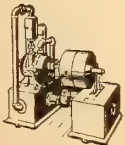
Controlled by Morris Bros., Philadelphia, Pa.

Capital stock, \$300,000.

Bonds, \$969,000; due 1940; interest, 6 p. c.

President, F. S. Morris.

Vice-president, I. W. Ross.



THE NEEDHAM HIGH PRESSURE GAS SYSTEM is the ideal system to accomplish fuel conservation. It satisfies the customer's requirements.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Secretary and treasurer, R. A. Courtney.
 Gen. mgr. and pur. agent, I. W. Ross.
 New business manager, M. L. Thompson.
 Superintendent, M. L. Thompson.
 Process: By-product coke-oven gas, from
 ovens at Holt, Ala. (Semet-Solvay ovens).
 Gas purchased, 23,725,000 c. f.
 Calorific value, 525 B. t. u.
 Miles of mains, approx., 14.
 Street main pressures, max., 5 in.
 Gas holder capacity, 100,000 c. f.
 Holder pressure, 3 in.
 High pressure mains, 5.5 miles; press., 12 lbs.
 Max. day's send out, 190,000 c. f.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 7.5 p. c.
 Pop. of city, 11,000; dist. supplied, 12,000.
 No. consumers, 340.
 No. meters, reg., 325; prepay, 15.
 Price of gas to consumers, 90c.
 No. gas ranges, 320; heaters, 83; water heat-
 ers, 78.
 No. commercial gas arc lamps, 10.
 Supplies Tuscaloosa.

ELECTRICAL DEPARTMENT.

System operated: 3 phase, 60 cycles.
 Generating capacity: Lighting and power, 800
 kw.

Voltage, line, 2,300; incand., 110.
 City lighting contract: Hours lighted, arcs,
 all night:
 City lighting: No. arcs, 110. Price per year,
 \$72.
 Price, domestic, 10c. per kw. hr. Disc., 10 p. c.
 Power circuits: No. motors, 15.
 Price, power, 5c. to 2c. per kw. hr. Disc., 10
 p. c.
 Output of station, kw. hrs. for year, 2,500,000.
 Current purchased from Alabama Power Co.
 Cost of station boiler coal per ton, \$3.25.

Woodward Iron Co., Woodward.

RRs.: Ala. Gt. So.; A. B. & A.; L. & N.; So.
 S. A. L.; St. L. & S. F.; Ill. Cen.; B. S.
 Ex.: So.

Chairman, A. H. Woodward.
 Vice-president, R. H. Banister.
 Secretary, Herbert E. Smith.
 Treasurer, D. E. Wilson.
 Pur. agent, J. H. Leonard.
 Engineer and supt., Ryburn Pinckard.
 No. of Koppers ovens, 170; Wilputte ovens, 60.
 Coke all used at blast furnaces Woodward
 Iron Co.
 Surplus gas used to operate steam plant.

ARIZONA

Total population, 259,666.

Bisbee Improvement Company, Bisbee.

RR.: El P. & So. W. Ex.: W. F.

Capital stock, auth., \$500,000; issued, \$300,000.
 President, G. H. Dowell.
 Vice-pres., L. C. Shattuck.
 Secretary and treas., M. J. Brophy.
 Manager, C. S. Thompson.
 Process manufacture, Lowe (crude oil).
 Price oil per gal., delivered, 5.75c.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Total gas holders capacity, 100,000 c. f.
 Max. day's send out, 235,000 c. f.
 Miles of mains, approx., 15.
 Street main pressures, max., 7.5 in.; min., 5 in.
 Annual sales, approx., 45,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. of city (Bisbee), 18,000; of dist. sup-
 plied, 26,000.
 No. consumers, 1,985.
 No. meters, reg., 1,500; prepay., 485.
 Price, gas: Light, gross, \$1.90 first 2 M; \$1.80
 next 2 M; \$1.70 next 3 M; \$1.60 next
 3 M; \$1.50 next 3 M; \$1.45 next 3 M;
 \$1.40 next 4 M; over 20,000 \$1.30. Min.
 charge, \$1.00. Disc. on bills of \$15 or
 less, 10c.; over \$15, 20 c., before 15th.
 Supplies Bisbee and Lowell.

ELECTRICAL DEPARTMENT.

System operated, A. C.; 2 phase; 60 cycles.
 Generating capacity, 800 kw.
 Voltage: Line, 2,300; incand., 110; power, 110.

City lighting contract: Hours lighted per
 year, moonlight schedule.
 Lamps: Edison, Mazda and Type C., 40-500
 watt arcs.
 Price current per kw. hr., gross, 14c. to 7.5c.;
 power service, 12c. to 2.5c.
 Generating power used: Steam: rated 900 h.p.
 Cost of station boiler fuel, oil, \$1.70 per bbl.
 (42 gallons).

Douglas Gas Corporation, Douglas.

RRs.: El P. & So. W. Ex.: W. F.

Capital stock, \$125,000.
 Annual dividend, 2.88 p. c.
 Bonds, \$70,000; due 1926; int. rate, 6 p. c.
 President, E. Titcomb.
 Secretary and treas., F. E. Murphy.
 Manager, F. E. Murphy.
 Process manufacture, Oil, Beal's system.
 Price oil per gallon, delivered, 3.969c.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual production, 26,166,000 c. f.
 Gas holder capacity, 40,000 c. f.
 Holder pressure, max., 5 in.
 Maximum day's send out, 100,000 c. f.
 Miles of mains, approx., 17.
 Street main pressures, max., 8 in.; min., 4 in.
 Annual sales, approx., 22,735,768 c. f.
 Gas unaccounted for, 13.11 p. c.
 Pop. dist. supplied, 10,000; pop. city, 6,437.
 No. consumers, 809.
 No. meters, reg., 664; prepay., 145.
 Price gas: Light and Fuel, \$1.50.

GAS EXHAUSTERS

Low First Cost



GAS BOOSTERS

*For Industrial
 Appliances*

Gas ranges in use, 622; heaters, 220; water heaters, 154.

No. commercial gas arc lamps, 130.

Supplies Douglas.

(No 1918 report.)

Globe Light and Power Co., Globe.

RR.: G. V., Gl. & No. Ex.: W. F.

Capital stock auth., \$500,000; issued, \$250,000.

Bonds, \$182,000; interest, 6 p. c.

President, N. L. Amster.

Secretary and treasurer, C. R. Jeffers.

General manager, W. S. Sultan

Pur. agt., W. S. Sultan.

Engineer, G. W. Evens.

Process manufacture, Lowe and Beal's (crude oil).

Price oil per gallon, delivered, 3.8c.

Gas holder capacity, 70,000 c. f.

Max. day's send out, 38,000 c. f.

Miles of mains, 6.5.

Annual sales, approx., 4,000,000 c. f.

Pop. of city, 7,083 (1910); now est., 12,000.

No. consumers and meters, 800.

Price of gas: Gross, \$2; net, \$1.85.

Supplies Globe.

ELECTRICAL DEPARTMENT.

System operated, A. C., single and 3 phase; 60 cycles, 7,200 alt.

Generating capacity: Lighting and power, 600 kw.

Voltage: Arcs, 95; incand., 110-115; power, 110-220-440.

City lighting contract: Hours lighted per year, 3,000.

No. public arcs, 29; 350 watt. Price per year, \$80.

No. public incand., 89; 100 watt. Price per year, \$29.

Commercial lighting: Price per kw. hr., sliding scale. Domestic, 13c. to 6c.

Power circuits: Price per kw. hr., 10c. to 3.5c.

Generating power used, steam; rated h. p., 600.

Cost of station oil, per bbl., \$1.45.

South Side Gas and Electric Co., Mesa.

RRs.: M. & P. & P. & E. Ex.: W. F. & Co.

Capital stock, auth., \$250,000; issued, \$157,800.

President, B. B. Moaur.

Secretary, H. L. Chandler.

Treasurer, O. S. Stapley.

General mgr., H. L. Chandler.

New business manager, J. M. Carr.

Pur. agent, H. L. Chandler.

Engineer, F. W. Cerny.

Superintendent, J. T. Williams.

Process manufacture, Lowe (Oil).

Price oil per gal., delivered, 4.2c.

Candle-power, 18.

Calorific value, 600 B. t. u.

Annual production, oil gas, est., 12,000,000 c. f.

Gas holder capacity, 30,000 c. f.

Max. day's send out, 50,000 c. f.

Miles of mains, approx., 23.

Street main pressure, max., 4 in.; min., 3.5 in.

High pressure mains, miles, 12; pressure, 15 lbs.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. dist. supplied, 4,000; of Mesa, 1,692; of Tempe, 1,473 (1910 census).

No. consumers, 500.

No. meters, reg., 300; prepay., 200.

Price gas: Light, gross, \$2.50; net, \$2.00.

25c. reduction each 5 M c. f. Min. charge, \$1.50 per M.

Ranges, 475; heaters, 60; water heaters, 55.

No. commercial gas arc lamps, 10.

Supplies Mesa and Tempe.

Arizona Gas and Electric Co., Nogales.

RR: So. Pac. Ex.: W. F.

(Formerly International Gas Co.)

Capital stock: Pref., auth., \$100,000; issued, \$100,000. Com., auth., \$250,000; issued, \$250,000.

Bonds, \$200,000; due 1937; int., 6 p. c.

President and treasurer, Spiro S. Proto.

Secretary, Anton Proto.

Gen'l mgrs., Ives & Davidson, 61 Broadway, New York City.

Process manufacture Lowe (oil).

Price of oil per gal del'd, 4c.

Gas holder capacity, 11,000 c. f.

Max. day's send-out, 30,000 c. f.

Pop. of city, 6,000; dist. supplied, 10,000.

No. consumers and meters, 314.

Price of gas to consumers, gross, \$2.00.

No. ranges, 179; heaters, 102; water heaters, 105.

Supplies Nogales, Ariz., and Nogales, Mex.

ELECTRICAL DEPARTMENT.

Generating capacity, 800 kw.

Rates for domestic use, 12c.

Station operated by Diesel type internal combustion engine, using fuel oil direct.

Pacific Gas and Electric Co., Phoenix.

RRs.: M. & P. & P. & E.; S. F., P. & P. Ex.: W. F.

President's office, 25 Nassau St., New York City.

Capital stock, pref., issued, \$500,000; com., issued, \$700,000. Annual div. on pref., 7 p. c.; com., 2 p. c.

Bonds, \$848,000; due 1931; int., 6 p. c.

Debentures, \$59,000; due 1924; int., 6 p. c.

President, G. H. Walbridge.

Vice-pres., F. S. Viele.

Vice-pres., R. S. Masson.

Sec'y and treas., A. P. Taliaferro.

General manager, H. L. Aller.

Engineer, L. Y. Woodmansee.

Superintendent, W. C. Hornberger.

Purchasing agent, W. A. Bostrom.

New-business manager, H. L. Aller.

Process manufacture, Lowe (crude oil).

Price oil per gal., delivered, 5c.

Calorific value, 600 B. t. u.

Annual production, oil gas, 122,189,500 c. f.

Gas holder capacity, 360,000 c. f.

Holder pressure, max., 7 in.

Max. day's send out, 583,000 c. f.

Miles of mains, approx., 60.

Street main pressure, max., 7 in.

Annual sales, approx., 115,186,900 c. f.

WASH OIL PUMPS

Minimum Attendance



P.H. & F.M. ROOTS CO.

Connorsville

Indiana

New York

Chicago

Gas unaccounted for, 5.8 p. c.
 Pop. dist. supplied, 35,000; of city, 30,000.
 No. consumers, 4,250.
 No. meters, reg., 5,313; prepay., 100.
 Price gas: Light, net, \$1.60, sliding scale.
 Ranges in use, 3,500; heaters, 1,000; water heaters, 1,250.
 Supplies Phoenix.

ELECTRICAL DEPARTMENT.

System operated: Lighting, A. C.; power, A. C., 2 ph., 60 cycles, and D. C.
 Generating capacity: Lighting, 3,400 kw.; power, 500 D. C. for St. R. R.
 Voltage: Arcs, G. E. series; incand., 110; power, 500 D. C.; 110-220-2200 A. C.
 City lighting contract: Hours lighted per year, arcs, 2,400.
 No. public arcs, 161; 440 watt. Price, 2.5c. per kw. hr.
 No. public Type C arcs, 20 amp. series, 110.
 No. public incand., 314 (ornamental street posts), metered at 2.5c. per kw. hr.
 Price commercial per kw. hr., 8c., sliding scale.
 Power circuits: No. of motors, 380.
 Price current per kw. hr., 6c., sliding scale.
 Output of station, kw. hr. for year, 7,366,873.
 Power used, Steam and Water; rated 2,500 kw.
 Cost boiler fuel per bbl., crude oil, \$2.10.

Prescott Gas and Electric Co., Prescott.

RRs.: Santa Fe, Prescott and Phoenix. Ex.: W. F.

(Controlled by The Arizona Power Co.)
 Executive office, 25 Nassau St., New York City.

Capital stock, \$100,000.
 Bonds, \$242,500; due 1940; interest, 6 p. c.
 President, F. S. Viele.
 Vice-pres., O. B. Willcox.
 Vice-pres., R. S. Mason.
 Sec'y and treas., A. P. Taliaferro.
 Manager, M. V. Watson.
 Process manufacture, Lowe (Oil).
 Price oil per gal., delivered, 5c.
 Candle-power, 22.
 Gas holder capacity, 40,000 c. f.
 Average day's send out, 50,000 c. f.
 Miles of mains, approx., 6; street main pressures, max., 10 in.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Population of city, 7,000; of district supplied the same.
 No. consumers, 721.
 No. meters, reg., 670; prepay., 51.
 Price gas: Light and Fuel, \$2, 1st 1,000 c. f.; all over \$1.
 Ranges and hot plates, 600; heaters, 400; water heaters, 75; furnaces, 25.
 Supplies Prescott.

ELECTRICAL DEPARTMENT.

System operated: A. C.; 2 phase, 60 cycles.
 Generating capacity: Lighting, 440 kw.
 Voltage: Line, 1,100; incand., 104; power, 220.
 City lighting contract: Hours lighted per year: Arc, all night.
 No. public arcs, 46; 500 watt; price per year, \$72.
 Commercial lighting: No. arcs, 48; 100 watt;
 Generating power used, Steam; rated 300 h. p.
 Cost of station boiler fuel oil, \$2.15 per bbl.
 Power purchased from hydro-electric plant of Arizona Power Co.

Tucson Gas, Electric Light and Power Co., Tucson.

RRs.: So. P.; T. B. Ex.: W. F.

(Controlled by Federal Light and Traction Co. For capitalization, see Appendix.)
 President, E. N. Sanderson.
 Manager, Frank E. Russell.
 Process manufacture, Lowe.
 Gas holder capacity, 50,000 c. f.
 Miles of mains, approx., 18.
 Annual sales, approx., 20,000,000 c. f.
 Gas unaccounted for, 16 p. c.
 Pop. city, 13,193; of dist. supplied, 17,000.
 No. consumers and meters, 1,090.
 Supplies Tucson.

ELECTRICAL DEPARTMENT.

System: A. C., 3-phase, 60-cycles; power, D. C.
 Generating capacity: Total, 2,012 kw. A. C., 300 kw. D. C.
 Voltage: incandescent, 110; power, 550.
 No. public arcs, 101 (1,200 c. p.); hrs. lighted, 2,300.
 Power also used for irrigation.
 Power used: Steam and oil.
 Output of station, kw. hrs., total for year, 5,000,000.

Winslow Gas Light & Heat Co., Winslow.

RRs.: A. T. & S. F. Ex.: W. F. & Co.

(Began operations in November, 1916.)
 Capital stock, auth., \$100,000; issued, \$25,000.
 Bonds, \$35,000; due 1922-1933; int., 6 p. c.
 President, H. E. Lyon.
 Secretary and treasurer, Harold D. Spear.
 Manager and purchasing agt., J. F. Beals.
 Superintendent and engineer, J. F. Beals.
 Process manufacture, Oil Gas.
 Price coal per ton, delivered, \$7.
 Price oil per gal., delivered, 5.93c.
 Candle-power, 18. Calorific value, 600 B.t.u.
 Gas holder capacity, 10,000 c. f.
 Street mains, approx., 5 miles.
 Max. day's send out, 7,500 c. f.
 Population town supplied, 6,500.
 No. consumers and meters, 175.
 Price gas: Light, gross, \$2; net, \$1.80.
 Supplies Winslow.

GASOLINE RECOVERY by Absorption or Compression. Let us investigate your proposition and figure on a plant.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

ARKANSAS

Total population, 1,753,033.

Helena Gas and Electric Co., Helena.

RRs.: Ark. Mid.; Mo. & N. Ark.; Mo. Pac.;
Y. & M. V. S. Bs.: M. & A. C. Packet;
Lee Line; Delta Packet. Ex.: Am.; Pac.;
W. F.

Capital stock, \$300,000.
President, John Gribbel.
Vice-pres., W. J. O'Brien.
Secretary and treas., W. H. Roberts.
Purchasing agent, W. J. O'Brien.
Engineers, Scofield Engineering Co.
Manager, J. S. M. Wharton.
Process manufacture, Coal and Lowe.
Price coal per ton, delivered, \$4.15.
Price of coke per ton, delivered, \$6.10.
Price oil, per gallon, 4c.
Candle-power, 18; calorific value, 575 B. t. u.
Annual production, 21,000,000 c. f.
Total gas holders' capacity, 220,000 c. f.
Holder pressure, 6.8 in.
Max. day's send out, 70,000 c. f.
Miles of mains, approx., 9.
Street main pressures, max., 5 in.; min., 4 in.
Annual sales, approx., 19,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. of dist. supplied, 8,000; of city, 8,772.
No. meters, reg., 560; prepay., 170.
No. consumers, 730.
Price gas: Light and Fuel, gross, \$1.45; over
5 M c. f., \$1.35; 10 M and over, \$1.25.

Min. bill, \$1. Discount, 5 p. c. 10 days.
Ranges, 500; heaters, 401; water heaters, 465.
No. commercial gas arc lamps, 40.
Supplies Helena.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 3
phase; power, A. C., 3 phase, 60 cycle.
Generating capacity: Lighting, 1,000 kw. Rail-
way generators, 600 kw. D. C., 500-550
volts.
Voltage: Arcs, series; incand., 2,300; power,
2,300-220-110.
City lighting contract: Hours lighted per year:
Arc, 3,000.
No. public arcs, 60; 500 watt. Price per year,
\$100.
No. commercial incand., approx., 7,000.
Price current per kw. hr., gross, 16c. 1c.
discount every 25 kw. to 100 kw.; from
100 to 200 kw., 0.5c. discount every 50
kw.; from 200 to 400 kw., 0.5c. discount
every 100 kw.; from 400 to 1,200 kw.
and over, 0.5c. discount every 200 kw. Min.
bill, \$1.50. Discount, 5 p. c., 10 days.
Power circuits: No. motors, 55; price current
per kw. hr., 2 to 5¢. per kw. hr. plus \$1
per h. p. per mo.
Output of station, kw. for year, 2,000,000.
Generating power: Steam: rated 650 h. p.
Cost of station boiler coal, per ton, \$2.25.

CALIFORNIA

Total population, 2,983,843.

Southern Counties Gas Company of California, Anaheim.

(See Natural Gas Department.)

Southern Counties Gas Co. of California, Arcadia.

(See report under Monrovia, in Artificial gas
department.)

Southern Counties Gas Company of California, Azusa.

(See report under Covina, in Artificial gas
department.)

Riverside County Gas & Power Co., Beaumont.

RR.: So. P. Ex.: W. F. & Co.

Capital stock, pref., auth., \$50,000; issued
\$3,000; common, auth., \$100,000; issued,
\$50,000. Bonds, \$18,000; due 1946; inter-
est, 6 per cent.
President, Nathan W. Farr.
Vice-president, D. H. Gates.
Secretary and manager, F. N. Haws.
Treasurer, E. D. Reynolds.
Engineer, H. W. Burkhardt.
Process manufacture, Oil gas.
Price of oil per gallon, 3c.

Annual production, 12,000,000 c. f.
Gas holder capacity, 30,000 c. f.
Holder pressure, 10 in.
Max. day's send out, 40,000 c. f.
Street mains, approx., 20 miles.
Street main pressures, max., 10 in.; min., 4 in.
High pressure mains, 10 miles; pressure, 20 lbs.
Annual sales, approx., 10,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city, 5,600; dist. supplied, the same.
No. consumers and meters, 400.
Price of gas to consumers, gross, \$1.75; net,
\$1.50.
No. ranges in use, 300; heaters, 100; water
heaters, 50.
No. commercial gas arc lamps, 10.
Supplies Beaumont and Banning.

Pacific Gas and Electric Co., Chico, Dist.

RRs.: No. El.; So. Pac.; B. Co. S. B.: Sac.
Trans. Ex.: W. F.

(For detailed financial information see Pacific
Gas & Electric Co., under "Appendix.")
Vice-president and general mgr., John A. Brit-
ton.



Tycos Temperature Instruments

INDICATING—CONTROLLING—RECORDING

Catalogue 600 Describes instruments especially for Gas Works

Taylor Instrument Companies Rochester N. Y.



Secretary, D. H. Foote.
 Treasurer, A. F. Hockenbeamer.
 Purchasing agent, J. H. Hunt.
 District manager, H. B. Heryford.
 Chief engineer gas dept., E. C. Jones.
 Process manufacture, Oil gas (Jones).
 Calorific value, 613 B.t.u.
 Annual production, oil gas, 32,600,000 c. f.
 Gas holder capacity, 125,000 c. f.
 Max. day's send out, 111,000 c. f.
 Miles of mains, approx., 32.87.
 Street main press., max., 3.7 in.; min., 2.8 in.
 Annual sales, approx., 27,253,600 c. f.
 Gas unaccounted for, 16.2 p. c.
 Pop. of Chico, 15,000; Barber, 500 (est.).
 No. consumers and meters, 1,571.
 Price gas: Light and Fuel, net, \$1.50 to 80c.
 No. commercial gas are lamps, 349.
 Supplies Chico and Barber.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycles, 3 phase, 115 and 230 volts.
 City lighting: No. public incand., 241.
 Commercial lighting: No. incand., 27,299.
 Price current per kw. hr.: Commercial lighting, 7c. to 2c.
 Power circuits: Price current per kw. hr., 4c. to .65c.
 Generating power used, Water and Steam, rated 270,643 h. p. (system total).

Coalinga Gas and Power Co., Coalinga.

(See report in Natural gas dept.)

Southern California Gas Co., Colusa Plant, (Marysville Dist.)

RRs.: A. T. & S. F.; So. Pac.; S. P., L. A. & S. L. Ex.: W. F.

For officers, capitalization, etc., see this company in "Appendix."

For operating data, see company's report under Los Angeles.

Pacific Gas and Electric Co., Colusa Plant (Marysville Dist.)

RR.: C. & L. S. B.: Sac. Trans. Ex.: W. F.

(For detailed financial information see Pacific Gas & Electric Co., under "Appendix.")

Vice-president and gen. mgr., John A. Britton.
 Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.
 Purchasing agent, J. H. Hunt.
 District manager, E. C. Johnson.
 Chief engineer, E. C. Jones.
 Process manuf., Oil gas (Jones).
 Calorific value, 602 B.t.u.
 Annual production, 13,583,600 c. f.
 Total gas holder capacity, 33,000 c. f.
 Max. day's send out, 60,140 c. f.
 Miles of mains, approx., 8.67.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 11,684,400 c. f.
 Gas unaccounted for, 12.5 p. c.
 Pop. city supplied, 2,000.
 No. consumers, 459.
 No. meters in service, 461.
 Price gas: Light and Fuel, \$1.50 to 80c.
 Supplies Colusa.

ELECTRICAL DEPARTMENT.

System, A. C., 60 cycles, 3 phase, 115 and 230 volts.
 City lighting: No. public arcs, 15; No. public electroliers, 65; No. public incand., 50.
 Commercial lighting: No. incand., 7,231.
 Price current per kw. hr.: 6c. to 3c. commercial lighting; residence lighting, 8c. to 5c.
 Power circuits: Price current per kw. hr., 4c. to .65c.
 Generating power used, Water and Steam, rated 270,643 h. p. (system).

Southern Counties Gas Company of California, Covina.

RR.: So. Pac. Ex.: W. F.

Principal office, Los Angeles.

(For capitalization and officers see "Appendix.")

General manager, F. R. Bain.
 Supt. of operation, F. S. Wade.
 District agent, F. H. Bivens.

Oil gas process.
 Oil per bbl., delivered, 83c.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 20,000 c. f.
 Maximum day's send out, 115,000 c. f.
 Miles mains, approx., 13.6.
 Street main pressures, max., 6 in.; min., 3 in.
 Annual sales, approx., 9,766,000 c. f.
 Gas unaccounted for, 20 p. c.
 Population supplied, 1,652.
 No. consumers and meters, 447.
 Price gas all purposes, \$1.35.

Gas plant in Covina supplies high pressure lines to Azusa and Glendora, as well as low pressure distributing system in Covina.

(Company is reserving artificial gas plant in operating condition, but natural gas was supplied in 1917.)

Alta District Gas Co., Dinuba.

RRs.: A. T. & S. F.; So. Pac.; Ex.: W. F.

(Controlled by River Bend Gas & Water Co.; company in process of organization January, 1916.)

President, R. K. Madsen.
 Secretary and treas., W. J. Lohman.
 Manager, L. W. Le Baron.
 Superintendent, L. W. Le Baron.
 Process manufacture, Oil.
 Annual production oil gas, 22,000,000 c. f.
 Price oil per gal. del'd, 2c.
 Candle-power, 22; calorific value, 600 B. t. u.
 Gas holder capacity, 40,000 c. f.; pressure, max., 3.5 in.
 Max. day's sent out, 78,000 c. f.
 Street mains, approx., 6.5 miles; pressures, max., 6 in.; min., 4.5 in.
 Annual sales, approx., 22,000,000 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. of city, 970; pop. dist. supplied, 2,000.
 No. consumers and meters, 315.
 Price gas: Light and Fuel, \$1.25; over 5,000 c. f., \$1.
 No. public lamps, 26.



WILLIAMS' "VULCAN" CHAIN PIPE VISE

3 sizes. Capacities $\frac{1}{8}$ " to 8". Stocked by Dealers.

THE RIGHT TOOL FOR SERVICE CARTS

J. H. WILLIAMS & CO., 74 Richards Street, Brooklyn, N. Y.

Contract includes repairs, care, lighting and extinguishing.
No. hours lamp is lighted per year, 3,600.
Gas ranges in use, 225; heaters, 180; water heaters, 135.
No. commercial gas arc lamps in use, 36.
Supplies Dinuba and sells gas to Riverbend Gas Co.
(No 1918 report.)

Imperial Valley Gas Co., El Centro.

RRs.: So. Pac.; Holton Inter. Ex.: W. F.

Operating office, El Centro.
Capital stock, \$500,000.
Bonds, \$100,000; due 1920 to 1939; int., 6 p. c.
1st mtge. gold; \$72,000; due 1937 to 1956; int., 6 p. c., 1st and refund mtge.
President, J. M. Ott.
Secretary and superintendent, H. M. Ott.
Acting treasurer, J. M. Ott.
Gen. mgr. and purchasing agent, J. M. Ott.
Process of manufacture, Lowe (crude oil).
Price oil per bbl., delivered, \$1.55.
Candle-power, 18. Calorific value, 640 B.t.u.
Annual production, oil gas, 45,000,000 c. f.
Gas holder capacity, 30,000 c. f.
Miles of street mains, 42.
Street main pressures, max., 40 in.; min., 4 in. (individual regulators).
High pressure mains, 19; pressure, 20-50 lbs.
Annual sales, approx., 35,000,000 c. f.
Gas unaccounted for, 25 p. c.
Pop. of dist. supplied, est., 11,500; est. pop. of cities—El Centro, 6,000; Imperial, 2,500; Brawley, 4,000.
No. consumers, 1,360.
No. meters, reg., 1,250; prepay., 50.
Price of gas: \$2 for less than 5,000 c. f.; 5,000 to 10,000 c. f., \$1.60; 10,000 to 25,000 c. f., \$1.50; 25,000 and over, \$1.30. Disc, 5 p. c.
No. ranges in use, 1,000; heaters, 200; water heaters, 300.
Supplies El Centro, Imperial and Brawley.

Southern Counties Gas Company of California, El Monte.

(See report under Monrovia, in Artificial gas department.)

Western States Gas and Electric Co., Eureka.

RR.: No. W. Pac. SBs.: P. C. S. S.; Beadle Co.; Cal. & Ore. Coast S. S.; N. P., and other S. S. Lines from San Francisco.
Ex.: W. F.

(Controlled by Standard Gas & Electric Co., both companies being under management of H. M. Byllesby & Co., Chicago.)

(For officers, capitalization and bonds, see report of this company under "Appendix.")

Manager, H. L. Jackman.
Purchasing agent, H. L. Jackman.
Superintendent, W. H. Stoffer.
Process manufacture, Lowe (oil).
Candle-power, 18.
Calorific value, 580 B. t. u.
Gas holder capacity, 120,000 c. f.
Holder pressure, max., 6 in.
Max. day's send out, 93,700 c. f.
Miles of mains, approx., 26.3.

Street main pressures, max., 6.2 in.; min., 4.4 in.

High pressure mains, miles, 1.5; pressure, 40 lbs.

Annual sales, approx., 26,000,000 c. f.

Gas unaccounted for, 11 p. c.

Pop. of city, 11,845; pop. dist. supplied, 8,500.

Pop. of city (estimated, 1917), 15,000.

No. consumers, 961.

No. meters, reg., 927; prepay., 34.

Price gas: Light and Fuel, basic rate, net \$1.47 to \$1 (auth. to increase in 1918).

Gas appliances in use: Ranges, 525; heaters, 91; hot plates, 455; water heaters, 116; other appliances, 46.

Supplies Eureka.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C. 4 amp magnetite; incand., A. C., 60 cycle; power, A. C., 60 cycle, 3 phase.

Generating capacity: Lighting and power, 4,650 kw.

Voltage: At arc, 75; incand., 112; power, 112—2,300.

City lighting contract: Hours lighted per year: All night every night.

No. public arcs, 220; 320 watt. Price per year, \$60.

No. public incand., 263.

Commercial lighting: No. arcs, 7; No. incand., 57,184 (Tungsten lamps included).

Price current per kw. hr., basic rate, net, 8.1c. to 3.6c.

Power circuits: No. motors, 669; price per kw. hr., basic rate, net, 6c. to 1.5c.

Other uses for power, 2,955 flat irons and appliances. 4,959 consumers.

Output of station, kw. for year, 6,722,260.

Generating power used: Water, rated 2,150 h. p.; steam, rated 2,500 h. p.

Cost of station boiler fuel, Oil, \$1.62. per bbl.

Fowler Gas Co., Fowler.

RRs.: So. Pac. Ex.: W. F.

Capital stock, auth., \$50,000; issued, \$8,000.

Bonds, \$7,900; due 1924; int., 6 p. c.

President, W. S. Ricketts.

Secretary, C. A. Patton.

Treasurer, R. J. Mitchell.

Manager and pur. agent, C. A. Patton.

Engineer, C. A. Patton.

Process manufacture, Lowe (Oil).

Price oil per bbl., delivered, 80c.

Candle-power, 17.

Annual production, 3,821,000 c. f.

Gas holder capacity, 30,000 c. f.; pressure (max.), 6.2 in.

Max. day's send out, 15,000 c. f.

Street mains, approx., 5 miles.

Street main press., max., 6.2 in.; min., 3.3 in.

Annual sales, approx., 2,950,000 c. f.

Gas unaccounted for, 15 p. c.

Pop of city, est., 700; of dist. supplied, 700.

No. of consumers, 113.

No. meters, reg., 111; prepay., 12.

Price of gas: Light and Fuel, net, \$1.25. Consumers of over 5,000 c. f. per month, \$1.

RELIABLE

The most perfect combination of beautiful appearance, self-maintaining durability, all around efficiency and quick salability ever effected in gas range construction. Write for catalog.



RANGES

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

No. public lamps, 5 (Humphrey). Price per year, \$30.

Contract includes repairs, care, lighting and extinguishing.

No. hours each lamp is lighted per year, 3,600. Gas appliances in use: Ranges, 90; heaters, 12; water heaters, 20.

No. commercial gas arc lamps, 20. Supplies Fowler.

Pacific Gas and Electric Co., Fresno District.

RRs.: A. T. & S. F.; So. Pac. Ex.: W. F.

(For detailed financial information, see Pacific Gas & Electric Co., under "Appendix.")

Vice-president and gen. mgr., John A. Britton. Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Purchasing agent, J. H. Hunt.

District manager, M. L. Neely.

Chief engineer, gas dept., E. C. Jones.

Process manufacture, Oil gas (Jones).

Calorific value, 592 B.t.u.

Annual production, 317,345,200 c. f.

Gas holder capacity, 375,000 c. f.

Max. day's send out, 1,345,500 c. f.

Miles of mains, approximate: H. P. distribution, 24.51 miles; L. P. distribution, 81.74 miles; total mains, 106.25 miles.

Street main pressures: H. P., max., 35 lbs.; min., 10 lbs. L. P., average, 7 in.

Annual sales, approx., 254,686,100 c. f.

Gas unaccounted for, 19.1 p. c.

Pop. city (est.), 48,867.

No. consumers and meters, 8,266.

Price gas: Light and Fuel, \$1.10 to \$1 net; \$1.25 gross.

No. commercial gas arc lamps, 1,114.

Supplies Fresno.

Southern Counties Gas Co., Fullerton.

(See report in Natural Gas Dept.)

Coast Counties Gas and Electric Co., Gilroy.

RRs.: So. Pac. Ex.: W. F.

(For capitalization and officers, see "Appendix.")

Operate municipal gas works under lease.

Dist. manager, E. J. Sherman.

Process manufacture: Lowe (crude oil).

Price of oil per bbl., delivered, \$1.09.

Candle-power, 18. Calorific value, 600 B.t.u.

Annual production, 12,220,000 c. f.

Gas holder capacity, 38,000 c. f.

Max. day's send out, 43,000 c. f.

Miles of mains, approx., 8.

Street main pressures, max., 5.5 in.; min., 3.5 in.

Annual sales, approx., 9,400,000 c. f.

Gas unaccounted for, 24 p. c.

Pop. city, supplied, 2,437.

No. consumers, 459.

No. meters, reg., 471.

Price gas: Light and Fuel, 1st 2,000 c. f., \$1.60 and \$1.50; 2,100-5,000 c. f., \$1.35-\$1.25; 5,100-25,000 c. f., \$1.10-\$1; over 25,000 c. f., 90c.-80c.

No. gas ranges, 298; heaters, 75; water heaters, 143.

No. commercial gas arc lamps, 96.

Supplies Gilroy.

ELECTRICAL DEPARTMENT.

(Operated from transmission system of company. See Santa Cruz.)

System operated: Arc., D. C.; incand., A. C.; 60 cycle, 3 phase.

Voltage: Incand., 110; power, 110, 220, 4,000.

Price current per kw. hr., gross, 9c. to 3c.,

sliding scale: First 100 kw., 9c.-8c.; next

100 kw., 8c.-7c.; next 200 kw., 7c.-6c.;

next 200 kw., 6c.-5c.; next 400 kw., 5c.-4c.;

over 1,000 kw., 4c.-3c. Min. chg., \$1.

Output of sub-station, kw. for year, 1,160,000.

Supplies Gilroy, Morgan Hill and adjacent country.

Southern Counties Gas Company of California, Glendora.

(See report under Covina, in Artificial gas department.)

Pacific Gas and Electric Co., Grass Valley Dist.

(See report under Nevada City District.)

Hanford Gas and Power Co., Hanford.

RRs.: So. Pac.; A., T. & S. F. Ex.: W. F.

Capital stock, \$100,000.

Bonds, \$70,000; due 1937; int., 6 p. c.

President, E. E. Bush.

Secretary, A. W. Reynolds.

Treasurer, F. R. Hight.

Manager and pur. agent, E. E. Bush.

Engineer, J. R. Thompson.

Superintendent, A. W. Reynolds.

Process manufacture, Oil (W. G. Con. Co.)

Price oil per gal., delivered, 2c.

Candle-power, 22.

Calorific value, 600 B. t. u.

Annual production, 22,870,000 c. f.

Total gas holder's capacity, 130,000 c. f.

Holder pressure, 6 in.

Maximum day's send out, 103,000 c. f.

Miles of mains, approx., 23.

Street main pressures, average., 6 in.

High pressure mains, 3 miles; pressure, 40 lbs.

Annual sales, approx., 16,440,000 c. f.

Gas unaccounted for, 20 p. c.

Pop. of city, est., 6,000; dist. supplied, est., 5,000.

No. consumers, 803.

No. meters, reg., 788; prepay., 15.

Price gas: Light and Fuel, 1st 1,000 c. f.,

\$1.70 gross, \$1.60 net; next 4,000 c. f.,

\$1.60-\$1.50; next 5,000 c. f.; \$1.45-\$1.35;

next 10,000 c. f., \$1.35-\$1.25; next 20,000

c. f., \$1.10-\$1; next 40,000 c. f., 95c.-85c.;

min. charge per mo., \$1.

Gas ranges in use, 750; heaters, 415; water heaters, 540.

No. commercial gas arc lamps, 85.

Supplies Hanford.

<p>EASY WORKING DIE STOCKS 1/8 TO 12 INCH</p>	<p>BEAVER</p>  <p>BEAVER</p>	<p>SQUARE END PIPE CUTTERS 1/8 TO 6 INCH</p>
--	--	--

Southwestern Gas Co., Hemet.

RRs.: A., T. & S. F.; So. Pac. Ex.: W. F.

(Successor to Hemet-San Jacinto Gas Co.)
Capital stock, auth., \$75,000; issued, \$15,470.
Bonds, \$30,000; due 1947; int., 6 p. c.
President, Claude H. Webber.
Secretary, L. A. Coffey.
Gen. mgr. and pur. agent, Claude H. Webber.
New bus. mgr., Claude H. Webber.
Process manufacture, Oil.
Price oil per gal. delivered, 4c.
Candle-power, 13.
Calorific value, 600 B.t.u.
Gas holder capacity, 20,000 c. f.
Holder pressure, 6 in.
Max. day's send out, 25,000 c. f.
Miles of mains, approx., 13.
Street main pressures, max., 6 in.; min., 3 in.
High pressure mains, 3 miles.
Pressure carried, high pressure mains, 14 lbs.
Annual sales, approx., 7,000,000 c. f.
Gas unaccounted for, 5 p. c.
Pop. dist. supplied, 6,000; of Hemet, 1,200;
San Jacinto, 1,000 (estimated).
No. consumers and meters, 350.
Price gas: Light and Fuel, 1st 400 c. f., \$1;
next 1,600 c. f., \$1.75 per 1,000 c. f.; next
3,000 c. f., \$1.50; next 5,000 c. f., \$1.30;
all over 10,000 c. f., \$1.10. Min. \$1. Disc.,
25c. per bill, 15 days.
Ranges in use, 300; heaters, 75; water heat-
ers, 150.
Commercial gas arc lamps, 25.
Supplies Hemet and San Jacinto.

Coast Counties Gas and Electric Co., Hollister.

RR.: So. Pac. Ex.: W. F.

(Successor to Hollister Light and Power Co.
and San Benito Light & Power Co.)
(For capitalization and officers, see "Ap-
pendix.")
Dist. manager, E. J. Sherman.
Process manufacture, Lowe (crude oil).
Price oil per bbl., delivered, \$1.19.
Annual production, 11,800,000 c. f.
Candle-power, 18. Calorific value, 600 B.t.u.
Total gas holder capacity, 43,000 c. f.
Max. day's send out, 36,300 c. f.
Miles of mains, approx., 9.
Street main pressures: max., 6 in.; min., 4 in.
Annual sales, approx., 9,440,000 c. f.
Gas unaccounted for, 20 p. c.
Pop. city supplied, 2,308.
No. consumers and meters, 490.
Price gas: Light and Fuel, 1st 2,000 c. f., \$1.60
gross, \$1.50 net; 2,100 to 5,000, \$1.35
gross, \$1.25 net; 5,100 to 25,000, \$1.10-
\$1; over 25,000, 90c.-80c. Min. chg., 50c.
No. gas ranges, 266; heaters, 112; water heat-
ers, 184.
Supplies Hollister.

ELECTRICAL DEPARTMENT.

(Business conducted under same name as gas
company.)
Operated from transmission system of com-
pany. See Santa Cruz.

System: A. C., 3 phase, 60 cycle.
Voltage, incand., 110; power, 110-220-4,000.
No. public arcs, 30; lighted by Fruend sched-
ule.
No. public incand., 40; price per year, \$24.
Price current, per kw. hr., 9c., sliding scale
to 3c. (See Gilroy, Cal.)
Power price, 5c. to 1.5c.
Output of station, kw. hrs., total for year
1,835,000.
Supplies Hollister and adjacent country.

Jackson Gas Light Co., Jackson.

RR.: (Martell) I. & E. Ex.: W. F.

Capital stock, \$50,000.
Owner, B. E. Letang.
Process manufacture, Coal.
Price coal per ton, delivered, \$10.81.
Candle-power, 16.
Miles of mains, approx., 6.
Annual sales, approx., 2,000,000 c. f.
Pop. city supplied, 2,035.
No. meters, 175.
Price gas: Light and Fuel, \$2.50.
Gas stoves in use, 20.
Supplies Jackson.
(No 1918 report.)

Southern Counties Gas Co., Long Beach.

RRs.: S. P., L. A. & S. L.; So. Pac. Ex.: W. F.

(Successor to Long Beach Consolidated Gas
Co.)
(For capitalization, see "Appendix.")
Process manufacture, Crude Oil.
Candle-power, 21.
Gas holder capacity, 900,000 c. f.
Storage capacity, 530,000 c. f.
Miles of mains, approx., 155.
Annual sales, approx., 260,152,150 c. f.
Pop. dist. supplied, 35,000; of city, 17,809.
No. consumers, approx., 12,867.
Price gas: Light and fuel, \$1.
Ranges and hot plates, 10,023.
No. commercial gas arc lamps, 156.
Supplies Long Beach, Alamitos, Seal Beach.
(Company is reserving artificial gas plant in
operating condition, but natural gas was
supplied in 1917.)

Economic Gas Co., Los Angeles.

(See report in Natural Gas Department.)

Los Angeles Gas and Electric Corporation, Los Angeles.

RRs.: A., T. & S. F.; S. L. & L. A.; So. Pac.
Ex.: W. F.; Am.

Controlled through ownership of stock, by
Pacific Lighting Corporation.
For capitalization and bonds, see Appendix.
President, W. B. Cline.
Vice-president, Wm. Baurhyte.
Second vice-pres., C. S. Vance.
Third vice-pres., C. A. Luckenbach.
Secretary, T. P. McCrea.
Treasurer, Horace Cline.
General manager, A. B. Day.
Purchasing agent, T. B. Parks.
Asst. gen'l mgr., H. J. Kister.
Comptroller, W. E. Houghton.

Do your GOODMAN STOPPERS need repairs? Send them to us
today. They will be returned like new.

SAFETY GAS MAIN STOPPER COMPANY.

263 East 133rd Street, New York, N. Y.

New bus. mgr., Frank Weiss.
 Process manufacture, Oil.
 Candle-power, 20. Calorific value, 821 B.t.u.
 Mixture supplied, oil, 50 p. c.; natural, 50 p. c.
 Price of oil per bbl., delivered, \$1.40.
 Total gas holder capacity, 15,000,000 c. f.
 Max. day's send out, 29,586,000 c. f.
 Miles of mains, 1,431½.
 Street main pres., max., 9 in.; min., 4 in.
 Annual sales, approx., 4,676,900,000 c. f.
 Gas unaccounted for, 11.97 p. c.
 Pop. dist. supplied, 674,000; of city, 319,198 (1910); now est., 590,000.
 Consumers and meters, 144,783.
 Price gas: Light and Fuel, Los Angeles, 68c.; block system; discounts, 3c. to 23c.
 Pasadena, gross, 75c.; block system; discounts, 10c. to 30c. Other districts, 80c. and 85c. with discounts from 10c. to 40c.
 Gas ranges in use, 86,870 (estimated).
 No. commercial gas are lamps, approx., 4,500.
 Supplies Los Angeles (75 p. c.), Alhambra, Huntington Park, Pasadena, South Pasadena, Watts, Eagle Rock, Inglewood, San Gabriel and San Marino, together with a portion of Vernon, Monterey Park and other suburban districts.

ELECTRICAL DEPARTMENT.

System operated: Arcs, A. C.; incand., A. C., single and 3-phase, 7,200 alternations; power, D. C. and A. C., single and 3-phase.
 Generating capacity: A. C., 21,892 kw.; D. C., 1,210 kw.
 Voltage: Arcs, 110; incand., 110; power, 500 D. C., 220-440 A. C.
 City lighting contract: Hours lighted per year: Arc, 3,854; incand., midnight, 2,016; arc schedule, 3,854; and special, 3,945.
 No. public arcs, 2,854; 450 watt; price per year, \$75.60. (D. C. magnetite type, 4-amp. at 75 to 80 volt; A. C. enclosed type.)
 No. public incand., 135; 250-watt Tungsten: 2,251 100-watt Tungsten: 822 60-watt Tungsten, 942 40-watt Tungsten: price per kw., 4c.
 Commercial lighting: No. arcs, 295; No. incand., 796,076.
 Price current per kw. hr., gross, 5.5c. block system; discounts, 2 to 3.4c.
 Power circuits: Total load, 20,800 h. p.; price per kw. hr., 4.5c. block system; discounts, 5c. to 3.34c.
 Output of station, kw. hr., total for year, 42,151,970.
 Generating power used, Steam; rated h. p., 33,527 max.; 25,150 builders' rating.
 Cost of boiler fuel: Oil, \$1.40 per barrel; natural gas, 14c. per 1,000 c. f.

Southern California Gas Co., Los Angeles.

RRs.: A., T. & S. F.; S. P., L. A. & S. L.; So. Pac. Ex.: W. F.; Am.

Office, Garland Building, Los Angeles.
 (For capitalization, bonds, officers and detailed information, see "Appendix.")
 Vice-pres. and gen'l mgr., A. B. Macbeth.

Pur. agent, N. L. Morse.
 Superintendent, F. J. Schaefer.
 Process of manufacture, Oil gas.
 Annual production, 776,414,000 c. f.
 Gas purchased (natural), 3,662,582,000 c. f.
 Price oil per gal. del'd, 1.375c.
 Candle-power, 18. Calorific value, 600 and 800 B.t.u.
 Gas holder capacity, 1,150,000 c. f.
 Max. day's send out, 8,000,000 c. f.
 Mains, approx., 700 miles; pressures: max., 75 lbs.; min., 6 in.
 Annual sales, approx., 4,167,729,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, est., 575,000; dist. supplied, 150,000.
 No. consumers, 38,865.
 No. meters, reg., 43,440.
 Price gas: Light and Fuel: Los Angeles, 68c.; block schedule, max., 68c.; min. bill, 50c.
 Adjoining districts, max. rates, 80c. and 85c.; min. bill, 50c. Natural gas for indus. use, 30c. to 20c.
 Price in San Bernardino, \$1; Riverside, \$1.10.
 Supplies part of Los Angeles and vicinity; also San Bernardino and Riverside.

Pacific Gas and Electric Co., Los Gatos Plant, (San Jose Dist.)

RRs.: So. Pac. Ex.: W. F.

For capitalization and officers, see Appendix.
 Vice-pres. and gen'l mgr., John A. Britton.
 Secretary, D. H. Foote.
 Treasurer, A. F. Hockenbeamer.
 Pur. agent, J. H. Hunt.
 Engineer, E. C. Jones.
 Dist. mgr., J. D. Kuster.
 Process manufacture, Oil gas (Jones).
 Annual production, 10,263,600 c. f.
 Calorific value, 570 B.t.u.
 Gas holder capacity, 8,000 c. f.
 Max. day's send out, 30,180 c. f.
 Street mains, approx., 9.88 miles; pressures, avg., 5 in.
 Annual sales, approx., 8,729,000 c. f.
 Gas unaccounted for, 14.4 p. c.
 Pop. of city, 3,000; dist. supplied, the same.
 No. consumers and meters, 460.
 Price gas: Light and Fuel, \$1.50.
 Supplies Los Gatos.

ELECTRICAL DEPARTMENT.

(Included in San Jose District.)

Madera Gas Co., Madera.

RRs.: So. Pac.; Ex. W. F.

Capital stock, auth., \$75,000; issued, \$17,030.
 Bonds, \$435,000; due 1923; int., 6 p. c.
 President, Geo. W. Kitchen.
 Secretary, H. Decker.
 Treas. and pur. agent, Nell A. Milton.
 General manager, Geo. W. Kitchen.
 Process manufacture, Lowe (crude oil).
 Price oil per gal. delivered, .2c.
 Annual production, oil gas, 12,222,000 c. f.
 Calorific value, 600 B.t.u.
 Gas holder capacity, 30,000 c. f.

Precision 3-in-1 Gauges for forced-draught indications are of the dead-beat type, and give concentrated control of draught conditions by showing in one instrument conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.
PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Holder pressure, max., 6 in.
 Max. day's send out, 50,000 c. f.
 Miles of mains, approx., 16.
 Street main pressures, max., 6 in.; min., 4 in.
 Annual sales, approx., 11,000,200 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 2,404 (1910); dist. supplied, est., 4,000.
 No. consumers, 450.
 No. meters, reg., 450; prepay., 3.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.00.
 No. ranges, 350; heaters, 175; water heaters, 165.
 No. commercial gas arc lamps, 50.
 Supplies Madera.

Contra Costa Gas Co., Martinez.
 (See report under Pittsburg, Cal.)

Pacific Gas and Electric Co., Marysville Dist.
 RRs.: No. El.; So. Pac.; W. Pac. Ex.: W. F.

(For detailed financial information see Pacific Gas & Electric Co., under "Appendix.")
Vice-president and gen. mgr., John A. Britton.
 Secretary, D. H. Foote.
 Treasurer, A. F. Hockenbeamer.
 District manager, E. C. Johnson.
 Chief engineer, gas dept., E. C. Jones.
 Purchasing agent, J. H. Hunt.
 Process manufacture, Oil gas (Jones).
 Calorific value, 625 B.t.u.
 Annual production, 40,253,700 c. f.
 Gas holder capacity, 190,000 c. f.
 Max. day's send out, 180,000 c. f.
 Miles of mains, approx., 16,99.
 Street main pressures, max., 7 in.
 Annual sales, approx., 35,446,800 c. f.
 Gas unaccounted for, 10.6 p. c.
 Pop. city: Marysville, 6,600; Yuba City, 1,750.
 No. consumers, 1,540.
 No. meters, total, 1,546.
 Price gas: Light and Fuel, \$1.50 to 80c.
 No. commercial lamps, 143.
 Supplies Marysville and Yuba City.

ELECTRICAL DEPARTMENT.

System, A. C., 60 cycles, 2 and 3 phase, 115 and 230 volts.
 City lighting: No. public arcs, 41; No. public incand., 548.
 Commercial lighting: No. incand., 38,133.
 Price current per kw. hr., residence lighting, 8c to 5c; commercial lighting, 6c to 3c.
 Power circuits: price per kw. hr., 4c. to .65c.
 Generating power used, Water and Steam, rated 270,643 h. p. (System).

San Joaquin Light and Power Corporation, Merced.
 RRs.: A., T. & S. F.; So. Pac.; Yos. Val. Ex.: W. F.

For capitalization, etc., see Appendix.
 Superintendent, E. A. Quinn.
 Process manufacture, Oil.
 Miles of mains, approximate, 11.1.
 Street main pressures, max., 4 in.
 Annual sales, approx., 13,707,100 c. f.
 Gas unaccounted for, 10.79 p. c.

Total gas holder capacity, 50,000 c. f.
 Candle-power, 19; calorific value, 600 B. t. u.
 Pop. of city, 3,500.
 No. consumers and meters, 574.
 Supplies Merced.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., single phase, 60 cycles; incand., A. C., single phase, 60 cycles; power, A. C., 3-phase, 60 cycles.
 Generating capacity, total, 49,325 kw.
 Voltage: Incand., 110; power, 110-220-440.
 City lighting contract: Hours lighted per year, arc, all night; incand., all night.
 No. public arcs, 18; 600 watt. Price per year, \$66.
 No. public incand., 137; 128-40 watt and 9-100 watt. Price per year, \$13.20 and \$39.
 Price current per kw. hr., gross 8c., 4c. and 2c.
 Other lamps used, Tungsten
 Power from general transmission system.

Modesto Gas Co., Modesto.
 RRs. So. Pac. Ex.: W. F.

(Successor to Modesto Gas Lt., Coal & Coke Co.)
 Capital stock, \$100,000.
 Bonds, \$55,000; due 1945; interest, 6 p. c.
 President, Frank A. Cressey.
 Sec'y and treas., Josephine Cressey.
 Manager and pur. agt., Frank A. Cressey, Jr.
 Supt. and new bus. mgr., Frank A. Cressey, Jr.
 Process manuf., Lowe (crude oil).
 Price oil per gal., delivered, 2c.
 Candle-power, 17.
 Total gas holders capacity, 70,000 c. f.
 Max. day's send out, 160,000 c. f.
 Miles of mains, approx., 19.5.
 Street main press., max., 5.75 in.; min., 3.75 in.
 Annual sales, approx., 37,810,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city (1910), 4,034; now est., 9,000; dist. supplied, 8,000.
 No. consumers, 1,308.
 No. meters, reg., 1,218; prepay., 117.
 Price gas: Light, gross, \$1.65; net, \$1.485.
 No. public Humphrey gas arc, 212; lighted 1,825 hours. Contract includes repairs care, lighting and extinguishing.
 Ranges in use, 1,200; heaters, 80; water heaters, 500.
 No. commercial gas arc lamps, 149.
 Supplies Modesto.

Southern Counties Gas Co. of California, Monrovia.
 RRs.: A., T. & S. F.; So. Pac. Ex.: W. F.

(For capitalization and officers, see "Appendix.")
 Principal office, Los Angeles.
 General manager, F. R. Bain.
 Supt. of operation, F. S. Wade.
 District agent, F. H. Bivens.
 Oil gas process.
 Oil per bbl., delivered, 82c.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 70,000 c. f.
 Max. day's send out, 230,000 c. f.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

Miles of mains, approx., 26.
 High pressure, 2.5 miles; pressure, 20 lbs.
 Street main pressures, max., 8 in.; min., 3 in.
 Annual sales, approx., 24,975,000 c. f.
 Gas unaccounted for, 18 p. c.
 Population supplied, 5,250; of Monrovia, 3,576.
 No. consumers and meters, 1,020.
 Price gas all purposes, \$1.25.

Gas plant in Monrovia supplies high pressure lines to Sierra Madre, Arcadia, So. San Anita and El Monte, as well as low pressure distributing system in Monrovia.

(Company is reserving artificial gas plant in operating condition, but natural gas was supplied in 1917).

Coast Valleys Gas and Electric Co., Monterey.

RRs.: So. Pac.; B. C. & P. S. Route. Ex.: W. F.

General office, 58 Sutter St., San Francisco, Cal.

(For capitalization, bonds, officers, etc., see Appendix.)

Gen. mgr., H. F. Jackson.

Pur. agent, L. C. Helfrich.

Local manager, C. H. Noack.

New business manager, C. H. Noack.

Process manufacture, Lowe (Crude Oil).

Price oil per bbl., delivered, \$1.65.

Candle-power, 20; calorific value, 640 B. t. u.

Gas holder capacity, 30,000 c. f.

Holder pressure, max., 7 in.

High pressure system tanks, 100 lbs.

Max. day's send out, 206,000 c. f.

Miles of mains, approximate, 35; street main pressures, max., 3 in.; min., 1 in.

High pressure mains, 3 miles; pressure, 15 lbs.

Annual sales, approximate, 28,000,000 c. f.

Gas unaccounted for, 12 p. c.

Pop. of cities, 4,923; of dist. supplied, 9,807.

No. consumers and meters, 1,369.

Price gas: Light and Fuel, 1st 500 c. f., \$1; next 2,500 c. f., \$1.50; next 7,000 c. f., \$1.25; next 15,000 c. f., \$1; all over 25,000 c. f., 90c.

No. ranges, 918; heaters, 122; water heaters, 612.

No. commercial gas arc lamps in use, 18.

Supplies Monterey, Pacific Grove, Del Monte, New Monterey.

ELECTRICAL DEPARTMENT.

System operated: A. C., single and 3 phase, 60 cycles.

Generating capacity: Lighting and power, 1,000 kw.

Voltage: Power, 2,300-220-110.

City lighting contract: Hours lighted per year, all night.

Public arcs, 6.6 amp.; price \$54 per year.

No. public incand., 231; 100 c. p. series, \$21.60 per year; 60 c. p. series, \$17.40; 40 c. p. series, \$15.

Price current per kw. hr., gross: First 20 kw. hr., 8c.; next 30, at 6c.; next 300, at 5c.; over 350 kw. hr. at 3c. per kw. hr.

Power circuits: No. motors, 127; price per kw. hr., 4c. first 50 kw. hr.; 2c. next 100 kw.

hr.; over 150 kw. hr., 1c. per kw. hr.
 Disc. for size of installation: 1st 15 h. p. or less, none; next 10 h. p., 1 p. c. per h. p.; next 50 h. p., 1 p. c. each 5 h. p.; next 50 h. p., 1 p. c. each 10 h. p.; next 125 h. p., 1 p. c. each 25 h. p.; next 250 h. p., 1 p. c. each 50 h. p.; next 500 h. p., 1 p. c. each 100 h. p. All over 1,000 h. p., special. Service chg. of \$2 per mo. per h. p. of rated capacity plus energy charge, 1c. per kw. hr. for all elec. energies supplied.

Output of station, kw. hrs. for year, 282,040.

Generating power used, Steam, rated 1,300 h. p.

Power purchased from Sierra & San Francisco Power Co.

Cost of station oil per bbl., \$1.60.

Sells current to Monterey and Pacific Grove Railway Co., Distributes in Monterey, Pacific Grove, Spreckles, Salinas, Chular, Soledad, Greenfield, King City, Presidio and Carmel.

Pacific Gas and Electric Co., Napa District.

RRs.: S. F. & Napa Line. Ex.: W. F.

(For detailed financial information see "Appendix.")

Vice-president and gen. mgr., John A. Britton.
 Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Chief engineer, E. C. Jones.

Purchasing agent, J. H. Hunt.

District manager, C. D. Clark.

Process manufacture, Oil gas (Jones).

Calorific value, 625 B.t.u.

Annual production, 30,195,600 c. f.

Gas holder capacity, 42,000 c. f.

Max. day's send out, 133,300 c. f.

Miles of mains, approx., 21.12.

Street main pressures, max., 7 in.; min., 3.6.

Annual sales, approx., 25,498,900 c. f.

Gas unaccounted for, 14 p. c.

Population city, 6,500.

No. consumers, 1,417.

No. meters, 1,485.

Price gas: Light and Fuel, \$1.50 to 80c.

No. commercial gas arc lamps, 88.

Supplies Napa.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycles, 3 phase, 115 and 230 volts.

No. public incand. 12.

Commercial lighting: No. incand., 16,067.

Price current per kw. hr., residence lighting, 8c. to 5c.; commercial lighting, 6c. to 3c.

Power circuits: Price current per kw. hr., 4c. to .65c.

Generating power used, Water and Steam, 270.643 (System).

Needles Gas and Electric Co., Needles.

RRs.: A., T. & S. F.; Col. R. S. S. Ex.: W. F.

General office, Los Angeles, Cal.

Capital stock auth. and issued, \$100,000.

Bonds, \$70,000; due 1942; int., 6 p. c.

President, E. H. Rose.

CALORIMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

The American-Junkers' Calorimeter has been greatly improved and accessories added until it has been made what we consider the most advanced type of instrument for this purpose now in use. This is confirmed by the numerous orders we are constantly receiving for it from all parts of the country and that it has been furnished to all the large syndicates, State Public Utilities Commissions and the City Gas Inspectors, the Public Utilities Commission at Washington, D. C., the U. S. Bureau of Standards, and the U. S. Department of War.

Sec'y and treas., R. S. Masson.
Gen'l manager, R. S. Masson.
Purchasing agent, G. E. Tench.
Engineer, L. D. Miller.
Supt. and new bus. mgr., J. W. Wadsworth.
Process manufacture, Lowe (Oil).
Price oil per gal., delivered, 2.93c.
Calorific value, 550 B.t.u.
Annual production, oil gas, 9,111,900 c. f.
Gas holder capacity, 30,000 c. f.
Holder pressure, 3 in.
Max. day's send out, 30,000 c. f.
Miles of mains, approx., 4.4.
Booster mains, 4.4 miles.
Street main pressures: max., 7 in.; min., 3 in.
Annual sales, approx., 7,600,000 c. f.
Gas unaccounted for, 7 p. c.
Pop. of city supplied, 4,000, estimated.
No. consumers, 457.
No. meters, reg., 395; prepay., 62.
Price gas: Light, gross, \$1.75.
Gas appliances in use: Ranges, 275; heaters, 135; water heaters, 72.
Supplies Needles.

ELECTRICAL DEPARTMENT.

System operated, arc and incand.: A. C., single phase, 60 cycles, Power, 3 phase, 60 cycles, A. C.
Voltage, incand., 110; power, 220.
Generating capacity: Lighting, 375 kw.
City lighting contract: Hours lighted, 3,800.
No. public incand., 99; price per year, \$24.60.
Lighting rates: Min. mo. charge, \$2 (without contract); \$1 (with contract); meter rates, 15c. for first 20 kw. hrs.; 10c. all over; commercial, 14c. for first 75 hrs.' use; 8c. all over.
Power circuits: No. motors, 13. Standard demand rate, \$3 per h. p.; meter rate, 3c. per kw. hr.; intermittent demand rate, \$2 per h. p.; meter rate, 5c. per kw. hr.
Output of station, kw. hrs., total for year, 324,150.
Generating power, Gas engine, rated 500 h. p.

Pacific Gas and Electric Co., Nevada District
RRs.: Nev. Co. N. G. Ex.: W. F.

(For detailed financial information, see "Appendix.")

Vice-president and gen. mgr., John A. Britton.
Secretary, D. H. Foote.
Treasurer, A. F. Hockenbeamer.
Purchasing agent, J. H. Hunt.
District manager, L. H. Hartsock.
Engineer gas dept., E. C. Jones.
Process manufacture, Oil gas (Jones).
(Plant in Grass Valley supplies district.)
Annual production, 22,991,800 c. f.
Calorific value, 581 B. t. u.
Gas holder capacity, 5,000 c. f. (located in Grass Valley). (In addition—H. P. storage tanks with approx. capacity of 20,000 c. f. at 90 lbs. pressure.)
Max. day's send out, 90,540 c. f.
Mains: H. P. transmission, 3.47 miles; H. P. distribution, 15.09 miles; pressure, max., 12 lbs.; min., 5 lbs.
Annual sales, approximate, 18,114,300 c. f.

Gas unaccounted for, 18.5 p. c.
Pop. Nevada City, 2,900; Grass Valley, 5,200 (est.).
No. of consumers, 1,126.
No. of meters, 1,126.
Price gas: Light and Fuel, \$1.50 to \$1.25.
No. commercial gas arc lamps, 4.
Supplies Nevada City and Grass Valley.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycles, 3 phase, 115 and 230 volts.
City lighting: No. public incand., 309.
Commercial lighting: No. incand., 16,486.
Price current, per kw. hr., residence lighting, 8c. to 5c.; commercial lighting, 6c. to 3c.
Price, power, per kw. hr., 4c. to .65c.
Generating power used, Water and Steam, 270,643 h. p. (System).

Oakdale Gas Co., Oakdale.

RRs.: So. Pac.; Sierra Ry.; A. T. & S. F.
Ex.: W. F.

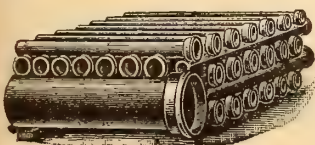
Capital stock, auth., \$75,000; issued, \$23,000.
Bonds, \$40,000; due 1938; interest, 6 p. c.
President, M. M. Anderson.
Secretary and treasurer, G. U. Anderson.
Mgr., engineer and pur agt., G. U. Anderson.
Supt. and new bus. mgr., G. U. Anderson.
Process manufacture, Oil.
Price of oil per gal., 4.5c.
Annual production: Oil gas, 10,000,000 c. f.
Candle-power, 19. Calorific value, 600 B.t.u.
Gas holder capacity, 40,000 c. f.
Holder pressure, 5 in.
Street mains, approximate, 13 miles.
High pressure mains, 7 miles; pressure, 15 lbs.
Annual sales, approximate, 9,000,000 c. f.
Gas unaccounted for, 10 p. c.
Population dist. supplied, 3,000.
No. consumers, 400.
No. meters, reg., 390; prepay., 10.
Price gas: Light, gross, \$1.75; net, \$1.50.
Supplies Oakdale and Riverbank.

Pacific Gas and Electric Co. (Alameda County District), Oakland.

RRs.: A., T. & S. F.; So. Pac.; W. Pac.; So. Pac. S. S. Ex.: W. F.

(For detailed financial information, see "Appendix.")

Vice-president and gen. mgr., John A. Britton.
Secretary, D. H. Foote.
Treasurer, A. F. Hockenbeamer.
District manager, F. A. Leach, Jr.
Gas Engineer, E. C. Jones.
Purchasing agent, J. H. Hunt.
Process manufacture, Oil gas (Jones).
Calorific value, 580 B. t. u.
Annual production, 2,744,307,000 c. f.
Gas holder capacity, 3,914,000 c. f.
Max. day's send out, 9,098,000 c. f.
Miles of low press. mains, 1,020.46.
Street main pressures, max., 14 in.; min., 5 in.
High pressure mains, 53.21 miles.
Transmission mains, 39.67 miles; pressure, max., 32 lbs.; min., 5 lbs.
Annual sales, approx., 2,530,670,200 c. f.



CAST IRON PIPE
ALL REGULAR SIZES
R. D. WOOD & CO., PHILADELPHIA, PA.

Gas unaccounted for, 7.4 p. c.

Pop. cities: Oakland, 225,000; Alameda, 30,000; Richmond, 16,500; Albany, 2,300; Emeryville, 3,000; Piedmont, 3,500; Berkeley, 65,000; Hayward, 4,000; San Leandro, 5,000; El Cerito, 1,200; total district supplied, 363,300.

No. consumers, 73,697.

No. meters, total, 74,773.

Price gas: \$1.25 to \$1 in Richmond, Hayward and San Leandro; 90c. to 75c. in remainder of district.

No. public gas lamps, 1,459; lighted all night. Contract includes repairs, care, lighting and extinguishing.

No. commercial gas arc lamps, 3,433.

Supplies Oakland, Alameda, Richmond, Albany, Emeryville, Piedmont, Hayward, Berkeley and San Leandro.

ELECTRICAL DEPARTMENT.

System, A. C., 60 cycle, 3 ph., 115 volts, and D. C., 500 volts.

City lighting: No. public arcs, 177; No. public incand., 4,689; No. public electroliers, 1,936.

Commercial lighting: No. incand., 927,923.

Price current per kw. hr., residence lighting, 7c. to 3c.; commercial lighting, 5c. to 2c.

Power circuits: Price current per kw hr., 4c. to .65c.

Generating power used, Water and Steam, rated 270,643 h. p. (System).

Southern Counties Gas Co., Ocean Park.

(Company is reserving an Artificial gas plant here, in operating condition, but natural gas was supplied in 1917.)

Ontario-Upland Gas Co., Ontario.

RRs.: So. Pac.; S. P. L. A. & S. L. Ex.: W. F.

(Controlled and operated by Southern Counties Gas Co. of California.)

Capital stock, auth., \$100,000; issued, \$88,995.

Annual dividend, 6 p. c.

Bonds, \$59,000; due 1936; interest, 6 p. c.

Process manufacture, Oil gas (Beals).

(Natural gas is being piped from So. Counties Gas Co. plant at Pomona, in 1918.)

Candle-power, 18.

Calorific value, 650 B. t. u.

Annual prod., approx., 31,000,000 c. f.

Gas holder capacity, 80,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 110,000 c. f.

Miles of mains, approx., 27.

Street main pressures, max., 10 in.; min., 3 in.

Annual sales, approx., 28,000,000 c. f.

Pop. of cities supplied: Ontario, 4,274; Upland, 2,384.

No. consumers, 1,354.

No. meters, reg., 1,222; prepay., 132.

Price gas: Light and Fuel, \$1.25.

Supplies Ontario and Upland.

Pacific Gas and Electric Co., Oroville Plant, (Marysville Dist.)

RRs.: No. El.; So. Pac.; W. Pac. Ex.: W. F.

(Successor to Oro Electric Corp.)

For financial information see "Appendix".

Vice-pres. and gen. mgr., John A. Britton.

Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Dist. manager, E. C. Johnson.

Chief engineer, E. C. Jones.

Purchasing agent, J. H. Hunt.

Process manufacture, Oil (W. G. C. Co.).

Calorific value, 648 B. t. u.

Gas holder capacity, 25,500 c. f.

Max. day's send out, 50,000 c. f.

Miles of mains, 12.12; press., 6 in.

Annual sales, approx., 16,000,000 c. f.

Pop. city, est., 5,000.

No. consumers and meters, 858.

Price gas: Light, gross \$2.50; net \$2. Fuel, gross \$2; net, \$1.50.

ELECTRICAL DEPARTMENT.

(Included in Marysville District.)

Southern California Edison Co., Oxnard.

RRs.: So. Pac.; Vent. County. Ex.: W. F.

(Successor to Ventura County Power Co.)

(For financial data and officers of company, see Parent Co.'s. and Appendix).

Process manufacture, Lowe (crude oil).

Calorific value, 600 B. t. u.

Total gas holders capacity, 195,000 c. f.

High pressure mains, miles, 60; pressure, 20 lbs.

Annual sales, approximate, 52,056,000 c. f.

Pop. dist. supplied, 10,000; of city, 2,555.

Consumers and meters, 1,991.

Price gas: Light and Fuel, 1st 10,000 c. f., \$1.25; next 10,000 c. f., \$1.10; next 30,000 c. f., \$1; over 50,000 c. f., 90c.

Supplies Ventura, Oxnard, Santa Paula, Satcoy, Hueneme, Piru, El Rio, Montalvo and farming country intervening.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 50 cycle.

Generating capacity, 2,500 kw.

Voltage: Incand., 110; power, 220-2,200.

City lighting: No. public incand., 412; 60 watt; price per year, \$470.

Commercial lighting: No. arcs, 19; No. incand., 30,000.

Price current per kw. hr., gross, 12c.; discount, sliding scale.

Power circuits: No. motors, 250; price per kw. hr., 6c.; discount, sliding scale.

Output of station for year, 2,760,000 kw.

Generating power used, Steam; rated h. p., 750.

Owms and operates water systems in Ventura and Oxnard. Owms and operates Mound Irrigation System.

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

Palo Alto Gas Plant, Palo Alto.

RRs.: So. Pac. Ex.: W. F.

(Municipal plant.)

Formerly Palo Alto Gas Co.

Bonds, \$70,000; due 1958; int., 4.5 p. c.

Chmn. Bd. of Pub. Works, M. A. Buchan.

Treasurer, Geo. R. Parkinson.

Engineer and pur. agent, J. F. Byxbee, Jr.

Gas purchased from Pacific Gas & Electric Co.

High pressure mains, 20 miles; pressure, 40 lbs.

Annual sales, approx., 50,000,000 c. f.

Pop. of city, est., 6,000; dist. supplied, est., 8,000.

No. consumers, 1,832.

No. meters, reg., 1,550; prepay., 250.

Price gas: Light and Fuel, \$1.20.

No. gas ranges, 1,200; water heaters, 800.

No. commercial gas arc lamps, 40.

Supplies Palo Alto and Stanford University.

River Bend Gas & Water Co., Partier.

RRs.: A. T. & S. F.; Ex.: W. F.

(Organization not complete, January, 1916.)

President, R. K. Madsen.

Secretary and treas., W. J. Lohman.

Manager and supt., L. W. Le Baron.

Gas purchased from Alta District Gas Co.

Gas purchased, approx., 12,000,000 c. f.

Street mains, approx., 10 miles; transmission line, 14 miles.

High pressure mains, 24 miles; pressure, 40 lbs. to 12 lbs.

Annual sales, approx., 12,000,000 c. f.

Gas unaccounted for, 9 p. c.

Pop. dist. supplied, 5,000.

No. consumers and meters, 350.

Price gas: Light, gross, \$1.50; net, \$1.25; \$1 for 5,000 c. f. and over per mo.

Ranges in use, 300; heaters, 112; water heaters, 98.

No. commercial gas arc lamps in use, 41.

Supplies, Reedley and Partier.

(No 1918 report.)

Pacific Gas and Electric Co., Petaluma Dist.

RRs.: Pet. & S. R.; No. W. Pac. S. Bs.:

S. F. & Pet. Line. Ex.: W. F.

(For detailed financial information, see Pacific Gas & Electric Co., under "Appendix.")

Vice-president and gen. mgr., J. A. Britton.

Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Purchasing agent, J. H. Hunt.

District manager, H. Weber.

Chief engineer, E. C. Jones.

Process manufacture, Oil gas (Jones).

Gas supplied from Santa Rosa through h. p. transmission line.

Gas holder capacity, 150,000 c. f.

High pressure mains, 31.99 miles; pressure, 2 lbs.

Transmission mains, 12.68 miles; pressure, 25-10 lbs.

Annual sales, approximate, 38,372,700 c. f.

Pop. supplied, Petaluma, 7,500; Cotati, 200.

No. consumers, 1,571.

No. meters, 1,597.

Price of gas: Light, gross, \$1.50 to \$1.

No. commercial gas arc lamps, 8.

Supplies Petaluma and Cotati.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycles, 3 phase, 115 and 230 volts.

City lighting: No. public incand, 310.

Commercial lighting: No. incand., 21,064.

Price current per kw. hr., residence lighting,

8c. to 5c.; commercial lighting, 6c. to 3c.

Power circuits: Price current per kw. hr., 4c. to 0.65c.

Generating power used, Water and Steam, rated 270.643 h. p. (System).

Contra Costa Gas Co., Pittsburg.

SSs.: Cal. Nav. & Imp. Ex.: W. F.

Capital stock, auth., \$250,000; issued, \$11,150.

Annual dividend, 6 p. c.

Bonds, \$109,000; due 1954; interest 6 p. c.

President, S. Walde Coleman.

Secretary and treas., L. W. Pryor.

General mgr. and pur. agent, S. W. Coleman.

New bus. mgr., Geo. P. Eggleston.

Superintendent, J. B. Kilfoyle.

Process manufacture, Oil Gas (Jones).

Candle-power, 16; calorific value, 550 B. t. u.

Price of oil per gal., delivered, 1.9c.

Gas holder capacity, 125,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 225,000 c. f.

High pressure mains, 56.2 miles; press., 5 to 40 lbs.

Annual sales, approx., 54,000,000 c. f.

Gas unaccounted for, 28 p. c.

Population dist. supplied, est., 11,000.

No. consumers, 1,952.

No. meters, reg., 1,916; prepay., 36.

Price of gas: Light and Fuel, 1st 1,000 c. f.,

gross, \$1.60; net, \$1.50; next 1,000 c. f.,

\$1.35-\$1.25; next 23,000 c. f., \$1.10-\$1;

next 15,000 c. f., 90c.-80c.; over 40,000

c. f., 80c.-70c. Min. charge, 60c.-50c. Hotel

and restaurant service, gross, 85c.; net

75c. per 1,000 c. f. Min. weekly charge

per meter, \$8-\$7.

No. gas ranges, 1,450; heaters, 275; water heaters, 525.

No. commercial gas arc lamps, 450.

Supplies Pittsburg, Antioch, Concord, Port Costa, Crockett and Martinez.

Southern Counties Gas Co., Pomona.

RRs.: So. Pac.; S. P., L. A. & S. L. Ex.: W. F.

(Formerly property Southern California Edison Company.)

(For capitalization and officers, see Southern Counties Gas Co., under Appendix.)

(Principal office, Los Angeles, Cal.)

New business manager, S. M. Kennedy.

Local agent, F. W. Balfour.

Process manufacture, Crude Oil.

Candle-power, 19.

Calorific value, 600 B. t. u.

Miles of mains, approximate, 76.

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES

METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for
Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York



High pres mains, 32 miles; pressure, 30 lbs.
Annual sales, approx., 67,000,000 c. f.
Gas unaccounted for, 13 p. c.
Population of city, 10,207.
Consumers and meters, 3,378.
Ranges in use, 4,120.
No. commercial gas arc lamps, 37.
Supplies Claremont, Lordsburg, San Dimas and Pomona.

(Company is reserving artificial gas plant here in operating condition, but natural gas was supplied in 1917.)

Central California Gas Co., Porterville.

(See report under Visalia.)

Northern California Power Co., Consol., Red Bluff.

RRs.: So. Pac. Ex.: W. F. & Co.

Principal office, San Francisco, Cal.
(For capitalization, bonds, etc., see Appendix.)
President, W. F. Detert.
1st vice-pres., A. S. Carman.
2d vice-pres., F. Reis, Jr.
Secretary, W. H. Pearce.
Asst. sec'y, J. M. Rogers.
Depositary, Bank of California (N. B. A.).
Purchasing agent, H. Corvin.
Manager, Edward Whaley.
Superintendent, Chas. Hughes.
Process manufacture, Lowe (Jones-crude oil).
Price oil per gal., delivered, 5c.
Candle-power, 22.
Calorific value, 650 B. t. u.
Gas holder capacity, 30,000 c. f.
Max. day's send out, 27,500 c. f.
Miles of mains, approx., 8.5.
Street main pressure, max., 6 in.; min., 5 in.
High pressure mains, 0.6 mile; pressure, 6 lbs.
Annual sales, approximate, 6,859,900 c. f.
Gas unaccounted for, 13.6 p. c.
Pop. city, 3,530; dist. supplied, 3,000.
No. consumers, 455.
No. meters, reg., 423; prepay., 32.
Price gas: 1st 500 c. f., \$1; next 4,500 c. f., \$1.70; next 10,000 c. f., \$1.45; over 15,000 c. f., \$1.20.
No. commercial gas arc lamps, 14.
Supplies Red Bluff.

ELECTRICAL DEPARTMENT.

Sub-stations are operated at the following points: Anderson, Arbuckle, Balaklala, Butte City, Chico, Coram, Corning, Cottonwood, De La Mar, Germantown, Gardella, Hamilton, Heroult on the Pitt, Ingot, Iron Mountain, Jacinto, Kennett, Keswick, Lewiston, Mammoth Mine, Manton, Maxwell, Old Diggings, Orland, Palo Cedro, Princeton, Red Bluff, Redding, Rice, Vina, Washington, Williams, Wil-lows, etc.
No. public arcs (Red Bluff), 50; 660 watt.
Price per year, \$32.88.
No. commercial incand. lamps, approx., 7,000.
Price current per kw. hr., 7c. to 3c. Cooking and heating, 3c. to 1.5c.
Output of station, kw. hrs., total for year, 1,132,490.

Northern California Power Co., Consol., Redding.

Principal office, San Francisco, Cal.
(For RR's., capital, officers, etc., see same company reported under Red Bluff.)
Process manufacture, Lowe (crude oil—Jones machine).
Price oil per gal., delivered, 5c.
Candle-power, 22.
Gas holder capacity, 40,000 c. f.
Max. day's send out, 25,000 c. f.
Miles of mains, approx., 6.
Street main pressures, max., 10 in.; min., 6 in.
Annual sales, approx., 8,875,700 c. f.
Gas unaccounted for, 13.3 p. c.
Pop. of city, 3,572; of dist. supplied, 3,000.
No. consumers, 350.
No. meters, reg., 347; prepay., 100.
Price gas: Light and fuel (see Red Bluff).
Supplies Redding.

Pacific Gas and Electric Co., Redwood Dist.

RRs.: So. Pac. Ex.: W. F.

(For detailed financial information, see "Appendix.")

Vice-president and gen. mgr., John A. Britton.
Secretary, D. H. Foote.
Treasurer, A. F. Hockenbeamer.
Purchasing agent, J. H. Hunt.
Chief engineer, E. C. Jones.
Manager, E. W. Florence.
Process manufacture, Oil gas (Jones).
Gas supplied from San Francisco station.
Gas holder capacity, 500,000 c. f.
Trans. mains, 39.95 miles; press., 95 to 40 lbs.
High pressure, mains, 137.39 miles; pressure, 95 to 40 lbs.
Miles of low pressure, mains, 10.08.
Street mains pressure, 4 in.
Annual sales, approx., 235,476,900 c. f.
Pop. of district supplied, 38,775.
No. consumers, 5,440. No. meters, 5,549.
Price gas: Light and Fuel, \$1.25 to \$1.
No. commercial gas arc lamps, 70.
Supplies Redwood City, San Mateo, Burlingame, Palo Alto, Colma, San Bruno, Belmont, Menlo Park, Millbrae, Hillsborough, South San Francisco, Daly City, Stanford University, Atherton and Lomita Park.

ELECTRICAL DEPARTMENT

System: A. C., 60 cycles, 3 phase, 115 and 230 volts.
City lighting: Public incand., 1,833; size 40 to 250 watts.
Commercial lighting: No. incand., 138,363.
Price current per kw. hr., residence lighting, 8c. to 5c.; commercial lighting, 6c. to 3c.
Price current per kw. hr., 4c. to .65c.
Generating power used, Water and Steam, rated 270,643 (System).

Pacific Gas and Electric Co., Sacramento Dist.

RRs.: So. Pac.; W. Pac.; No. El. S. Bs.: So. Pac. S. S.; Gas Trans. Ex.: W. F.

(For detailed financial information, see "Appendix.")

Vice-president and gen. mgr., John A. Britton.
Secretary, D. H. Foote.



THE SCIENTIFIC SAFETY GARAGE HEATER

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Treasurer, A. F. Hockenbeamer.
Chief engineer, E. C. Jones.
Purchasing agent, J. H. Hunt.
Dist. mgr., C. W. McKillip.
Process manufacture, Oil gas (Jones).
Calorific value, 576 B.t.u.
Gas holder capacity, 702,000 c. f.
Annual production, 385,001,500 c. f.
Max. day's send out, 1,338,872 c. f.
Miles mains, 167.11 (low pressure).
Street main pressures: max., 12 in.; min., 6 in.
High press. mains (distribution), 10.51 miles.
Miles of transmission mains (high pressure),
7.81; pressure, 20 to 5 lbs.
Annual sales, approx., 307,431,300 c. f.
Gas unaccounted for, 18.5 p. c.
Pop. city, 76,000.
Consumers and meters, 12,070.
Price gas: Light and Fuel, \$1.
No. commercial gas arc lamps, 339.
Supplies Sacramento.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycles, 3 phase, 115 and 230 volts.
City lighting: No. public arcs, 973; No. public electroliers, 519; No. public incand., 94.
Commercial lighting: No. incand, 226,283.
Price current per kw. hr., commercial, 6c to 3c.; domestic, 7c.-3c.
Price power current, 4c. to .65c.
Generating power used, Steam and Water, rated 270.643 h. p. (System total).

Sacramento Gas Co., Sacramento.

RRs. (See Pacific Gas & Electric Co. above.)
Capital stock, auth., \$500,000; issued, \$429,100.
Annual dividend, 6 p. c.
Bonds, \$395,000; due 1940; interest, 6 p. c.
President, Geo. W. Peltier.
Secretary and supt., H. C. Keyes.
Treas. and pur. agent, H. C. Keyes.
Gen'l mgr. and engineer, J. N. Jensen.
New bus. mgr., J. N. Jensen.
Process manufacture, Lowe (crude oil) and natural gas.
Price oil per bbl., delivered, 80c.
Candle-power, 16. Calorific value, 650 B.t.u.
Gas holder capacity, 585,000 c. f.
Holder pressure, 6 in.
Max. day's send out, 500,000 c. f.
Miles of mains, approx., 72.
Street main pressure, max., 6 in.; min., 3 in.
Annual sales, approx., 143,131,370 c. f. (incl. natural gas).
Gas unaccounted for, 10 p. c.
Pop. of city, 44,696 (1910); dist. supplied, 65,000.
No. consumers and meters, 6,779.
No. meters, reg., 4,201; prepay., 2,578.
Price gas: Light and Fuel, \$1.
Gas appliances in use: Ranges, approx., 6,500; water heaters, 2,000.
Supplies Sacramento.
(See also Natural Gas Department.)

Napa Valley Electric Co., St. Helena.

RR.: So. Pac. Ex.: W. F.

Controlled by St. Helena Gas & Electric Co.
Capital stock, pref., auth., \$50,000; issued, \$25,800; annual div., 6 p. c.
President, D. L. Beard.
Secretary, G. S. Conner.
Depositary, Bank of St. Helena.
Supt. and pur. agt., F. W. Mielenz.
Process manufacture, Van Syckel (oil).
Price oil per bbl., \$1.34.
Candle-power, 18.
Gas holder capacity, 8,000 c. f.
Max. day's send out, 6,000 c. f.
Miles of mains, approx., 5.
Street main pressures, max., 2.5 in.; min., 1.75 in.
Annual sales, approx., 1,440,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city supplied, 1,603.
Consumers and meters, 160.
Price gas: Light and Fuel, gross, \$2.50.
Ranges in use, 92.
No. commercial gas arc lamps, 2.
Supplies St. Helena.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
Arc system, Gen. Elec., 4 (2,000 c. p.) arcs capacity.
Incand. system, Packard, 1,350 lamps capacity.
Power generators, 65 kw. capacity.
Voltage: Line, 2,300; incand., 110; power, 110-120.
No. public arcs, 5; lighted 2,190 hours.
No. public incand., 40; lighted 2,190 hours.
Price arc, Public, per year (2,000 c. p.), \$96.
Price incand., Public, per year (32 c. p.), \$18.
Price, commercial per kw. hr., gross, 10c.
No. motors, 15; price current per kw. hr., 7 to 3.5c.
Power used, Steam.
Fuel oil, \$1.25 per bbl.
(No 1918 report.)

Coast Valleys Gas and Electric Co., Salinas.

RRs.: So. Pac.; Pajaro Val. Cons. Ex.: W. F.

(For capitalization and officers, see Appendix.)
Process manufacture, Lowe (crude oil).
Price oil per bbl., delivered, \$1.65.
Annual production, oil gas, 14,867,000 c. f.
Candle-power, 20.
Calorific value, 640 B. t. u.
Gas holder capacity, 30,000 c. f.
Holder pressure, max., 7 in.
Max. day's send out, 56,200 c. f.
Miles of mains, approx., 15.
Street main pressures: max., 6 in.; min., 4 in.
Annual sales, approx., 13,191,000 c. f.
Gas unaccounted for, 15.44 p. c.
Pop. of city, 3,736 (1910); dist. supplied, est., 4,000.
No. consumers and meters, 743.
Price gas: Light and Fuel, 1st 500 c. f., \$1; next 2,500 c. f., \$1.60; next 7,000 c. f., \$1.30; next 15,000 c. f., \$1.10; all over 25,000 c. f., \$1.

HUNT PIVOTED BUCKET CONVEYORS have been designed for handling coal, coke, etc., with minimum attendance and at minimum expense. Our engineers have made a special study of gas works problems, and will help you select equipment for your individual requirements. Write for Catalogue N15-4.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Ranges in use, 508; heaters, 67; water heaters, 339.
Supplies Salinas. _____

ELECTRICAL DEPARTMENT.

System operated, A. C., 3 phase, 60 cycles.
Generating capacity: Lighting, Monterey, 1,000 kw.; Salinas, 300 kw.; King City, 75 kw.
Voltage: 2,300-220-110.
City lighting contract: Hours lighted per year, Arc and incand., all night.
No. public arcs, 73: 450 watt. Price per year, \$54.
No. public incand., 11; 100 c. p. series, \$21.60; 60 c. p. series, \$17.40; 40 c. p. series, \$15.
Commercial lighting: Price current per kw. hr., gross: 1st 20 kw. hr., 8c.; next 30 kw. hr., 6c.; next 300 kw. hr., 5c.; all over 350. 3c. Discounts, 10 p. c., 10 days.
No. com. incand., 921,380.
Power circuits: No. motors, 185; price per kw. hr., 4c. to 1c. (same as Monterey).
Generated and purchased, kw. hrs. for year, 10,903,245.
Cost of station fuel oil, per bbl., \$1.65.
Steam and water power purchased from Sierra & San Francisco Power Co.

Citrus Belt Gas Co., San Bernardino.

RRs.: A., T. & S. F.; So. Pac.; S. P., L. A. & S. L. Ex.: W. F.

Capital stock, auth., \$1,500,000; issued, \$250,166.
Bonds, \$350,200; due 1920-1936; int., 5-6 p. c.
President, E. D. Roberts.
Secretary and treasurer, Z. T. Bell.
Gen. mgr. and pur. agent, Z. T. Bell.
Engineer, Z. T. Bell.
Process manufacture, Lowe (Oil).
Price oil per bbl., delivered, \$1.58 and \$1.63.
Candle-power, 20; calorific value, 600 B. t. u.
Annual production, 131,261,000 c. f.
Gas holder capacity, 220,000 c. f.
Max. day's send out, 800,000 c. f.
Miles of mains, approx., 117.51.
Street main pressures, max., 40 lbs.; min., 6 in.
High pressure mains, miles, 3; press., 40 lbs.
Annual sales, approx., 98,022,400 c. f.
Gas unaccounted for, 20 p. c.
Pop. dist. supplied, 35,000; of cities, San Bernardino, 12,779; Redlands, 10,449; Colton, 3,980; Corona, 3,540.
No. consumers in district, 3,744.
Price of gas to consumers, at Colton, \$1.50 gross, \$1.25 net; at Corona: 1st 2,000 c. f., \$1.75; next 8,000, \$1.50; next 15,000, \$1.25; next 25,000 c. f., \$1.10. Disc., 10c.
Price at San Bernardino, \$1; at Redlands: 1st 3,000 c. f., \$1.45; next 7,000 c. f., \$1.25; next 15,000 c. f., \$1.10; over 25,000 c. f., 90c.; min. bill, 60c.
Supplies San Bernardino, Redlands, Colton and Corona.

San Diego Consolidated Gas and Electric Co., San Diego.

RRs.: A. T. & S. F.; San D. & A.; L. A. & S. D. Beach; Pac. St. Co.; S. Bs.: No. Pac. P. Coast; Pac. Nav., Am. H. S. S. S. Ex.: W. F.

(Operated by H. M. Byllesby & Co., Chicago, Ill.)

(For capitalization and bonds, see "Appendix.")

Controlled by Standard Gas & Electric Co., Chicago, both companies being under management of H. M. Byllesby & Co., Chicago. President, H. H. Jones.

Vice-presidents, H. M. Byllesby, A. S. Huey. F. C. Gordon, A. H. Sweet, Elmer Dover and O. E. Osthoff.

Secretary and treasurer, M. B. Fowler.

Purchasing agent, C. C. May.

General manager, H. H. Jones.

Superintendent, R. L. Clarke.

New business manager, A. E. Holloway.

Process manufacture, Lowe and Oil.

Calorific value, 570 B.t.u.

Annual production, water gas, 75,000,000 c. f.; oil gas, 844,547,000 c. f.

Total gas holder capacity, 2,650,000 c. f.

Holder pressure, max., 10 in.

Max. day's send out, 4,118,000 c. f.

High pressure mains, miles, 272; pressure, 15 to 50 lbs.

Miles of mains, approx., 233 (low pressure).

Street main pressures, max., 7 in.; min., 4.5 in.

Annual sales, approx., 771,620,500 c. f.

Gas unaccounted for, 16.11 p. c.

Pop. dist. supplied, 122,180; pop. city, 39,578

No. consumers, 23,222.

No. meters, reg., 22,715; prepay., 507.

Price gas: Light and Fuel, for 1st 25,000 c. f., gross, \$1; net, 90c.; next 25,000 c. f., 90c., gross; next 25,000 c. f., 80c.; all over 75,000 c. f., 70c. Discount, 10c.

No. public Welsbach incand., gas lamps, 2.

No. hours each lamp is lighted per year, 4,000.

Contract includes repairs, care, lighting and extinguishing.

Ranges in use, 20,208; heaters, 1,867; water heaters, 11,781.

No. commercial gas arc lamps, 204.

Supplies San Diego, National City, Chula Vista, Coronado, East San Diego and La Mesa, Escondido and U. S. Military Camp.

ELECTRICAL DEPARTMENT.

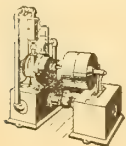
System operated: A. C. single and 3 phase, 60 cycles; Power, 60 cy., 3 ph. and D. C. Generating capacity, Lighting and Power, 12,120 kw.

Voltage: Incand., 110; power, D. C., 500; A. C., 220-440.

City lighting contract: Hours lighted per year, incand., 4,000.

Public incand., 5,206; 30-40-60-100-300 watt. Price per year, \$48 for 270 or 340 watts.

Commercial lighting: No. arcs, 81; No. incand., 317,465, 16 c. p. equiv.; other lamps, 34,644, in signs.



THE SYSTEM THAT STAYS SOLD. THE NEEDHAM HIGH PRESSURE GAS SYSTEM demonstrates by high efficiency other fuels can be permanently displaced without increasing manufacturing costs.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Price current per kw. hr., gross. Sc. first 500 kw. or less.; 5c. next 1,000 kw.; 4c. next 1,500 kw.; all in excess of 3,000 kw., 3c. Power circuits; No. motors, 2,041; price per kw. hr., A. C., 6c. to 2c.; D. C., 8c. to 2c. Min. bill, \$1 per mo. per h. p. connected. Other uses: 19,126 flat irons and appliances; 329 signs; 21,782 consumers. Output of station, kw. for year, 30,025,403 (incl. purchases). Generating power used, Steam; rated h. p., 18,000.

Pacific Gas and Electric Co., San Francisco.

RRs.: So. Pac.; No. W. Pac.; A., T. & S. F.; Ocean Sh.; W. Pac. S. Bs.; Pan. R. R. S. S. Line; Am. H. S. S.; U. Trans.; Beadle S. S.; S. F. & Port. S. S.; B. C. & P. S. Route; No. Pac. S. S.; Mendocino Line; Cal. & Ore. C. S. S.; Alaska S. S.; No. Nav. Ex.: W. F.

(Owns capital stock of San Francisco Gas and Electric Co. For detailed financial information see Pacific Gas and Electric Co., under "Appendix.")

Vice-pres. and gen. mgr., John A. Britton. Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Purchasing agent, J. H. Hunt.

Chief gas engineer, E. C. Jones.

District manager, H. Bostwick.

Process manufacture, Oil gas (Jones).

Calorific value, 571 B.t.u.

Annual production, 5,647,331,000 c. f.

(Supplies Redwood District also.)

Gas holder capacity, 11,853,000 c. f.

Max. day's send out, 20,578,000 c. f.

Miles of mains, low pressure, 767.73.

Street main press.: max., 22 in.; min., 10 in.

High pressure mains, 19.19 miles.

High pressure: max., 30 lbs.; min., 10 lbs.

Transmission mains, 41.56 miles; pres., 30 to 10 lbs.

Annual sales, approx., 4,554,419,900 c. f.

Gas unaccounted for, 9.5 p. c.

Pop. city supplied, 560,000.

No. consumers, 115,478.

No. meters, 124,034.

Price gas: Light and Fuel, 85c. to 55c.

Schedule: 1st 10,000 c. f., 85c.; next 20,000 c. f., 80c.; next 40,000 c. f., 75c.; next 80,000 c. f., 70c.; next 150,000 c. f., 65c.; all over 300,000 c. f., per mo., 60c.; min., 50c.

No. public Welsbach lamps, 8,697.

Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, all night.

No. commercial gas arc lamps, 4,540.

Supplies San Francisco.

ELECTRICAL DEPARTMENT.

System operated: D. C., 115 and 230 volts lighting and power and 600 volts to municipal railways. A. C., 60 cycle, 2 and 3 phase, 115 and 230 volts lighting and power.

City lighting: No. public arcs, 1,517; incand., 15,259.

Commercial lighting: No. incand., 2,056,690; also No. of electroliers, 597.

Price current per kw. hr., dom. and com'l., 7c. to 3.5c.

Generating power used, Water and Steam, rated 270,643 (System).

Pacific Gas and Electric Co., San Jose.

RRs.: So. Pac. Ex.: W. F.

(For detailed financial information, see Pacific Gas and Electric Co. under "Appendix.") Vice-president and gen. mgr., John A. Britton. Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Purchasing agent, J. H. Hunt.

Chief engineer, E. C. Jones.

District manager, J. D. Kuster.

Process manufacture, Oil gas (Jones).

Calorific value, 554 B.t.u.

Annual production, 328,461,600 c. f.

Gas holders capacity, 637,000 c. f.

Max. day's send out, 1,205,000 c. f.

Miles of mains, approx., 121.75 (low pressure).

Street main pressures, max., 9 in.; min., 6.7 in.

Annual sales, approx., 284,521,800 c. f.

Gas unaccounted for, 12.5 p. c.

Pop. city, 45,000; dist. supplied, same.

No. consumers, 10,148. No. meters, 10,986.

Price gas: Light and Fuel, \$1 to 70c.

No. commercial gas arc lamps, 132.

Supplies San Jose.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycle, 3 phase, 115 and 230 volts and 550 volts D. C.

City lighting: No. public arcs, 309; No. public electroliers, 416.

No. public incand., 637; price per year, \$16.20 plus 1½c. per kw. hr.

Commercial lighting: No. incand., 263,887.

Price current per kw. hr., residence and commercial lighting, 7c. to 3c.

Power circuits: Price per kw. hr., 4c. to .65c.

Generating power used, Water and Steam, rated 270,643 h. p. (System).

Pacific Gas and Electric Co., Alameda County Dist., San Leandro.

See report under Oakland: Alameda County District now supplied from Oakland.

Midland Counties Public Service Corporation, San Luis Obispo.

RRs.: Pac. C. Co.; So. Pac. Ex.: W. F.

General office, 805 Garland bldg., Los Angeles, Cal.

(For capitalization and bonds, etc., see "Appendix.")

President, A. C. Balch.

Secretary, L. M. Farnham.

Treasurer, A. E. Peat.

Purchasing agent, J. H. Newlin.

General manager, A. G. Wishon.

Superintendent, E. A. Quinn.

Process manufacture, Oil (Straight Shot).

(Natural gas purchased, artif. plant for emergency).



HOLDERS, PLATE WORK, PIPE

R. D. Wood & Co., Phila., Pa.



Gas purchased, 72,493,000 c. f.
Candle-power, 18; calorific value, 1,000 B. t. u.
Gas holder capacity, 30,000 c. f.; pressure, max., 6 in.
High pressure mains, 41.2 miles.
Street mains, approximate, 16.23 miles.
Annual sales, approximate, 50,176,960 c. f.
Gas unaccounted for, 30.6 p. c.
Population of city, 5,157 (1910); dist. supplied, 6,000.

No. consumers, 382.

Supplies San Luis Obispo and small towns in vicinity.

ELECTRICAL DEPARTMENT.

Capital apportioned to elec. plant, \$1,000,000.
System operated: Arc, A. C., series; incand., A. C. three phase; power, A. C. 3-phase.
Voltage: Incand., 110; power, 220.
City lighting contract: Hours lighted per year, all night.
No. public ares. 51; 500 watt. Price per year, \$66.
No. public incand., 34; 100 watt. Price per year, \$30.
Price current per kw. hr., gross, 10c. Discounts, 12 to 45 p. c.
Power circuits: Price per kw. hr., 10c. to 3c.
Output of station, kw. per year (purchased), 11,196,008.
Power purchased from San Joaquin Lt. & Pr. Corp.
Supplies electricity to San Luis Obispo, Santa Maria, Coalinga, Paso Robles.

Southern Counties Gas Co., San Pedro.

RRs.: So. Pac.; Wilm. Trans. SS. lines from San F.: S. P., L. A. & S. L. (via East San Pedro). Ex.: W. F.

(Principal office, Los Angeles.)

Formerly property of Southern California Edison Co.

For capitalization, officers, etc., see Appendix.

Process manufacture, Crude Oil.

Candle-power, 19.

Calorific value, 600 B. t. u.

Gas holder capacity, 30,000 c. f.

Miles of mains, approx., 12.

Street main pressures, max., 9 in.; min., 4 in.

Annual sales, approx., 16,000,000 c. f.

Gas unaccounted for 11 p. c.

Consumers and meters, 991.

Ranges in use, 1,157.

No. commercial gas arc lamps, 2.

Supplies San Pedro.

(Company is reserving artificial gas plant in operating condition, but natural gas was supplied in 1917.)

Pacific Gas and Electric Co. (Marin Dist.), San Rafael.

RRs.: No. W. Pac. Ex.: W. F.

(For detailed financial information, see Pacific Gas & Electric Co., under "Appendix.")

Vice-president and gen. mgr., John A. Britton.

Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Purchasing agent, J. H. Hunt.

Chief engineer, E. C. Jones.

District manager, Wallace H. Foster.

Process manufacture, Oil gas (Jones).

Calorific value, 618 B.t.u.

Annual production, 80,537,600 c. f.

Gas holder capacity, 118,000 c. f.

Max. day's send out, 240,006 c. f.

Miles of low pressure mains, 27.89.

High pressure mains, 37.92 miles.

High pressure, max., 50 lbs.; min., 10 lbs.

Low press., max., 7 in.; min., 5 in.

Trans. mains, 5.53 miles; press., 50 lbs.

Annual sales, approx., 69,822,800 c. f.

Gas unaccounted for, 11.5 p. c.

Pop. city: San Rafael, 6,000; Ross, 900; San

Anselmo, 3,000; of dist. supplied, 15,150.

No. consumers, 2,656.

No. meters, 3,668.

Price gas: Light and Fuel, \$1.50 to 80c.

No. commercial gas arc lamps, 58.

Supplies San Rafael, Ross, San Anselmo,

Kentfield, San Quentin, Fairfax and

Larkspur.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycle, 3 phase, 115 and 230 volts.

City lighting: No. public incand., 1,868.

Commercial lighting: No. incand., 82,697.

Price current per kw. hr., residence lighting,

8c. to 5c.; commercial lighting, 6c. to 3c.

Power circuits: Price current per kw. hr.,

4c. to .65c.

Generating power used, Water and Steam, rated h. p., 270,643 (System).

Southern Counties Gas Co., Santa Ana.

(See report in Natural Gas Department.)

(Company is reserving artificial gas plant here in operating condition, but natural gas is being supplied in 1917.)

Southern Counties Gas Co., South Santa Anita.

(See report under Monrovia, in Artificial Gas Department.)

Santa Barbara Gas and Electric Co., Santa Barbara.

RRs.: So. Pac.; P. C. S. S. Ex.: W. F.

Controlled by Southern California Edison Co.

(For capitalization, bonds, etc., see Appendix.)

President, John F. Diehl.

Vice-presidents, W. A. Brackenridge and R. H. Ballard.

Secretary, S. M. Kennedy.

Treasurer, W. L. Percy.

Pur. agent, John Otto.

Manager, R. H. Sterling.

Supt., B. F. Pearson.

Process manufacture, Lowe (crude oil).

Candle-power, 19.

Calorific value, 600 B. t. u.

Gas holder capacity, 460,000 c. f.

Miles of mains, approx., 76.

Annual sales, approx., 154,000,000 c. f.

Pop. of city, 12,000; of dist. supplied, 15,000.

Consumers and meters, 4,704.

Price of gas, \$1 and \$1.25.

Ranges and hot plates, 4,996.

Supplies Santa Barbara, Montecito and Miramar.

GAS EXHAUSTERS

Correct Design



GAS BOOSTERS

Unfailing Service

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycles, 3 phase.
Generating capacity, 2,120 kw.
Voltage: Incand., 110; power 110-220-440-2,200.
No. public arcs, 215; 6.6 amp. enclosed; lighted all night, moonlight schedule.
Commercial lighting: No. incand., 108,034.
Power circuits: Motors, 4,616 h. p.
Output of station, kw. hrs. for year, 6,008,196 (incl. purchased power).
Power used: Steam: rated 3,000 h. p.
No. elec. consumers, 6,408.

Santa Clara Municipal Gas Works, Santa Clara.

RRs.: So. Pac. Ex.: W. F.

(Municipal plant.)

Bonds, \$18,750 (\$750 retired an.); int., 5 p. c.

President, John Widney.

Secretary, A. J. Cronin.

Treasurer, Robt. A. Fatjo.

General manager, John Widney.

Superintendent, Jas. I. Dixon.

Purchasing agent, Jas. I. Dixon.

Engineer, Jas. I. Dixon.

Process manufacture, Lowe (crude oil).

Price oil per bbl., delivered, \$1.55.

Candle-power, 17.

Calorific value, 620 B. t. u.

Annual prod., water gas, 27,500,000 c. f.

Gas holders capacity, 23,000 c. f.

High pressure tank capacity, 30,000 c. f.

Holder pressure, max., 8 in.

Maximum day's send out, 45,000 c. f.

Miles of mains, approx., 20.

Street main pressures, max., 8 in.; min., 7 in.

Booster mains, 20 miles.

Annual sales, approx., 18,000,000 c. f.

Gas unaccounted for, 18 p. c.

Pop. dist. supplied, 6,000 (est.); of city, 4,348 (1910).

Consumers and meters, 750.

Price gas: Light and Fuel, gross, \$1.25.

No. public Humphrey incand. gas lamps, 65.

Contract includes repairs, care, lighting and extinguishing.

No. gas ranges in use, 410; heaters, 250; water heaters, 200.

No. commercial gas arc lamps, 65.

Supplies Santa Clara.

ELECTRICAL DEPARTMENT.

(Operated as Santa Clara Municipal Electric Light Works.)

Arc system, A. C.

No. public arcs, 80; 460 watt; price per year, \$24.

Price, commercial, per kw. hr., gross, 9c. Discount, scale to 4c.

Price power current, per kw. hr., 7c to 2c.

Current purchased from Pacific Gas and Electric Co.

Coast Counties Gas and Electric Co., Santa Cruz.

RRs.: So. Pac.; Ocean Sh.; P. C. S. S. Ex.: W. F.

(Successor to Coast Counties Light & Power Co. For capitalization and officers, see "Appendix.")

Gen. manager, S. W. Coleman.

Dist. manager, R. L. Cardiff.

Process manufacture, Lowe (crude oil).

Price oil per bbl., delivered, 97c.

Annual production, 51,800,000 c. f.

Candle-power, 18. Calorific value, 600 B.t.u.

Total gas holder capacity, 106,000 c. f.

Max. day's send out, 240,000 c. f.

Miles of mains, approx., 37 (incl. high press.).

Street main pressures: max., 5 in.; min., 4 in.

High pressures, 5 to 10 lbs.

Annual sales, approx., 40,500,000 c. f.

Gas unaccounted for 22 p. c.

Pop. of city, 12,000; dist. supplied, 9,000.

No. consumers, 1,700.

No. meters, reg. and prepay., 1,820.

Price gas: Light and Fuel, 1st 2,000 c. f.,

\$1.50, net \$1; 21,000-25,000 c. f., gross

\$1.10, net \$1; over 25,000 c. f., 90c.-80c.

Min. mo. chg. per meter, 60c.-50c.

Gas appliances in use: Ranges, 716; heaters, 364; water heaters, 461.

Supplies Santa Cruz.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand., A. C., 2 phase, 60 cycle.

Voltage: Incand., 110; power, 110-220-2,300.

City lighting contract: Hours lighted per year, 4,000.

No. public arcs, 144.

No. public incand., 630; 16 c. p.

Commercial lighting: No. arcs, 20; No. incand., 31,000.

Price current per kw. hr., gross: First 200

kw., 7c.; next 200 kw., gross 7c., net 6c.;

next 200 kw., 6c.-5c.; over 600 kw., 5c.-4c.

Min. chg., \$1.

Power price per kw. hr., 5c. to 1.5c.

Output of station, kw. for year, 2,740,000.

System fed from transmission line.

Generating power: Hydro and Steam; rated 3,000 kw. Also connections for purchase of 5,000 kw.

Southern Counties Gas Co., Santa Monica.

(Natural gas supplied in 1917.)

Pacific Gas and Electric Co., Santa Rosa Dist.

RRs.: No. W. Pac.; Pet. & S. R. So. Pac. Ex.: W. F.

(For detailed information, see Pacific Gas & Electric Co., under "Appendix.")

Vice-president and gen. mgr., John A. Britton.

Secretary, D. H. Foote.

Treasurer, A. F. Hockenbeamer.

Purchasing agent, J. H. Hunt.

District manager, M. G. Hall.

Chief engineer, E. C. Jones.

Process manufacture, Oil gas (Jones).

Calorific value, 611 B.t.u.

Annual production, 97,011,000 c. f.

Gas holder capacity, 133,000 c. f.

WASH OIL PUMPS

High Efficiency



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

Max. day's send out, 320,000 c. f.
 Low pressure mains, 23.9 miles; press., max.,
 8 in.; min., 5 in.
 High pressure mains, miles, 12.58.
 High pressure, max., 25; min., 10 lbs.
 Trans. mains, 11 miles; pressure, max., 25;
 min., 10 lbs.
 Annual sales, approx., 39,618,100 c. f.
 Gas unaccounted for, 18.9 p. c.
 Pop. cities: San Rosa, 11,000; Sebastopol,
 1,950.
 No. consumers, 2,180.
 No. meters, 2,189.
 Price gas: Light and Fuel, \$1.50 to \$1.
 No. commercial gas arc lamps, 3.
 Supplies Santa Rosa, Sebastopol and Petaluma.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycle, 3 phase, 115 and 230
 volts.
 City lighting: No. public incand., 92.
 Commercial lighting: No. incand., 36,777.
 Price current per kw. hr., residence lighting,
 8c. to 5c.; commercial lighting, 6c. to 3c.
 Power circuits: Price current per kw. hr.,
 4c. to .65c.
 Generating power used, Water and Steam,
 rated h. p. 270.643 (System).

Union Gas & Electric Co., Sausalito.

(Plant under construction.)
 General office, Monadnock bldg., San Francisco, Cal.

San Joaquin Light and Power Corporation, Selma.

RRs.: So. Pac. Ex.: W. F.
 (For capitalization, see Appendix.)
 Manager, A. G. Wishon.
 Supt., E. A. Quinn.
 Pur. agent, J. H. Newlin.
 Process manufacture, Lowe (crude oil).
 Calorific value, 600 B. t. u.
 Gas holder capacity, 40,000 c. f.
 Miles of mains, approx., 9.85; press., 5 in.
 Annual sales, approx., 7,863,000 c. f.
 Gas unaccounted for, 8.5 p. c.
 Pop. city supplied, 2,500.
 No. consumers and meters, 378.
 Supplies Selma.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 No. public arcs, 10; price per year, \$66.
 No. public incand., 48; price per year, \$30.
 Power from General System.

Southern Counties Gas Company of California, Sierra Madre.

(See report under Monrovia, in Artificial Gas Department.)

Western States Gas and Electric Co., Stockton.

RRs.: A., T. & S. F.; So. Pac.; W. Pac.
 S. Bs.: Cal. Nav. & Imp.; U. Trans. Ex.:
 W. F.; Globe.

(Controlled by Standard Gas & Electric Co.,
 both companies being under the manage-
 ment of H. M. Byllesby & Co., Chicago.)
 (For capitalization and officers, see "Appendix.")

Vice-president and gen. mgr., Samuel Kahn.
 Asst. mgr., B. F. Wellington, Jr.
 Auditor, B. B. Stith.
 Purchasing agent, Samuel Kahn.
 New business manager, H. Batchelder.
 Superintendent of manufacture, J. E. Kelley.
 Superintendent of dis., D. E. Widdersheim.
 Process manufacture, Oil (also natural gas).
 Annual production: Oil gas, 149,000,000 c. f.;
 natural gas, 179,000,000 c. f. (incl. 8,501,
 000 c. f. purchased).
 Candle-power, 18; calorific val., 641 B. t. u.
 Gas holder capacity, 990,000 c. f.
 Holder pressure, 7.5 in.
 Maximum day's send out, 1,485,800 c. f.
 Miles of mains, approx., 125.
 Street main pressures, avg., 4.5 in.
 Annual sales, approx., 289,800,000 c. f.
 Gas unaccounted for, 12.3 p. c.
 Pop. of city, 23,253 (1910); dist. sup., 43,000.
 No. consumers, 8,953.
 No. meters, reg., 8,617; prepay., 336.
 Price gas: Light and Fuel, basic rates, net,
 95c. to 50c. Min. bill, 50c.
 Ranges in use, 5,531; heaters, 6,322; water
 heaters, 3,686; hot plates, 3,786; other ap-
 pliances, 554.
 No. commercial gas arc lamps, 221.
 Supplies Stockton.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: Arc and incand., A. C.; power, A. C.
 and D. C., single, 2 and 3 phase.
 Generating capacity, 6,750 kw.
 Voltage: Incand., 118; power, 220 and 440.
 Line, 2,300; arcs in series; 500 D. C.
 City lighting contract: Hours lighted, all
 night, every night. (5 yrs. beginning Jan.
 1, 1915.)
 No. public arcs, 699; 600 c. p. nitrogen filled
 Tungsten; price per year, \$56.75 avg.
 No. public incand., 158 (electroliers), 220 watt;
 price per year, \$34.44 avg.; and 57 single-
 light (100 watt), \$27 and \$15 per year.
 Commercial lighting: No. arcs, 70; No. incand.,
 162,981.
 Price per kw. hr., basic rates, net, light, 5.85c.
 to 2.25c.
 Other lamps, 17,498 lamps in signs; 176 5-light
 electroliers.
 Power circuits: Motors, 2,299; 21,589 h. p.
 Price current per kw. hr., basic rates, net
 4.5c. to 1.5c.
 Also 414 fan motors; 3,092 flatirons and ap-
 pliances; 10,587 consumers.
 Output of station, kw. hrs., total purch. and
 generated, approx., 49,350,927.
 Generating power used, Water; rated 4,500
 kw.; and Steam, 2,250 kw.

Turlock Gas Co., Turlock.

RR.: So. Pac. Ex.: W. F.

Controlled by MacGillivray & Caldwell, Los
 Angeles, Cal.
 Capital stock, auth., \$75,000; issued, \$50,000.
 Annual dividend, 7 p. c.
 President, A. A. Caldwell.

HAMMON PIPE COUPLERS insure tight lines, reduce costs of pipe
 laying and decrease the difficulties in making changes.

THE HAMMON COUPLER COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Secretary, E. P. Mains.
Treasurer, E. P. Mains.
Pur. agent, W. E. Keith.
General manager, A. A. Caldwell.
Superintendent, F. M. Hunter.
Process manufacture: Oil (Beal's).
Price oil per gal., del'd, 1.5c.
Candle-power, 18.
Calorific value, 600 B. t. u.
Annual production, 13,000,000 c. f.
Gas holder capacity, 30,000 c. f.
Holder pressure, 5.8 in.
Max. day's send out, 40,000 c. f.
Miles of mains, approx., 15.
Street main pressures, max., 6 in.; min., 4 in.
Annual sales, approx., 13,000,000 c. f.
Pop. of city, 1,573 (1910); now est., 4,000.
No. consumers, 600.
No. meters, reg., 550; prepay., 50.
Price gas: Light and Fuel, gross, \$1.75; net, \$1.50.
Gas appliances in use: Ranges, 500; heaters, 30; water heaters, 350.
No. commercial gas arc lamps in use, 125.
Supplies Turlock.

Ukiah Gas Co., Ukiah.

RR.: No. W. Pac. Ex.: W. F.

General office, 718 Mission St., San Francisco, Cal.
Capital stock auth., \$75,000; issued, \$70,000.
President, W. F. Boardman.
Sec'y and treas., Geo. H. Eckert.
Pur. agent, Geo. H. Eckert.
Gen. mgr., Geo. H. Eckert.
New bus. mgr. Harry C. Giles.
Superintendent, Harry C. Giles.
Process manufacture, Oil gas (Beal's).
Price of oil per gal., delivered, 3.5c.
Candle-power, 18; calorific value, 600 B. t. u.
Gas holder capacity, 20,000 c. f.
Max. day's send out, 30,000 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 3.5 in.; min., 2.5 in.
Annual sales, approx., 7,000,000 c. f.
Gas unaccounted for, 3 p. c.
Pop. of city, 2,136; dist. supplied, approx., 1,710.
No. consumers and meters, 406.
Price gas: Light and fuel, net, \$1.50.
Ranges in use, 350; heaters, 85; water heaters, 75.
Supplies Ukiah.

Pacific Gas and Electric Co., Vallejo Dist.

RR.: So. Pac. S. Bs.: Mont. S. S.; S. F. Val & Mare Isl. Line; So. Pac. S. S. Ex.: W. F.

(For detailed financial information, see Pacific Gas and Electric Co., under "Appendix.")

Vice-president and gen. mgr., John A. Britton.
Secretary, D. H. Foote.
Treasurer, A. F. Hockenbeamer.
Purchasing agent, J. H. Hunt.
Chief engineer, E. C. Jones.
District manager, A. J. Stephens.

Process manufacture, Oil gas (Jones).
Calorific value, 606 B.t.u.
Annual production, \$1,921,200 c. f.
Gas holders capacity, 171,000 c. f.
Max. day's send out, 310,200 c. f.
Miles of mains, low press., 30.49.
Street main pressures, max., 6 in.
High pressure mains, 4.41 miles.
Pressure, max., 3 lbs.; min., 2.5 lbs.
Annual sales, approx., 71,115,300 c. f.
Gas unaccounted for, 12.1 p. c.
Pop. city supplied, 15,500.
Consumers, 2,760. Meters, 2,770.
Price gas: Light and Fuel, \$1.50 to 80c.
No. commercial gas arc lamps, 370.
Supplies Vallejo.

Central California Gas Co., Visalia.

RRs.: So. Pac.; A., T. & S. F. Ex.: W. F.

Company in hands of receiver.
Receiver, S. Mitchell.
Secretary, E. C. Hall.
Treasurer, J. C. Wheeler, Jr.
Manager, William Anson White.
New bus. mgr. Henry M. Kuhn.
Process manufacture, Lowe (crude oil).
Price of oil per bbl., delivered, 68c.
Candle-power, 18.
Calorific value, 600 B. t. u.
Annual production, 90,000,000 c. f.
Gas holder capacity, 70,000 c. f.
Max. day's send out, 600,000 c. f.
Transmission mains, approx., 40 miles.
Street main pressures, max., 3 in.; min., 1 in.
High pressure mains, miles, 45; pressure, 20 to 60 lbs.
Annual sales, approx., 80,000,000 c. f.
Gas unaccounted for, 12 p. c.
Population of cities: Visalia, 4,550; Tulare, 2,758; Lindsay, 1,814; Porterville, 2,696 (1910), and Exeter, est., 2,000.
Population dist. supplied, 25,000.
No. consumers, 3,100.
No. meters, reg., 2,800; prepay., 300.
Price gas: Light and Fuel, 1st 1 M., \$1.75 gross, disc., 25c.; 2d 1 M., \$1.50, disc. 25c.; 3d 1 M., \$1.40, disc., 25c.; 4th 1 M., \$1.20, disc. 20c.; 5th to and incl. 10th M., \$1 net; 11th to 20th 1 M., 90c. net; 21st to 40th 1 M., 80c. net; 41st to 60th 1 M., 70c. net; each 1 M. c. f. in excess of 60 M., 50c. net. Min. charge, \$1.
Gas appliances in use: Ranges, 2,800; heaters, 1,000; water heaters, 850.
No. commercial gas arc lamps in use, 268.
Supplies Visalia, Tulare, Porterville, Exeter, Lindsay and Strathmore.

Coast Counties Gas and Electric Co., Watsonville.

RRs.: So. Pac.; Pajaro Val. Cons. Ex.: W. F.

(Successor to Watsonville Light & Power Co.)

(For capitalization and officers, see "Appendix.")

Superintendent, O. A. Brugler.
Process manufacture, Lowe (crude oil).
Price of oil per bbl., delivered, \$1.11.



Tycos Temperature Instruments for Gas Works

H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Candle-power, 18. Calorific value, 600 B.t.u.
 Annual production, 24,700,000 c. f.
 Gas holder capacity, 46,000 c. f.
 Max. day's send out, 86,600 c. f.
 Miles of mains, approx., 20.
 Street main pressures, avg. 5 in. High pressure, 10 lbs.
 Annual sales, approx., 21,000,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. city supplied, 4,446.
 No. consumers, 993.
 No. meters, 1,007.
 Price gas: Light and Fuel, 1st 2,000 c. f., \$1.40 net, \$1.50 gross; 2,100-25,000 c. f., \$1.10-\$1.00; over 25,000 c. f., 90c.-80c.
 Ranges in use, 376; heaters, 216; water heaters, 306.
 Supplies Watsonville.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System fed from transmission line.
 System operated: A. C., 2 phase, 60 cycle.
 Voltage: Incand., 110; power, 110-220-2,300.
 No. public incand., 301; lighted, 2,190 hours.
 Price incand.; Public, per year, \$7.50.
 Price incand., Com'l, per kw. hr.: First 200 kw., 7.5c.; next 200 kw., gross 7c., net 6c.; next 200 kw., 6c.-5c.; over 600 kw., 5c.-4c.
 Min. charge, \$1.
 Power price per kw. hr., 5c. to 1.5c.
 Output of substation, kw. for year, 2,100,000.
 Supplies Watsonville and adjacent territory.

Southern Counties Gas Co. of California, Whittier.

RR.: So. Pac. Ex.: W. F.

Principal office, Los Angeles, Cal.
 (For capitalization and officers, see "Appendix.")
 General manager, F. R. Bain.
 Supt. of operation, F. S. Wade.
 District agent, W. G. Rich.
 Oil gas process.
 Oil per bbl., delivered, 80c.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 60,000 c. f.
 Max. day's send out, 125,000 c. f.
 Miles of mains, approx., 19.
 Street main pressures, max., 12 in.; min., 3 in.
 Annual sales, approx., 33,576,000 c. f.
 Gas unaccounted for, 10 p. c.
 Population supplied, 6,050; of Whittier, 6,500.
 No. consumers and meters, 1,437.
 Price gas all purposes, \$1.20.
 Supplies Whittier.
 (Company is reserving artificial gas plant in operating condition, but natural gas was supplied in 1917.)

Northern California Power Co., Consolidated, Willows.

RR.: So. Pac. Ex.: W. F.

(For financial and officers, see "Appendix.")
 General manager, Edward Whaley.
 Process manufacture, Oil (Jones).
 Candle-power, 18.
 Gas holder capacity, 20,000 c. f.

Compression tanks capacity, 10,000 c. f.
 Max. day's send out, 25,000 c. f.
 High pressure mains, miles, 9; pressure, 3 lbs.
 Annual sales, approx., 9,713,400 c. f.
 Pop. city, 1,139; dist. supplied, 2,500.
 No. consumers, 447.
 No. meters, reg. and prepay., 447.
 Price gas: Light and fuel (see Red Bluff).
 Ranges in use, 300; heaters, 100; water heaters, 150.
 No. commercial gas arc lamps, 32.
 Supplies Willows.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Voltage: Incand., 110; power, 110-220.
 City lighting contract: Hours lighted per year: Arc and incand., all night.
 No. public arcs, 44; 6 amp.; price per year, \$72. Incand., 8; 60 watt; price per year, \$6.
 Commercial lighting: Price current per kw. hr., gross, 7c. to 3c. Dom. cooking and heating, 3c. to 1.5c.
 Power circuits: Price current per kw. hr.: Yearly rate, \$1 per mo. plus energy charge, 1.5c. to 0.75c. per kw. hr.
 No. motors, 95.
 Generating power used, Water.

Pacific Gas and Electric Co. (Yolo District), Woodland.

RR.: So. Pac. Ex.: W. F.

(For detailed financial information, see Appendix.)

Vice-pres. and genl. mgr., John A. Britton.
 Secretary, D. H. Foote.
 Treasurer, A. F. Hockenbeamer.
 Purchasing agent, J. H. Hunt.
 Chief engineer, E. C. Jones.
 District manager, J. W. Coons.
 Process manuf., Oil gas (Jones).
 Calorific value, 581 B.t.u.
 Annual production, 26,603,400 c. f.
 Gas holder capacity, 28,000 c. f.
 Maximum day's send out, 89,390 c. f.
 Miles of mains, low pressure, 17.35.
 Street main pressures, max., 6 in.
 Annual sales, approx., 22,569,200 c. f.
 Gas unaccounted for, 13.9 p. c.
 Pop. city, 5,000.
 No. consumers, 1,006. No. meters, 1,045.
 Price gas: Light and Fuel, \$1.50 to 80c.
 Supplies Woodland.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycle 3 phase, 115 and 230 volts.
 City lighting contract: Hours lighted per year: All night schedule.
 No. public electroliers, 8.
 No. public incand., 244.
 Commercial lighting: No. incand., 19,027.
 Price current per kw. hr., residence lighting, 8c. to 5c.; commercial lighting, 6c. to 3c.
 Power circuits: Price current per kw. hr., 4c. to .65c.
 Generating power used, Water and Steam, rated 270,643 h. p. (System).

RELIABLE

"ANGLIRON"

RANGES

So readily apparent are the many desirable features of "RELIABLE 'ANGLIRON'" ranges and so strongly do they appeal to the most exacting that sales are effected with least effort. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

COLORADO

Total population, 975,190.

Federal Gas Co., Boulder.

RRs.: Colo. & N. W.; Colo. & Co.; U. P.
Ex.: Pac.; W. F.

Capital stock, auth., \$100,000; issued, \$80,400.
Bonds, \$64,500; due 1924; int., 5 p. c.
President, Jonas Bergheim.
Secretary, H. B. McClure.
Treasurer, H. B. McClure.
Engineer, E. E. Robinson.
Mgr. and pur. agent, H. B. McClure.
Supt. and new bus. mgr., H. B. McClure.
Process manufacture, Lowe.
Price coke per ton, delivered, \$7.60; oil per gallon, 6c. to 7.5c.
Calorific value, 630 B. t. u.
Annual production, 60,000,000 c. f.
Gas holder capacity, 140,000 c. f.; pressure (max.), 4.3 in.
Max. day's send out, 200,000 c. f.
Street mains, approximate, 23.5 miles. Pressure, max., 4.3 in.; min., 4 in.
Annual sales, approximate, 55,000,000 c. f.
Gas unaccounted for, 15 p. c.
Population of city, 9,539 (1910); now est., 12,000.
No. consumers, 1,500.
No. meters, reg., 1,350; prepay., 150.
Price gas: Light and Fuel, \$1.10; net, \$1, first 10,000 c. f.; next 10,000 c. f., 90c.; 80c.; next 10,000 c. f., 80c.-70c.; over 30,000 c. f., 70c.-60c.; min. mo. rate, 50c.
Supplies Boulder.

Canon Gas Co., Canon City.

RRs.: A., T. & S. F.; Den. & Rio G.; Flo. & C. C. Ex.: W. F.; Glo.
Capital stock, \$75,000.
Bonds, \$15,000; due 1922; int., 6 p. c.
President, H. A. Black.
Treasurer, H. A. Black.
Secretary, H. A. Black.
Gen'l mgr. and pur. agt., F. B. Sweeney.
Superintendent, E. J. Bunn.
Process manufacture, Lowe.
Price coke per ton, delivered, \$4.25; oil, gal., 6.5c.
Candle-power, 22.
Annual production, 8,000,000 c. f.
Total gas holders capacity, 30,000 c. f.
Holder pressure, max., 3.2 in.
Maximum day's send out, 35,000 c. f.
Miles of mains, approx., 7.7.
Street main pressure, max., 3.6 in.; min., 3.2 in.
Annual sales, approx., 8,000,000 c. f.
Gas unaccounted for, 3 p. c.
Pop. of dist. supplied, 6,000; of city, 5,162.
No. consumers, 621.
No. meters, reg., 546; prepay., 75.
Price gas: Light, gross, \$2; net, \$1.90. Fuel, gross, \$1.35; net, \$1.25.

Ranges in use, 532; heaters, 195; water heaters, 95.
No. commercial gas arc lamps, 15.
Supplies Canon City.

Colorado Springs Light, Heat and Power Co., Colorado Springs.

RRs.: A., T. & S. F.; Colo. Mid.; C., R. I. & P.; Den. & Rio G.; Colo. & So.; Colo. S. & C. C. Dist. Ry.; Mid. Term. Ex.: W. F.; Pac.

Controlled by United Gas & Elec. Co. of N. J., New York City.
(For capitalization and bonds, see Appendix.)
President, George Bullock.
First vice-president, R. L. Holland.
Second vice-pres., Geo. B. Tripp.
Secretary and treasurer, J. W. Ryter.
Asst. sec. and asst. treas., J. A. McKenna.
General manager, J. F. Dostal.
Process manufacture, Coal and Lowe.
Candle-power, 18.
Calorific value, 600 B. t. u.
Annual production: Coal gas, 109,916,000 c. f.; water gas, 13,563,000 c. f.
Total gas holder capacity, 365,000 c. f.
Max. day's send out, 330,000 c. f.
Miles of mains, approx., 60.3.
Street main pressures, max., 4 in.; min., 2.2.
Annual sales, approx., 97,885,000 c. f.
Gas unaccounted for, 12.5 p. c.
Pop. of dist. supplied 42,324; of city, 29,078.
No. meters, reg. and prepay., 4,260.
Price gas: Light, gross, \$1.35; net, \$1.25 to 75c.

Ranges in use, 4,234; water heaters, 1,788.
No. commercial gas arc lamps, 251.
Supplies Colorado Springs and Manitou.

ELECTRICAL DEPARTMENT.

System: A. C., 3 phase, 60 cycle.
Generating capacity: 7,975 kw.
Voltage: At arc, 74; incand., 110; power, 220.
No. public arcs, 303; 500 watts.
Commercial lighting: No. arcs, 25; No. incand., 144,135.
Price current per kw. hr., res. ltg., 9.5c. gross; 8.5c. net; commercial, 8.5c. to 3c. Wholesale lt. and power, demand chg. plus 1c. per kw. hr.
Power circuits: No. motors, 595; price per kw. hr., 5.4c. to 1c.
Electricity used also for commercial power.
Output of station, kw. per. year, 22,907,131.
Generating power used, Steam and Water; rated, 7,975 kw. (boiler and water wheels).

Superior Drop-Forgings
of "Grand Prize" Calibre



Denver Gas and Electric Light Co., Denver.

RRs.: A., T. & S. F.; C., B. & Q.; C., R. I. & P.; Colo. Mid.; Den., No. W. & P.; Den. & Rio G.; Mid. Term.; Inter-M.; Colo. & So.; U. P. Ex.: W. F.; U. S.; Ad.; Pac.; Glo.

Operated by Doherty Organization, New York City.

(For capitalization and bonds, see Appendix.)

Chairman, Henry L. Doherty.

President, Frank W. Frueauff.

Vice-pres. and gen. mgr., W. J. Barker.

Secretary and bus. mgr., C. N. Stannard.

Treasurer, H. T. Hughes.

Process manufacture, Coal and Lowe.

Mixture of 66 2/3 p. c. coal and 33 1/3 p. c. water.

Price coal per ton, delivered, \$4.12.

Price oil per gal., 6c.

Candle-power, 18.

Calorific value, 602 B. t. u.

Total gas holders capacity, 1,570,000 c. f.

Max. day's send out, 4,585,300 c. f.

Miles of mains, 375.6.

Street main pressures, max., 15 in.; min., 2.5 in.

Annual sales, 1,374,752,000 c. f.

Gas unaccounted for, 11.8 p. c.

Pop. of city supplied, 234,000.

No. consumers, 44,730. No. meters, 44,995.

Price gas: Light and Fuel, gross, 90c.; net, 80 c., and Doherty schedule.

Ranges in use, 35,423; heaters, 16,991; water heaters, 8,182.

Supplies Denver and suburbs.

ELECTRICAL DEPARTMENT.

System operated: Arc, series D. C.; incand., 3 wire, single phase, 60 cycle; power, D. C., 3-phase, 60 cycle.

Generating capacity: 16,500 kw.

Purchased power capacity, 15,000 kw.

Voltage: Arcs, 80; incand., 110; power, 220-440.

City lighting contract: Hours lighted per year: Arc, 3,780; incand., 3,780.

No. public arcs, 2,335. Price per year, \$60.

No. public incand., 1,524. Price per year, \$28.

Commercial lighting: Connected load, 44,727.

Price current per kw. hr., gross, 10c. Discounts, 1 c. per kw.

Power circuits, 24,863 kw.

Price current per kw. hr., Doherty rate.

Sales, kw. hr. for year, 51,142,516.

Generating power used, Steam.

Also purchases power from Central Colorado Power Co.

Cost of station boiler coal, per ton, \$2.24.

Poudre Valley Gas Co., Fort Collins.

RR.: Colo. & So.; Un. Pac. Ex.: Adams; Am.

Capital stock, \$75,000.

President, B. F. Hottel.

Secretary, Fred. W. Stover.

Treasurer, Fred. W. Stover.

Gen'l mgr. and pur. agent, A. B. McKibbin.

Superintendent, George Grill.

New bus. mgr., A. B. McKibbin.

Process manufacture, Lowe (Peter English).

Price coal per ton, delivered, \$4.88.

Price oil per gal., delivered, 7.5c.

Candle-power, 18.

Calorific value, 575 B. t. u.

Annual production, 22,203,900 c. f.

Gas holder capacity, 105,000 c. f.

Holder pressure, max., 4.5 in.

Max. day's send out, 108,100 c. f.

Miles of mains, approx., 16.

Street main pressures, max., 4.5 in.; min., 3.5 in.

Annual sales, approx., 22,203,900 c. f.

Pop. dist. supplied, 8,000; of city, 10,000 (1917).

No. consumers, 1,105.

No. meters, reg., 789; prepay., 316.

Price gas: Light, \$1.50; Fuel, \$1. (Petition for increase pending.)

Ranges in use, 612; heaters, 116; water heaters, 250.

No. commercial gas arc lamps, 125.

Supplies Fort Collins.

Grand Junction Electric Gas and Mfg. Co., Grand Junction.

RRs.: Colo. Mid.; Den. & Rio G. Ex.: W. F.; Ad.

Controlled by the Grand River Valley Ry. Co. General office, Colorado Springs, Colo.

Capital stock, \$250,000.

Bonds, \$250,000; due 1927; int., 5 p. c.

President, A. E. Carlton.

Secretary and treas., Charles L. Tutt.

Gen'l mgr. and pur. agt., J. Stewart.

Engineer, R. E. Breed.

Supt. and new bus. mgr., A. C. Foster.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.45.

Candle-power, 16.

Calorific value, 650 B. t. u.

Annual production, 15,400,000 c. f.

By-products made: Tar, 15,000 gals.

Gas holder capacity, 40,000 c. f.

Holder pressure, max., 3 in.

Max. day's send out, 75,000 c. f.

Miles of mains, 11.

Street main pressures, max., 3 in.; min., 3 in.

High pressure mains, 18 miles.

Annual sales, approx., 13,000,000 c. f.

Gas unaccounted for, 16.1 p. c.

Pop. city, 8,000; dist. supplied, 7,500.

No. consumers and meters, 798.

Price gas: Light and Fuel, gross, \$1.25; disc., 5 p. c.

Ranges in use, 700; heaters, 142; water heaters, 135.

No. commercial gas arc lamps, 209.

Supplies Grand Junction.

ELECTRICAL DEPARTMENT.

Operated under same name as gas company.

Capital apportioned to electric plant, \$152,250.

System operated: Arc, A. C. series, single phase; incand., A. C., single phase; power, A. C., 3 phase and single phase.

Generating capacity: Lighting and power, 800 kw.

Voltage: Arcs, 40; incand., 110-220; power, 110-220-440.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

City lighting contract: Arcs lighted, 3,832 hours.
No. public arcs, 100: 475 watts: price per year, \$78.
No. public incand., 18: 100 watt: price on meter basis.
Commercial lighting: No. incand., 12,800.
Price current per kw. hr., gross, 12.5c. Disc., 5 p. c., 7 days.
Power circuits: No. motors, 100; price per kw. hr., 10c. to 2c.; disc., 5 p. c.
Power used also for Interurban Electric Ry.
Output of station, kw. for year, 1,748,855.
Generating power used. Steam and Water; rated h. p. 1,360.
Cost of station boiler coal, per ton, \$2.

Greeley Gas and Fuel Co., Greeley.

RRs.: Colo. & So.; U. P.; Denver, Lar. & No. W.; Ex.: Ad.; Am.
Capital stock, com., auth., \$300,000; issued, \$203,200; pref. auth., \$100,000.
Bonds, \$77,000; due 1925; int., 6 p. c.
President, Chas. F. Tew.
Secretary, Paul E. Darrow.
Treasurer and pur. agt., Paul E. Darrow.
General manager, Paul E. Darrow.
Supt. and engineer, Fred H. Ripley.
New bus. mgr., Paul E. Darrow.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.15.
Annual production, 33,204,400 c. f.
By-products made: Coke, 2,110 tons; tar, 30,000 gals.
Calorific value, 639 B. t. u.
Total gas holders capacity, 140,000 c. f.
Holder pressure, 6 in.
Max. day's send out, 125,000 c. f.
Miles of mains, approx., 23.09.
Street main pressures, max., 6 in.; min., 3 in.
High pressure mains, 10.21 miles; pressure, 15 lbs.
Annual sales, approx., 30,028,400 c. f.
Gas unaccounted for, 9.57 p. c.
By-products sold: Coke, 1,246 tons; tar, 28,781 gals.
Pop. dist. supplied, 8,179; of city, same.
No. consumers, 1,453.
No. meters, reg., 1,258; prepay., 201.
Price gas: Light and Fuel: 1st 2,000 c. f. used through one meter during one month, \$1.50 gross; next 3,000, \$1.40; next 15,000, \$1.30; next 30,000, \$1.20; next 50,000, \$1.10; all over 100,000 c. f., \$1. Discount, 10c., 10 days, min., 50c.
Ranges in use, 732; heaters, 269; water heaters, 373.
No. commercial gas arc lamps, 493.
Supplies Greeley.

Otero Gas Co., La Junta.

RRs.: A. T. & S. F. Ex.: W. F. & Co.
Capital stock, \$100,000.
Bonds, \$60,000; due 1930; int., 6 p. c.
President, J. T. Updike.

Sec'y and treas., R. Phillips.
Pur. agent and gen'l manager, J. T. Updike.
Engineer, C. C. Durkee.
Process manufacture, Lowe (Beal's crude oil). Coal gas plant in 1917.
Price of coal per ton, delivered, \$3.25.
Price oil per gallon, delivered, 6c.
Candle-power, 18.
Calorific value, 650 B. t. u.
Annual prod., oil-gas, 9,203,000 c. f.
Gas holder capacity, 30,000 c. f.; pressure max., 4.4 in.
Max. day's send out, 50,000 c. f.
Street mains, approx., 9.5 miles; pressure, max., 4.4 in.; min., 3 in.
High pressure mains, 11.3 miles; pressure, 2 lbs.
Booster mains, 11 miles; pressure, 15 lbs.
Annual sales, approx., 9,203,000 c. f.
Population of cities, 12,000; dist. supplied, 14,000.
No. consumers, 665.
No. meters, reg., 634; prepay., 31.
Price gas: Light and Fuel, gross, \$1.60; net, \$1.40.
No. ranges, 600; heaters, 100; water heaters, 100.
Supplies La Junta, Swink and Rocky Ford.

The Colorado Fuel and Iron Co., Pueblo.

RRs.: D. & Rio G.; Colo. & So.
Main office, Denver, Colo.
Plant, The Minnequa Works, Pueblo, Colo.
President, J. F. Welborn.
Sec'y and treas., J. A. Writer.
Vice-pres. and gen'l mgr., J. B. McKennan.
Vice-pres. and sales mgr., J. Chilberg.
Vice-pres. and pur. agent, S. G. Pierson.
Manager, F. E. Parks.
Superintendent, H. B. Carpenter.
Chief engineer, W. E. Berg.
120 Koppers ovens: Length, 37 ft.; width, 18¼ in.; height, 9 ft. 10 in. (under construction).
Coal charged per oven, 12¼ net tons; coke yield, 70 p. c.
Furnace and breeze coke made; entire product used for blast furnace.
Time required for coking, 18 hours.
100 p. c. high volatile coal used.
Proportion of gas used for heating ovens, 45 p. c.; sold for industrial use, 55 p. c.; none sold for city use.
High pressure mains, 2 miles.
Calorific value, gas, 500 B. t. u.
By-products, est.: Gas, 8,000,000 c. f.; sold by company, 4,400,000 c. f.; tar, 4,380,000 gals. (all sold); ammonia sulphate, 15,381,100 lbs. (all sold); pure benzol, 900,000 gals. (all sold); pure toluol, 300,000 gals. (all sold); solvent naphtha, 198,000

The GOODMAN STOPPER made its first friend in 1897 and has been gaining friends ever since.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

gals. (all sold); naphthalene, 100,000 lbs. (all sold); blast furnace coke, \$95,000 tons (sold).

Surplus gas used in plant of Colorado Fuel and Iron Co., mill heating.

The Pueblo Gas and Fuel Co., Pueblo.

RRs.: A., T. & S. F.; C., R. I. & P.; Den. & Rio G.; Mo. Pac.; Colo. & So.; Colo-Kan.; W. Pac.; Ex.: Glo.; Ad.; U. S.; Pac.; W. F.

Operated by Doherty Organization, New York City.

Capital stock, \$300,000.

Bonds, \$106,000; due 1928; int., 5 p. c.

President, Henry L. Doherty.

Vice-president, F. W. Frueauff.

Secretary, E. R. Waite.

General manager, Jas. M. Daily.

Treas. and pur. agent, Jas. M. Daily.

Asst. sec'y, E. E. McWhiney.

Asst. treas., T. A. Wallace.

Process manufacture, Coal and Lowe.

Mixture, 90 p. c. coal and 10 p. c. water.

Price coal per ton, delivered, \$2.84.

Price of oil per gal., 6.2c.

Max. day's send out, 447,000 c. f.

Candle-power, 16; calorific value, 545 B. t. u.

Total gas holders capacity, 150,000 c. f.

Miles of mains, approx., 100.

Street main pressures, max., 4 in.; min., 2 in.

Annual sales, 112,935,600 c. f.

Gas unaccounted for, 17.4 p. c.

Pop. dist. supplied, 51,000; city, 44,395 (1910).

No. consumers, 3,909.

No. meters, 4,429.

Price gas: Light, \$1.20. Doherty schedule.

Ranges in use, 5.107; heaters, 1.605; water heaters, 1.352.

Supplies Pueblo and Bessemer.

Trinidad Electric Transmission Railway and Gas Co., Trinidad.

RRs.: A., T. & S. F.; Colo. & Wyo.; Den. & Rio. G.; Colo. & So.; Trin. El. Ex.: W. F.; Glo.

(Successor to Colorado Railway, Light & Power Co. Controlled by Federal Light & Traction Co.)

President, E. N. Sanderson.

General manager, W. P. Southard.

Process manufacture, Coal.

Candle-power, 20.

Gas holder capacity, 37,500 c. f.

Max. day's send out, 76,000 c. f.

Miles of mains, approx., 11.

Street main pressures, average 2.8 in.

Annual sales, approx., 17,000,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. city, 10,204 (1910); of dist. supplied, 13,700.

No. of consumers and meters, 710.

No. commercial gas arc lamps, 31.

Supplies Trinidad.

ELECTRICAL DEPARTMENT.

System operated: A. C. and D. C.; 3 phase, 60 cycle.

Generating capacity, 16,250 kw.

Voltage: Arcs, 50; incand., 110; power, 440-220-110; D. C., 550; H. P., 44,000-22,000-6,600.

City lighting contract: Hours lighted, inc., all night.

No. public incand., 803.

Generating power, Steam.

Output of station, kw. hrs., total for year, 31,531,000.

H. P. transmission lines serving power to mines within radius of 50 miles from Trinidad.

CONNECTICUT

Total population, 1,254,926.

Bridgeport Gas Light Co., Bridgeport.

RR.: N. Y., N. H. & H. S. Bs.: B. & P. J. S. B.; N. E. Nav. Ex.: Ad.

(For capitalization and bonds, see Appendix.)

President, De Ver H. Warner.

Vice-president, F. M. Travis.

Secretary, Ralph I. Munson.

Treasurer, George W. Roberts.

Superintendent, C. M. Gerdenier.

Process manufacture, Lowe.

Candle-power, 20.

Calorific value, 592 B. t. u.

Annual production, 1,117,232,000 c. f.

Total gas holder capacity, 3,700,000 c. f.

Max. day's send out, 4,182,000 c. f.

Miles of mains, approx., 250.19.

St. main pressures, max., 3.8 in.; min., 2.8 in.

Annual sales, approx., 968,095,600 c. f.

Gas unaccounted for, 13 p. c.

Pop. dist. supplied, 185,000; of city, 102,054 (1910); est., 160,000.

No. consumers, 36,000.

No. meters, reg., 11,039; prepay., 25,206.

Price gas: Light and Fuel, gross, \$1.10; net, \$1. for 1st 10,000 c. f.; next 5,000 c. f., net 95c.; next 5,000 c. f., net 90c.; all over 20,000 c. f., 80c. net. (After April 1, all \$1 net.)

Supplies Bridgeport, Stratford and Fairfield.

Bristol and Plainville Tramway Co., Bristol.

RR.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, auth. com., \$1,000,000; issued, \$618,800; ann. div., 8 p. c.

Bonds, \$540,000; due 1945; int., 4.5 p. c.

Chairman, C. H. Tenney.

President, A. B. Tenney.

Secretary, M. L. Tiffany.

Treasurer, M. L. Tiffany.

General mgr., Chas. H. Tenney & Co.

Local manager, G. E. Cockings.

Process manufacture, Lowe.

Candle-power, 18. Calorific value, 579 B.t.u.

Gas holder capacity, 381,000 c. f.

Precision CO₂ Recorders automatically record the percentage of carbon-dioxide in flue gases, and are a real practical means of reducing coal bills and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

Holder pressure, 3 in.
 Max. day's send out, 300,000 c. f.
 Miles of mains, 28.83.
 Street main pressure, max., 3 in.; min., 2.5 in.
 Annual sales, 71,189,000 c. f.
 Gas unaccounted for, 9.06 p. c.
 Pop. dist. supplied, 22,000; of cities, Bristol, 13,502; Plainville, 2,882 (1910 census).
 No. consumers, 3,629.
 No. meters, reg., 102; prepay., 3,527.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Ranges in use, 1,990; heaters, 495; water heaters, 985.
 No. commercial gas arc lamps, 180.
 Supplies Bristol, Forestville and Plainville.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated: D. C. and A. C., 60 cycles, single phase; power A. C., 3 phase.
 Generating capacity: 2—750 kw. steam turbines and 250 kw. D. C.
 Voltage: At arc, 110; incand., 110; power, 550, 110-220-440.
 City lighting contracts: hours lighted, arc and incand., all night.
 No. public arcs, 147; 1,200 c. p. Price per year, \$80 and \$67.50.
 No. public incand., 120; 60 watt; price per year, \$20.
 Commercial lighting, 1,550 kw. load.
 Price incand., Com'l, per kw. hr., 12c.; disc., 1c. per kw. hr.
 Power circuits: 4,984 h. p.
 Price current, per kw. hr., demand rate, 10c., balance, 4c. down.
 Output of station, kw. hrs., total for year, 14,685,197.
 Power used: Steam, rated 1,400 B. h. p.
 Supplies Bristol, Forestville and Terryville.
 (Operate steam heating system and street railway.)

Danbury and Bethel Gas and Electric Light Co., Danbury.

RR.: N. Y., N. H. & H. Ex.: Ad.

(Operated by Doherty Organization.)
 (For capitalization, officers, etc., see Appendix.)

Manager, C. L. Proctor.
 Process manufacture, Lowe.
 Price oil per gal., 5c.
 Candle-power, 20; calorific value, 589 B. t. u.
 Gas holder capacity, 117,000 c. f.
 Max. day's send out, 387,800 c. f.
 Miles of mains, approx., 70.8; street main pressures, min., 3 in.
 High pressure mains, miles, 4.5; pressure 60 lbs.
 Annual sales, 89,000,500 c. f.
 Gas unaccounted for, 11.3 p. c.
 Population dist. supplied, 29,000; Danbury, 23,502; Bethel, 3,792 (1910).
 No. consumers, 4,655.
 Price gas: Light, \$1.38; Fuel, \$1.08.
 Industrial rate, \$1.05.
 Supplies Danbury and Bethel.

ELECTRICAL DEPARTMENT.

Generating capacity: Lighting and power, 1,750 kw.
 No. elec. consumers, 2,553.
 Commercial lighting: Connected load, 1,963.2 kw.
 Price current per kw. hr., 11c.
 Power circuits: Motors, 2,724 h. p.
 Price power, per kw. hr., 3c.
 Output of station, kw. per year, 3,461,138.
 Generating power used, Steam; rated 2,733 h. p.
 Cost of station boiler coal per ton, \$7.50.

Danielson and Plainfield Gas and Electric Co., Danielson.

RRs.: N. Y., N. H. & H.; Prov. & Dan. Ex.: Ad.

Capital stock, pref., auth., \$150,000; issued, \$100,000; common, auth., \$112,500; issued, \$90,000.
 Annual dividend, pref., 6 p. c.
 President, John W. Dobbie.
 Secretary, Nathan D. Prince.
 Treasurer and pur. agent., Nathan D. Prince.
 General mgr., H. S. Shaw.
 Chief engineer, Frederick Blakley.
 Superintendent, J. H. Burdick.
 Process manufacture, Lowe.
 Candle-power, 20.
 Calorific value, 667 B. t. u.
 Annual prod., 4,510,000 c. f.
 Gas holder capacity, 12,000 c. f.
 Max. day's send out, 30,000 c. f.
 Miles of mains, approx., 6.35.
 Street main pressures, max., 4.2 in.; min., 3.5 in.
 Annual sales, approx., 4,510,000 c. f.
 Pop. city supplied, 2,934.
 Consumers and meters, 506.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.44.
 Ranges in use, 427; heaters, 13; water-heaters, 47.
 Supplies Danielson.

ELECTRICAL DEPARTMENT.

System: A. C., 60 cycles.
 Gen. capacity: Lighting and power, 1,600 kw.
 Voltage: Incand., 115; power, 550-220-110.
 City lighting contract: Hours lighted per year: Moonlight schedule.
 No. public incand., 16; 40 c. p. Price per year, \$20.
 Commercial lighting: No. incand., 1,900.
 Price current per kw. hr., gross 16c. with sliding scale. Disc., 1c. per kw.
 Power circuits: Price per kw. hr., 6 to 2c.; disc., 10 p. c.
 Output of station, kw. hr., total for year, 2,001,190.
 Generating power used, Steam, rated 400 h. p.
 Cost of station boiler coal per ton, \$4.25.
 Charter covers Killingly, Brooklyn and Plainfield and Griswold, Conn.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Derby Gas Co., Derby.

RRs.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, auth., \$2,200,000; issued, \$1,250,225.

Annual dividend, 7 p. c.

Bonds outstanding, \$250,000; due 1921; interest, 4 p. c.

President, Charles H. Nettleton.

Secretary, George H. Scranton.

Treasurer, Charles H. Nettleton.

Process manufacture, Coal (Woodhall-Duckham) and Lowe.

Candle-power, 18.

Miles of mains, approx., 61.407.

Annual sales, approx., 217,000,000 c. f.

Pop. dist. supplied, 32,000.

No. consumers, 8,464.

No. meters, reg., 2,179; prepay., 6,285.

Price of gas: Light and Fuel, gross, \$1.25; net, \$1.15.

Ranges in use, 6,100.

Supplies Ansonia, Derby and Shelton.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C., single phase; power, A. C. 3 phase.

Generating capacity: Lighting and power, 10,000 kw.

Voltage: Incand., 110; power, 440.

City lighting contract: Hours lighted per year: all night, every night.

No. public arcs, 162; price per yr., \$75. 373 60 c. p., 75 watt, \$18. 33 whiteway arcs (lighted until 11 p. m.), price per year, \$48

Price commercial per kw. hr., 11c. to 6c.

Generating power used, Water and Steam.

The Connecticut Light and Power Co., East Portchester District.

RRs.: N. Y., N. H. & H. Ex.: Adams.

(Successor to The United El. Light and Water Co.)

(For capitalization, etc., see Parent Cos.)

General office, Waterbury, Conn.

Superintendent, J. F. Kane.

Gas bought from Westchester Lighting Co.

Candle-power, 22.

Miles of mains, approx., 1.5.

Street main pressures, max., 3 in.; min. 2.5 in.

Annual sales, approx., 3,900,000 c. f.

Population dist. supplied, 800.

No. consumers and meters, 450.

Price gas: Light, gross, \$1.70; net, \$1.50.

Gas appliances in use: Ranges, 150; heaters, 20; water heaters, 15.

No. commercial gas arc lamps in use, 10.

Supplies East Portchester.

Hartford City Gas Light Co., Hartford.

RRs.: N. Y., N. H. & H.; Cen. N. E.; Conn. Co. El.; H. & N. Y. Trans. Ex.: Ad.

For capitalization and bonds, see Appendix.

President, E. B. Bennett.

Vice-president, Francis R. Cooley.

Secretary, John A. McArthur.

Treasurer, John A. McArthur.

General manager, E. E. Eysenbach.

New bus. mgr., H. L. Barnes.

Superintendent, Paul R. Buchanan.

Process manufacture, Lowe and Coal.

Price of coal per ton, delivered, \$5.60; oil per gal., 5.875c.

Calorific value, 575 B. t. u.

Annual prod., coal gas, 296,418,000 c. f.; water gas, 601,221,000 c. f.

By-products made: Coke, 17,863 net tons; tar, 403,372 gals.; ammonia, 122,704 lbs.

Total gas holder capacity, 3,460,000 c. f.

Max. day's send out, 3,141,000 c. f.

Miles of mains, approx., 180.

Street main pressures, max., 4.5 in.; min., 3.3 in.

Annual sales, approx., 845,000,000 c. f.

Gas unaccounted for, 5.68 p. c.

By-products sold: Coke, 4,260 tons; tar, 424,340 gals.; ammonia, 137,067 lbs.

Pop. city, 98,915; West Hartford, 4,808; East Hartford, 8,138; Wethersfield, 3,148; pop. dist. supplied, 160,500.

No. consumers, 33,608.

No. meters, reg., 29,788; prepay., 3,820.

Price gas: Light and Fuel, gross, \$1.00 to 85c.; net, 90c. to 75c. (After July 2, 1917, price increased 10c.)

Ranges in use, 19,850; water heaters, 8,794.

No. commercial gas arc lamps, 2,982.

Supplies Hartford, West Hartford, East Hartford and Wethersfield.

The Meriden Gas Light Co., Meriden.

RRs.: N. Y., N. H. & H.; Conn. Co. El. Ex.: Ad.

Capital stock, \$700,000; ann. div., 8 p. c.

President, Charles F. Linsley.

Secretary, Hubert C. Borthwick.

Treasurer, James H. Hinsdale.

Purchasing agent, Chas. A. Learned.

General manager, Chas. A. Learned.

New business mgr., H. W. Lewis.

Supt. of dis., C. S. Griswold.

Supt. of mfg., J. L. Goodwill.

Process manufacture, Coal (Woodhall-Duckham) and Lowe.

Annual prod., coal-gas, 48,000,000 c. f.; water-gas, 182,000,000 c. f.

Calorific value, 595 B.t.u.

Price coal per ton, delivered, \$7.75.

Price oil per gal., delivered, 9.5c.

Total gas holders capacity, 900,000 c. f.

Holder pressure, max., 7 in.

Max. day's send out, 827,000 c. f.

Miles of low pressure mains, 59.28.

Street main pressures, max., 5 in., min., 2.5 in.

Medium pressure mains, miles, 28.46; pressure, 1 to 2 lbs.

Annual sales, approx., 213,000,000 c. f.

Gas unaccounted for (corrected to 60 deg.), 3.4 p. c.

Pop. dist. supplied, 40,000; Southington, 6,516; Cheshire, est., 2,400; Meriden, 32,066.

No. consumers, about 9,700.

No. meters, reg., 3,254; prepay., 6,964.

SPECIFIC GRAVITY**American Meter Company****561 W. 47th St., New York, N. Y.**

APPARATUS; YOUNG'S SULPHUR TEST—REFEREES' SULPHUR AND AMMONIA TEST. We manufacture these apparatus, the Referees' Sulphur and Ammonia Tests being made in accordance with the latest notifications of the London Board of Gas Referees.

Price gas: Light and fuel, 1st 20,000 c. f., \$1.35-\$1.25; next 30,000 c. f., \$1.25-\$1.15; next 50,000 c. f., \$1.15-\$1.05; next 200,000 c. f., \$1.10-\$1; next 200,000 c. f., \$1.05-\$1.05-95c. All over 500,000 c. f., \$1-90c.

Ranges in use, 7,470; heaters, 2,492; water heaters, 1,887.

No. commercial arc lamps, 579.

Supplies Meriden, Southington and Cheshire.

Middletown Gas Light Co., Middletown.

RRs.: N. Y., N. H. & H.; Conn. Co. El., S. Bs., H. & N. Y. Trans. Ex.: Ad.

Capital stock, auth., \$400,000; issued, \$200,000; ann. div., 8 p. c.

President, Frank C. Smith.

Secretary and treasurer, E. C. Weston.

Purchasing agent, E. C. Weston.

Supt. and engr., E. R. Gibbons.

Process manufacture, Lowe.

Annual production, 78,223,200 c. f.

Price of coal per ton, delivered, \$8.95.

Price of oil per gal., delivered, 8.5c.

Candle-power, 19.

Calorific value, 575 B. t. u.

Gas holder capacity, 439,100 c. f.

Holder pressure, 6 in.

Max. day's send out, 350,000 c. f.

Miles of mains, approx., 22.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 78,209,700 c. f.

Gas unaccounted for, 5.9 p. c.

Pop. city supplied, 20,749.

No. consumers, 3,000.

No. meters, reg., 1,250; prepay, 1,750.

Price gas: Light and Fuel, gross, \$1.40; net, \$1.30.

Ranges in use, 1,544; heaters, 530; water heaters, 535.

No. commercial gas arc lamps, 215.

Supplies Middletown.

The Connecticut Light and Power Co., Naugatuck District.

RRs.: N. Y., N. H. & H. Ex.: Adams.

(Successor to The United El. Light & Water Co.)

(For capitalization and officers, see Parent Companies.)

General office, Waterbury, Conn.

Superintendent, W. T. Pratt.

Gas bought from Waterbury (Conn.) Gas Light Co.

Candle-power, 23.

Calorific value, 650 B. t. u.

Gas holder capacity, 40,000 c. f.

Max. day's send out, 90,000 c. f.

Miles of mains, approx., 10.

Street main pressures, max., 3.2 in.; min., 2.5 in.

Annual sales, approx., 25,000,000 c. f.

Pop. of city, 13,800; pop. of dist. supplied, 8,000.

No. consumers and meters, 1,700.

Price gas: Gross, \$1.35; net, \$1.25.

Gas appliances in use: Ranges, 500; heaters, 50; water heaters, 20.

No. commercial gas arc lamps in use, 25.

Supplies Naugatuck.

New Britain Gas Light Co., New Britain.

RRs.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, auth., \$1,000,000; issued, \$600,000; ann. div., 8 p. c.

Bonds outstanding, \$400,000; due 1926; interest, 5 p. c.

President, A. J. Sloper.

Secretary, H. T. Sloper.

Treasurer, A. J. Sloper.

Purchasing agent, H. T. Sloper.

General manager, H. T. Sloper.

Superintendent, H. M. Bell.

New-business manager, H. F. Hodge.

Process manufacture, Coal and Lowe.

Price coal per ton, delivered, \$7.75.

Price oil per gal., delivered, 7c.

Candle-power, 18; calorific value, 610 B. t. u.

Max. day's send out, 1,000,000 c. f.

Total gas holders capacity, 950,000 c. f.

Holder pressure, 11.5 in.

Miles of mains, approx., 68.

Street main pres., max., 4 in.; min., 3.2 in.

Annual sales, approx., 170,000,000 c. f.

Gas unaccounted for, 4 p. c.

Pop. dist. supplied, 45,000; of city, 43,916.

No. meters, reg., 1,500; prepay., 10,500.

Price gas: Light, gross, \$1.10; net, \$1.00.

Fuel: sliding scale.

Ranges in use, 8,000; heaters, 500; water heaters, 600.

No. commercial gas arc lamps, 1,400.

Supplies New Britain and Berlin.

New Hartford Gas Plant, New Hartford.

RRs.: N. Y., N. H. & H.; Cen. N. E. Ex.: Ad.

Controlled by The Draycott Mills.

W. A. Banfield, Lessee.

Pur. agt., W. Banfield.

Process manufacture, Lowe.

Annual prod., 1,163,727 c. f.

Candle-power, 22.

Calorific value, 616 B. t. u.

Price of coal per ton, delivered, \$6.60.

Price oil per gal., delivered, 6.7c.

Gas holder capacity, 40,000 c. f.

Holder pressure, max., 3.2 in.

Max. day's send out, 5,000 c. f.

Miles of mains, approx., 1.5.

Street main pressures, max., 3.2 in.; min., 3 in.

Annual sales, approx., 1,000,000 c. f.

Gas unaccounted for, 12 p. c.

Gas used by company, 44,000 c. f.

Pop. of town, 2,500; of dist. supplied, 2,000.

No. consumers, 66.

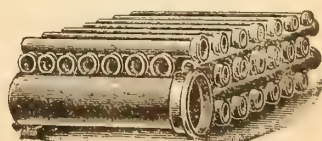
No. meters, 70.

Price gas to consumers: Light, gross, \$1.75; net, \$1.65.

No. gas ranges in use, 56; heaters, 3; water heaters, 4.

Supplies New Hartford.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
 R. D. WOOD & CO. : PHILADELPHIA, PA.



New Haven Gas Light Co., New Haven.

RRs.: N. Y., N. H. & H.; S. Bs.: N. E. Nav.;
Star L. Ex.: Ad.; N. Y. & B.

Cap. stock auth., \$10,000,000; issued, \$5,000,000; annual dividend, 8 p. c. No bonds.

President, Charles H. Nettleton.

Secretary and treasurer, J. Arnold Norcross.

Supt. and engineer, Robt. E. Wyant.

New bus. mgr., A. R. Burr.

Process manufacture, Lowe and Coal (Wood-hull-Duckham).

Annual prod., coal-gas, 797,263,000 c. f.; water-gas, 867,620,000 c. f.

Candle-power, 18.

Calorific value, 600 B. t. u.

Gas holder capacity, 6,573,179 c. f.

Max. day's send out, 6,352,478 c. f.

Miles of mains, approx., 372.

Street main pressure, max., 4 in.; min., 2 in.

High pressure mains, 22.6 miles; pressure, 3 lbs.

Annual sales, approx., 1,575,183,800 c. f.

Gas unaccounted for, 4,7218 p. c.

Pop. dist. supplied, 200,000; pop. city, 155,000 (est.).

No. consumers, 57,536.

No. meters, reg., 22,738; prepay., 34,798.

Price gas: Light and Fuel, gross, \$1.10; net \$1.

No. public lamps, 2,884; inc., 2,831 Welsbachs. Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,000.

Ranges in use, 29,059; heaters, 12,001; water heaters, 8,617.

No. commercial gas arc lamps, 13,762.

Supplies New Haven, East Haven, Branford, North Haven, West Haven, Hamden, Orange and Milford.

Connecticut Power Co., New London.

RRs.: Cen. Vt.; N. Y., N. H. & H.; S. Bs.: N. E. Nav.; Mon. S. B.; F. I. Nav.; N. & N. Y. Prop. and other S. Bs. from N. Y. Ex.: Ad. and Am.

(For capitalization and bonds, see Appendix.) This company is under management of Stone & Webster.

Manager (New London Div.), Viggo E. Bird. Process manufacture, Lowe.

Candle-power, 16.3.

Calorific value, 576 B. t. u.

Annual production, 113,900,000 c. f.

Total gas holder capacity, 300,000 c. f.

Max. day's send out, 595,000 c. f.

Miles of mains, approx., 36.2.

Street main pressures, max., 4.2 in., min. 3.5.

Annual sales, approx., 108,810,100 c. f.

Gas unaccounted for, 6.2 p. c.

Pop. city, 19,659 (1910); of dist. supplied with gas, 25,000; with electricity, 77,900.

No. meters, reg., 3,113; prepay., 1,104.

Price gas: Light and Fuel, first 10,000 c. f., \$1.25; next 10,000 c. f., \$1.05; next 10,000 c. f., 95c.; all above 30,000 c. f., 85c. Disc., 15c. per 1,000 c. f., 10 days.

Ranges in use, 4,144; water heaters, 1,173.

No. commercial gas arc lamps, 505.

Supplies New London.

ELECTRICAL DEPARTMENT.

New London Division.

System operated: Arc, incand. and power A. C., 3 phase, 60 cycles.

Generating capacity: Lighting and power, 2,295 kw.

Voltage: Incand. and power, 110.

City lighting contract: Hours lighted per year: Arc and incand., 3,912.

No. public incand., 494—40 c. p.; 211—400 c. p.; 212—100 c. p.

Commercial lighting: Incand., 3,885 kw.

Price current per kw. hr., gross, 12c. to 4.5c., according to hours use of demand. Disc., 1c. per kw. hr., 10 days.

Power circuits: No. motors, 473; price per kw. hr., small motors, 12c. per kw. hr. Disc. 1c. Demand rate \$3 per mo. per kw. max. dem. plus 2.25c. per kw. hr. Disc. 1 p. c. for each kw. dem. for 20 kw. up to 63.6 p. c. for dem. 1,500 kw. and over; also 10 p. c., 10 days.

Power used for motors, welding, storage batteries, heating utensils, 678 kw.

Output of station, kw. hrs. for year, 5,178,977. Generating power used, Steam; rated h. p., 3,116.

Supplies current also to Middletown, Middlefield, Durham, Portland, Cromwell, Canaan, No. Canaan, Norfolk, Sharon, Salisbury and Thomaston, Conn. (Data for these localities not included here.)

The Connecticut Light and Power Co., Norwalk District.

RRs.: N. Y., N. H. & H. S. Bs.: Hunt., N. Y. & N. L.; N. Line. Ex.: Ad.

(Successor to The United El. Lt. & Water Co.) (For capitalization and officers, see Parent Companies.)

Superintendent, S. A. Smith.

Process manufacture, Coal and Lowe (Oil).

Price coal per ton, delivered, \$5.90.

Price of oil per gal., delivered, 4.5c.

Candle-power, 15.

Gas holder capacity, 333,000 c. f.

Max. day's send out, 297,000 c. f.

Miles of mains, approx., 42.

Street main pressures, max., 3.7 in.; min., 2 in.

Annual sales, approx., 80,800,000 c. f.

Gas unaccounted for, 17 p. c.

Pop. dist. supplied, 18,000; of cities, Norwalk, 6,954; So. Norwalk, 8,968.

No. consumers and meters, 4,100.

Price gas: Light and Fuel, gross \$1.35; net \$1.25. Over 1,000 c. f. 95c. net.

Ranges in use, 2,500; heaters, 200; water heaters, 800.

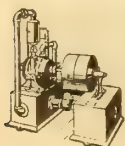
No. commercial gas arc lamps, 100.

Supplies Norwalk, South Norwalk and East Norwalk.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., single phase, 60 cycle; power, A. C. single phase, 60 cycles.

Generating capacity: Lighting 450 kw.; power, 1,200 kw.

**YOUR GREATEST ASSET IN SELLING INDUSTRIAL**

GAS. The Efficiency of the NEEDHAM HIGH PRESSURE GAS SYSTEM is now holding many of the largest industrial gas consumers where earlier experiences with less efficient methods were compelling them to consider other fuels.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Voltage: 2,200-220-110.

City lighting contract: Hours lighted per year: Arc and incand., 3,430.

No. public incand. lamps, 407; 80 c. p. at \$9.75, and 76 lamps, 250 c. p., at \$23 per year. Commercial lighting: No. arcs, 17; No. incand., 2,200.

Price current per kw. hr., sliding rate, 10c. to 7c.

Power circuits: No. motors, 115; price per kw. hr., 9c. to 2.1c.

Other uses, street railway.

Output of station, kw. for year, 430,799.

Generating power used, Steam; rated h. p., 1,500.

Cost of station boiler coal, per ton, \$3.

City of Norwich Gas and Electrical Dept., Norwich.

RRs.: Cen. Vt.; N. Y., N. H. & H.; S. Bs.; N. E. Nav.; N. & N. Y. Prop. Ex.: Ad.; Am.

(Municipal plant.)

Office, Alice Building, 321 Main St.

Bonds outstanding, \$227,000; due 1927; int., $\frac{1}{4}$ p. c.

Pres. Board of Commissioners, Chas. E. Whitaker.

Commissioners, D. T. Shea, Jas. L. Case, John T. Sullivan and David S. Gilmour.

General manager and pur. agent, S. J. Kehoe.

New bus. manager, S. J. Kehoe.

Superintendent, S. J. Kehoe.

Gas supt., Geo. A. Fullerton.

Process manufacture, Coal and Lowe.

Annual prod., coal gas and water gas, 78,917,000 c. f.

By-products made: Coke, 5,000 tons; tar, 61,109 gals.

Candle-power, 16.

Calorific value, 550 B.t.u.

Price coal per ton, delivered, \$6.

Price oil per gal., delivered, 8c.

Gas holder capacity, 55,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 375,000 c. f.

Miles of mains, approx., 70.

Street main pressures, max. 4 in., min. 2 in.

Annual sales, approx., 59,294,000 c. f.

Gas unaccounted for, 24.87 p. c.

By-products sold: Coke, 1,500 tons; tar, 40,000 gals.

Pop. dist. supplied, 30,000; of city, 20,367 (1910).

Consumers and meters, 3,309.

Price gas: Light and Fuel, gross, \$1.25.

Ranges in use, 3,000; heaters, 247; water heaters, 105 (auto.).

No. commercial gas arc lamps, 50.

Supplies Norwich, Norwich Town, Taftville and Yantic.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company)

System operated: Lighting, A. C. 2 phase, 7,200 alt.; power, A. C.

Generating capacity, 2,750 kw.

Voltage: Line, 2,300; incand., 110; power, 220.

City lighting contract: Hours lighted, all night.

No. public arcs, 289; 1,000—600 c. p.: price per year, \$58.59.

No. public incand., 370; 50 watt; price per year, \$10.81.

Commercial lighting: Price per kw. hr., 10c. for first 350 kw., 3c. thereafter.

Power circuit: Motors, 34,741 h. p.

Prices: First 500 kw., 5c.; next 1,500 kw., 3.2c.; all over, 2,000 kw. used in one mo., 2.2c.

Power used also for motive power and heating.

Output of station, kw. per year, 5,175,266.

Power used, Steam and Water; rated h. p., 3,686.

Cost boiler fuel per ton, \$8.15.

(Also buy current from Uncas Power Co., of Scotland, Conn.)

Putnam Light and Power Co., Putnam.

RR.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, com., auth., \$1,000,000; issued, \$50,000.

Bonds, \$23,400; due 1920; interest, 4.5 p. c.

President, Geo. A. Hammond.

Secretary, Arthur B. Lisle.

Treasurer, Arthur B. Lisle.

Purchasing agent, Ralph E. Thurston.

Gen. mgr., Ralph E. Thurston.

Superintendent, John B. Daigle.

Engineer, Adolore Dupre.

Process manufacture, Lowe.

Price coal per ton, delivered, \$8.

Price oil per gal., delivered, 6.39c.

Calorific value, 620 B. t. u.

Candle-power, 22.

Annual production, 15,869,620 c. f.

Total gas holders capacity, 40,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 72,650 c. f.

Miles of mains, approx., 20.

Street main pressures, max., 4 in.; min., 3.5 in.

Annual sales, approx., 15,869,620 c. f.

Gas unaccounted for, 16.8 p. c.

Pop. city supplied, 6,637 (1910); est. 8,000.

No. consumers, 1,285.

No. meters, reg., 887; prepay., 398.

Price gas: Light, gross, \$1.85; net, \$1.49.

Fuel, gross, \$1.35; net, \$1.25.

Ranges in use, 975; water heaters, 75.

Supplies Putnam.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$30,000.

System operated: Arc, A. C., 60 cycles; incand., A. C., 60 cycles; power, A. C., 60 cycles, 3 phase.

Generating capacity: Lighting and power, 2,050 kw.

Voltage: Arcs, 110; incand., 110; power, 220.

City lighting contract: Hours lighted per year: Incand., 4,400.

No. public incand., 13; 400 c. p. series tungsten. Price per year, \$70.

No. public incand., 323; 60 c. p. Price per year, \$19.

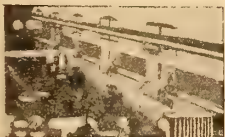
Price current per kw. hr., gross, 15c. Discounts, 10 to 60 p. c.

Power circuits: No. motors, 125.

INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



Price current per kw. hr., 10c. Discounts, 5 to 75 p. c. (for power).
Output of station, kw. for year, 3,592,409.
Generating power used: Steam and Water, rated 3,000 h. p.
Cost of station boiler coal, per ton, \$9.72.

Rockville-Willimantic Lighting Co., Rockville.
RR.: Conn. Co. El. Ex.: Ad.

(For capitalization and officers, see Willimantic.)
Process manufacture, Lowe.
Price coal per ton, delivered, \$6.30.
Candle-power, 22.
Total gas holders capacity, 160,000 c. f.
Max. day's send out, 86,000 c. f.
Miles of mains, approximate, 15.5.
Street main pres., max., 3.5 in.; min., 1.9 in.
Annual sales, approx., 20,080,000 c. f.
Gas unaccounted for, 15.62 p. c.
Pop. dist. supplied, 7,500; of city, 7,977.
Consumers and meters, 1,505.
Price gas: Light, gross, \$1.50; net, \$1.20 to \$1.40. Fuel, gross, \$1.50; net, \$1.20.
Ranges, 1,000; heaters, 200; water heaters, 175.
No. commercial gas arc lamps, 94.
Supplies Rockville and part of Ellington.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; power, A. C., 60 cycles, 1 and 3 phase.
Generating capacity: Lighting and Power, 675 kw.
Voltage: Power, 110-220.
City lighting contract: Hours lighted per year: Arc and incand., 2,000 and 3,930.
No. public arcs, 81, 500 and 550 watts. Price per year, \$75 and \$91.
No. public incand., 221; 50 and 100 watt. Price per year, \$16, \$18 and \$21.
Price commercial per kw. hr., gross, 16c. first 100 kw. hr., 13c. excess. Discount, 1c. per kw.
Power circuits: No motors, 71. Price per kw. hr., 10c. to 2.5c. Disc., 1c. per kw.
Other uses, heating.
Generating power used, Water; rated h. p., 125; Steam, rated h. p., 375.
Cost of station boiler coal, per ton, \$4.60 and \$5.50.
Towns supplied: Ellington, Stafford, Rockville, Vernon, Crystal Lake and Willington.
Power purchased from New England Power Co.

Manchester Gas Co., Manchester.

RR.: So. Manchester; Conn. Co. El.; N. Y., N. H. & H. Ex.: Ad.

(Formerly So. Manchester Light, Power & Tramway Co. Taken over by Hartford City Gas Light Co. Jan. 1, 1918.)
(Below is report for 1917. Gas will be supplied from Hartford in 1918.)
Process manufacture, Retort, Coal.
Annual production, 18,000,000 c. f.

By-products made: Coke, 750 tons; tar, 25,000 gals.
Price coal per ton, delivered, \$4.65.
Candle-power, 16.
Calorific value, 630 B. t. u.
Gas holder capacity, 35,000 c. f.
Holder pressure, 3.2 in.
Max. day's send out, 70,000 c. f.
Miles of mains, approx., 9.5.
Street main pressure, max., 6 in.; min., 3 in.
Annual sales, approx., 15,000,000 c. f.
Gas unaccounted for, 12 p. c.
By-products sold: Coke, 750 tons; tar, 25,000 gals.
Pop. dist. supplied, 3,500; of city, 13,641 (1910)
No. consumers, 400.
No. meters, reg., 350; prepay, 50.
Price gas: Light, gross, \$1.50; net, \$1.35.
Sliding scale: 1st 1,500 c. f., \$1.50; next 1,500 c. f., \$1.45; next 2,000 c. f., \$1.40; all excess, \$1.35. Prepay, rate, \$1.35 net.
Min. charge, per meter, 67c. Disc., 10 p. c., 15 days.
No. ranges, 150; water heaters, 50.
Supplies South Manchester and Manchester.

ELECTRICAL DEPARTMENT.

Sold to Manchester Electric Co., So. Manchester, Conn.

Stamford Gas and Electric Co., Stamford.

RR.: N. Y., N. H. & H. and S. Bs. from N. Y. Ex.: Ad.

Capital stock, \$700,000.
Bonds, \$300,000; due 1929.
6 per cent debenture, \$300,000; due 1923.
President, Walton Ferguson.
Vice-president, A. W. Dater.
Secretary, C. H. Lounsbury.
Treasurer, W. L. Baldwin.
General manager, A. W. Dater.
Supt. and pur. agent, George B. Leland.
Process manufacture, Lowe.
Calorific value, 585 B. t. u.
Miles of mains, approximate, 60.
Annual sales, approx., 200,000,000 c. f.
Pop. dist. supplied, 25,000; of Stamford, 28,836.
No. meters, 9,000.
Price gas: Gross, \$1.10; net, \$1 to \$35c.
Ranges in use, about 2,500.
Supplies Glenbrook, Darien, Springdale.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
Arc system, C. C. Transformers 225 (1,200 c. p.) arcs capacity.
Incand. sys., Gen. Elec., 100,000 lamps capac.
No. public incand., 1,119; lighted 4,000 hours.
No. public arcs, 124; lighted 4,000 hours.
Price arc, Public, per year, \$80.
Price incand., Public, per year, 60 c. p., \$18.
Price arc and incand., Com'l, per kw. hr., 3c. to 10c.
Power used, Steam.
Cost boiler fuel per ton, \$3.85.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Torrington Electric Light Co., Torrington.

RR.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, com. auth., \$625,000; issued, \$625,000; annual dividend rate, 8 p. c.

President, John Workman.

Secretary, F. F. Fuessenich.

Treasurer, F. M. Travis.

Manager and pur. agent, C. E. Smith.

New bus. mgr., C. E. Smyth.

Supt. and engineer, A. J. Breckenridge.

Process manufacture, Lowe.

Price coal per ton, delivered, \$9.

Annual production, 60,000,000 c. f.

Candle-power, 22; calorific value, 625 B. t. u.

Total gas holder capacity, 230,000 c. f.

Holder press., 3 in.

Max. day's send out, 220,000 c. f.

Miles of main, approx., 23.

Street main pressures, max., 3 in., min., 2.5 in.

Annual sales, approx., 56,000,000 c. f.

Gas unaccounted for, 5.45 p. c.

Pop. city, 18,000; of dist. supplied, 17,000.

No. consumers, 3,001.

No. meters, reg., 58; prepay., 3,008.

Price gas: Light and Fuel, \$1.50 to 90c.

Ranges in use, 1,827; water heaters, 162.

No. commercial gas arc lamps, 217.

Supplies Torrington.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$350,000.

System operated: A. C., 60 cycle, 3 phase.

Generating capacity, 2,375 kw.

Voltage: Incand., 110; power, 220.

City lighting contract: Hours lighted per year, incand., 3,000.

No. public incand., 402; 100 watt. Price per year, \$24.

Price current per kw. hr., gross, 15c. Discounts up to 60 p. c.

Power circuits: Price per kw. hr., 10c. Discounts up to 75 p. c. No. motors, 140.

Output of station, kw. for year, 6,900,000.

Generating power used, Water and Steam; rated h. p., 3,000.

Cost of station boiler coal per ton, \$8.75.

Wallingford Gas Light Co., Wallingford.

RR.: N. Y., N. H. & H. Ex.: Ad.

Capital stock auth., \$150,000; issued, \$50,000.

Annual dividend, 5 p. c.

Bonds, \$120,000; due 1924; int., 5 p. c.

President, Clarence E. Thompson.

Secretary, E. M. Addis.

Treasurer, Clarence E. Thompson, Jr.

Gen. mgr. and pur. agt., E. M. Addis.

New bus. mgr., E. M. Addis.

Superintendent, W. E. Kearney.

Process manufacture, Lowe.

Annual prod., 32,000,000 c. f.

Candle-power, 18; calorific value, 569 B. t. u.

Price of coal per ton, delivered, \$8.10.

Price oil per gal., 5.5c.

Total gas holders capacity, 60,000 c. f.

Holder pressure, 4 in.

Max. day's send out, 140,300 c. f.

Miles of mains, approx., 18.

Street main pressure, max., 5 in.; min., 3 in.

Annual sales, approx., 29,583,100 c. f.

Gas unaccounted for, 9 p. c.

Pop. of towns supplied, est. 11,000.

No. of consumers, 2,000.

No. meters, reg., 75; prepay., 1,925.

Price of gas to consumers: Light and Fuel, gross, \$1.50; net, \$1.40.

Ranges in use, 1,090; heaters, 350; water heaters, 140.

No. commercial gas arc lamps, 30.

Supplies Wallingford, Yalesville and Tracy.

Waterbury Gas Light Co., Waterbury.

RR.: N. Y., N. H. & H. Ex.: Ad.

Capital stock auth., \$2,000,000; issued, \$1,500,000. Annual div., 8 p. c. and 2 p. c. extra.

President, Robert F. Griggs.

Clerk, N. B. Smith.

Treasurer, E. H. Williams.

Vice-pres. and manager, E. H. Williams.

Supt. and engineer, E. H. Williams.

Process manufacture, Lowe.

Annual prod., approx., 500,000,000 c. f.

Candle-power, 23.

Calorific value, 625 B. t. u.

Holder capacity, 2,300,000 c. f.

Holder pressure, 9.25 in.

Max. day's send out, 2,088,700 c. f.

Miles of mains, approx., 93.58.

Street mains press., max., 4.8 in.; min., 2.25 in.

High pressure mains, 15.88 miles; pressure, 10 lbs.

Annual sales, approx., 500,000,000 c. f.

Pop. city supplied, 73,141 (1910).

No. consumers, 18,697.

No. meters, reg., 16,580; prepay., 2,117.

Price gas: Light and Fuel, \$1.10 for 1st 10 M. c. f.; next 20 M., 90c.; next 20 M., 80c.; over 50 M., 70c.

No. public Welsbach lamps, 11.

Contract includes care, repairs, lighting and extinguishing.

Hours lighted per year, 5,520.

Ranges, 13,229; heaters, 6,065; water heaters, 2,634.

No. commercial arc lamps, 1,298.

Supplies Waterbury.

Watertown Gas Co., Watertown.

RR.: N. Y., N. H. & H. Ex.: Ad.

(Controlled by The Waterbury Gas Light Co.)

Capital stock, \$50,000.

President, R. F. Griggs.

Clerk, N. B. Smith.

Treasurer, E. H. Williams.

Manager, E. H. Williams.

Gas purchased from Waterbury Gas Light Co.

Amount purchased, approx., 9,400,000 c. f.

Candle-power, 23.

Calorific value, 635 B. t. u.

High pressure mains, approx., 9.83.

Pressure, max., 18 lbs.; min., 5.25 lbs.

Annual sales, approx., 9,400,000 c. f.

Pop. of city, 3,850 (1910).

No. consumers, 524.

No. meters, reg., 510; prepay., 14.

HUNT PIVOTED BUCKET CONVEYORS are reducing coal and coke

handling costs in a great many of the largest gas works. Catalogue N15-4 describes the details of design, and shows a number of typical installations. Our engineers are at your service.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Price of gas to consumers, gross, \$1.25.
No. gas ranges in use, approx., 462; heaters,
69; water heaters, 105.
Supplies Watertown.

Rockville-Willimantic Lighting Co., Willimantic.

RRs.: Cen. Vt.; N. Y., N. H. & H. Ex.: Ad.;
Am.

Capital stock, auth., \$700,000; issued, \$528,000.
Bonds, \$600,000; due 1923; interest, 5 p. c.
President, F. D. Jordan.
Vice-pres., P. B. Leonard.
Secretary and treasurer, M. J. Warner.
Asst. secretary, H. M. Whiting.
Asst. treasurer, J. F. Ahern.
Superintendent, D. Loree.
New bus. mgr., Thos. Burns.
Pur. agent, J. F. Ahern.
Process manufacture, Coal.
Price coal per ton, delivered, \$4.50.
Candle-power, 18. Cal. value, 600 B. t. u.
Total gas holders capacity, 110,000 c. f.
Max. day's send out, 85,000 c. f.
Miles of mains, approximate, 15.5.
Street main pressures, max. 3.5 in., min.
2.5 in.
Annual sales, approx., 22,800,000 c. f.
Gas unaccounted for, 16.22 p. c.
Pop. dist. supplied, 8,000; of city, 11,230.
Consumers and meters, 1,710.
Price gas: Light and Fuel, gross, \$1.50; net,
Light, \$1.40.
Ranges, 1,200; heaters, 160; water heaters,
100.
No. of commercial gas arc lamps, 81.
Supplies Willimantic.

ELECTRICAL DEPARTMENT.

System operated: A. C., single and 3 phase, 60
cycles.
Generating capacity: Lighting and power, 870.
Voltage: Incand., 110; power, 110-220.
City lighting contract: Hours lighted per
year: Arc and incand., 4,000; some incand.,
2,000.
No. public arcs, 100; 320 watt. Price per
year, \$80.50.
No. pub. incand., 111; 50 watt. Price per
year, \$20.50.
Price current per kw. hr., gross, 16c. for first
100 kw. hr., 13c. excess. Discount, 1c.
per kw. hr.
Power circuits: No. motors, 50. Price per kw.
hr., 10c. to 25c.
Generating power used, Steam; rated h. p.,
870; substation, 300.
Cost of station boiler coal per ton, \$4.20.
Supplies Willimantic, Windham, Coventry,
Eagleville, Storrs and Mansfield.
Power purchased from New England Power
Co.

Northern Connecticut Light and Power Co., Windsor Locks.

RRs.: N. Y., N. H. & H. Ex.: Ad.

Gen. mgr's. office, Thompsonville, Conn.
Capital stock issued: pref., \$210,000; com.,
\$250,000.
Annual div., pref., 6 p. c.

Bonds, \$315,000; due 1946; int., 5 p. c.
President, Harrison B. Freeman.
Vice-pres., Walter P. Schwabe.
Secretary, S. N. Dunning.
Treasurer, Jas. A. Turnbull.
Gen'l mgr. and pur. agent, Walter P. Schwabe.
Sales agent, John A. Ryan.
Gas purchased from Springfield (Mass.) Gas
Light Co.
Calorific value, 575 B. t. u.
Max. day's send out, 218,550 c. f.
Storage capacity, 36,000 c. f.
High pressure mains, 37 miles; pressure, 25
lbs.
Street main pressures: max., 10 lbs.; min.,
6 lbs.
Annual sales, approx., 40,526,500 c. f.
Gas unaccounted for, 23.7 p. c.
Pop. dist. supplied, 20,000; of Windsor, 4,178;
East Windsor, 3,362; Windsor Locks,
3,715 (1910 census).
No. consumers, 2,104.
No. meters, reg., 2,045; prepay., 59.
Price gas: Light and Fuel, gross, \$1.35; net,
\$1.30.
Gas appliances in use: Ranges, 1,856; heat-
ers, 73; water heaters, 377.
Supplies Windsor, East Windsor, Windsor
Locks and Thompsonville.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycles: incand.
single phase; power, 3 phase.
Generating capacity: Lighting, 655 kw.
Voltage: Incand., 110; power, 110-220-2300.
City lighting contract: Hours lighted per
year: Incand., 4,000.
No. public incand., 110 60 c. p.; price per year,
\$26; 918 32 c. p.; price per year, \$17.
Commercial lighting: No. incand., 37,736.
Price current per kw. hr., gross, 13.5c. Disc.,
1/2c. per kw. hr.; domestic rates, 13.5c. to
10c.
Power circuits: Motors, 1,209 h. p.; price per
kw. hr., 10c. to 2c. Discount, 5 p. c.
Output of station, kw. hrs. per year, 1,933,900.
Generating power used, Steam and Water;
rated 250 h. p.
Cost of station boiler coal, per ton, \$5.
Also purchase power from Agawam Electric
Co.

Winsted Gas Co., Winsted.

RRs.: Cen. N. E. (Winsted P. O.). Ex.: Ad.

Capital stock auth., \$300,000; issued, \$245,000;
annual dividend rate, 8 p. c.
Bonds, \$50,000; due 1920; interest, 4 p. c.
President, Henry Skinner.
Secretary, Frank M. Travis.
Treasurer, Joseph M. Travis.
General manager and new bus. mgr., Henry
Skinner.
Pur. agent and supt., H. Skinner.
Process manufacture, Lowe (Oil).
Price coal per ton, delivered, \$7.25.
Annual production, 29,000,000 c. f.
Calorific value, 580 B. t. u.
Total gas holders capacity, 120,000 c. f.



1803

R. D. WOOD & CO., PHILA., PA.

1918



Holder pressure, max., 6 in.
 Max. day's send out, 157,000 c. f.
 Miles of mains, approx., 24.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 28,000,000 c. f.
 Gas unaccounted for, 3.5 p. c.
 Pop. dist. supplied, 8,000; of city, 7,754.
 No. meters, reg., 275; prepay., 1,810.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50, and sliding scale to 90c.
 Supplies Winsted.

ELECTRICAL DEPARTMENT.

(Operated under same name as company.)
 Capital apportioned to electric plant, \$175,000.
 System operated: Arc. Brush, incand., 60 cycle, 3-phase; power, 60 cycle, 3-phase.

Generating capacity: Lighting and power, 450 kw.
 Voltage: Arcs, series; incand., 110; power, 110-220.
 City lighting contract: Hours lighted per year: Arc, 4,000.
 No. public arcs: 75; 4 amp. Price per year, \$79.
 No. public incand., 170; 75 watt. Price per year, \$17.50.
 Price current per kw. hr., gross, 12c. Discounts up to 50 p. c.
 Power circuits: Price per kw. hr., 10c. Discounts up to 75 p. c.
 Generating power used, Steam and Water; rated h. p., 600.
 Output of station kw. for year, 990,000.
 Cost of station boiler coal per ton, \$9.

DELAWARE

Total population, 214,270.

Dover Gas Light Co., Dover.

RR.: Phila., Balt. & Wash. Ex.: Ad.

Capital stock, auth. and issued, \$100,000.
 Annual dividends, 6 p. c.
 President, A. B. Richardson.
 Secretary, Du Pont Walker.
 Treasurer, Du Pont Walker.
 Supt. and pur. agent, A. B. Richardson.
 General manager, DuPont Walker.
 New business manager, DuPont Walker.
 Engineer, T. M. Stuart.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.25.
 Price oil, delivered, \$3.78 per hd.
 Candle-power, 20.
 Annual production, 21,131,000 c. f.
 Total gas holder capacity, 120,000 c. f.
 Holder pressure, max., 8 in.
 Max. day's send out, 60,000 c. f.
 Miles of mains, approx., 9.
 Street main pressures, max., 8 in.; min., 6 in.
 Press. to consumer, 5 in.
 High pressure mains, 4 miles.
 Annual sales, approx., 19,000,000 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. city, 3,720; of dist. supplied, 4,000.
 No. consumers, 1,200.
 No. meters, reg., 700; prepay., 600.
 Price gas: Light and Fuel, gross, \$1.40; net, \$1.25.
 Ranges in use, 500; heaters, 200; water heaters, 150.
 No. commercial gas arc lamps, 125.
 Supplies Dover, Camden and Wyoming (No 1918 report.)

Georgetown Gas Co., Georgetown.

RR.: Phila., Balt. & Wash. Ex.: Ad.

Capital stock, \$25,000.
 Bonds, \$25,000; due 1935; interest, 5 p. c.
 President, G. F. Jones.
 Treasurer, H. P. Layton.
 Mgr. and pur. agent, E. L. Layton.
 Temporary sec'y, L. L. Layton.

Superintendent and engineer, Jos. G. Green.
 New business manager, L. L. Layton.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.65 (mines).
 Price oil per gal., 10c.
 Candle-power, 23.4.
 Total gas holders capacity, 40,000 c. f.
 Miles of mains, approximate, 7.
 Annual sales, approx., 4,500,000 c. f.
 Pop. city supplied, est. 2,000.
 No. consumers, 300.
 No. meters, reg., 250; prepay., 50.
 Price of gas: Light and fuel, \$1.85.
 Ranges, 125; heaters, 20; water heaters, 15.
 Supplies Georgetown.

Lewes Gas Co., Lewes.

RRs.: Phila.; Balt. & Wash. Ex.: Ad.

Capital stock, auth., \$50,000; issued, \$10,340.
 President, William H. Bookhammer.
 Secretary, Jas. T. Lank.
 Treasurer, John R. Baylis.
 General manager, G. E. Hudson.
 Pur. agent, W. H. Bookhammer.
 Engineer, Howard Atkins.
 Superintendent, Frank M. Williams.
 Process manufacture, Lowe.
 Price delivered, coke per ton, \$4.25; oil per gallon, 5.57c.
 Candle-power, 20.
 Gas holder capacity, 20,000 c. f.; pressure, max., 40 in.
 Max. day's send out, 8,000 c. f.
 High pressure mains, 6.5 miles; press., 7 lbs..
 Annual sales, approx., 2,482,600 c. f.
 Gas unaccounted for, 2 p. c.
 Population of city, 2,158 (1910); of dist. supplied, est., 2,600.
 No. consumers and meters, 211.
 Price of gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 Gas appliances in use: Ranges, 200; heaters, 40; water heaters, 45.
 Supplies Lewes.
 (No 1918 report.)

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM

UNITED LEAD COMPANY
 111 BROADWAY, NEW YORK

Sussex Gas Co., Seaford.

RRs.: Phila., Balt. & Wash.; S. B., B. C. & A.
Ry. Lines. Ex.: Ad.

Philadelphia office, 740 Land Title Bldg.
Capital stock, \$100,000.
Bonds, auth., \$100,000; issued, \$31,000.
President, Edwin R. Bell.
Secretary, Henry M. Tracy.
Treasurer and pur. agent, Henry M. Tracy.
General manager and supt., F. A. Mullin.
Process manufacture, Lowe.
Candle-power, 22; calorific value, 650 B. t. u.
Annual production, 13,000,000 c. f.
Gas holder capacity, 42,000 c. f.
Holder pressure, 2 in.
Max. day's send out, 50,000 c. f.
Miles of mains, approx., 23.
Street main pressures, max., 2.5 in.; min., 1.25 in.
High pressure mains, miles, 23; pressure, 12 lbs.
Annual sales, approx., 12,000,000 c. f.
Gas unaccounted for, 23 p. c.
Pop. dist. supplied, 9,000; of Seaford, 2,108; Laurel, 2,166; Bridgeville, 939.
No. consumers and meters, 775.
Price gas: Light and Fuel, \$1.40.
Ranges in use 650; heaters, 55; water heaters, 34.
No. commercial gas arc lamps, 15.
Supplies Seaford, Blades, Laurel, Bridgeville.

Frost Gas Co., Smyrna.

RR.: Phila., Balt. & Wash., and S. Bs. from
Phila. Ex.: Ad.

Controlled by Frost Gas Co., Buffalo, N. Y.
Operated by the Doherty Organization.
President, F. W. Frueauff.
Sec'y and treas., J. A. Richie.
Gen'l manager, I. N. Odell.
Pur. agent, J. E. McKimmie.
Process manufacture, Coal.
Price coke per ton, delivered, \$7.50.
Candle-power, 16.
Calorific value, 585 B. t. u.
Annual production, 4,000,000 c. f.
By-products made: Coke, 350 tons; tar, 4,200 gals.
Total gas holders capacity, 5,000 c. f.

Holder pressure, 3.8 in.
Max. day's send out, 15,000 c. f.
Miles of mains, approximate, 2.02.
Street main pressure, max., 3.5 in.; min., 1.8 in.
Annual sales, approx., 3,300,000 c. f.
Gas unaccounted for, 18 p. c.
By-products sold: Coke, 150 tons; tar, 4,200 gals.
Pop. city supplied, 1,843.
No. consumers, 300.
No. meters, reg., 200; prepay., 100.
Price gas: Light and Fuel, \$1.30.
Supplies Smyrna. (Franchise for Clayton.)

Wilmington Gas Co., Wilmington.

RRs.: B. & O.; Phila., Balt. & Wash.; P. & R.;
N. J. & Wilm. Fy.; S. Bs. from Phila.;
Wilm. S. B.; Warner L. Ex.: Ad.; U. S.

Operated by The C. H. Geist Co.
For capitalization and bonds, see Appendix.
President, C. H. Geist.
Secretary, C. H. Weak.
Treasurer, H. A. Lang.
General manager, H. S. Schutt.
New bus. mgr., W. A. Morris.
Superintendent, T. F. Curley.
Process manufacture, Lowe.
Candle-power, 21; calorific value, 600 B. t. u.
Annual production, 700,000,000 c. f.
Gas holder capacity, 1,800,000 c. f.
Max. day's send out, 3,020,000 c. f.
Miles of mains, approx., 139.
Street main pressures, max., 6 in.; min., 2 in.
High pressure mains, miles, 20; pressure, 10 lbs.
Annual sales, approx., 608,000,000 c. f.
Gas unaccounted for, 9 p. c.
Pop. dist. supplied, 115,000; of city, 87,411 (1910).
No. consumers, 20,539.
No. meters, reg., 14,851; prepay., 5,688.
Price gas: Light and Fuel, gross, \$1.10; net, \$1.05.
No. public lamps, 698; lighted, 4,000 hours.
Gas appliances in use: Ranges, 17,000; water heaters, 3,173.
No. commercial gas arc lamps in use, 1,818.
Supplies Wilmington, Elsmere, New Castle, Richardson Park, Brackex and Roselle.

DISTRICT OF COLUMBIA

Total population, 366,631.

Georgetown Gas Light Co., Washington.

RRs.: (See Washington Gas Light Co.). Ex.:
Ad.; U. S.; So.

Capital stock, \$150,000.
Bonds, \$610,500; due 1962; int., 5 p. c.
President, Robert D. Weaver.
Secretary, Frederick K. Heupel.
Treasurer, Rawlins Hume.
Gen'l auditor, Sanford N. Whitwell.
Superintendent, Thomas F. Holden.
Process manufacture, Coal and Lowe (Oil).

Price gas coal, per ton, delivered, \$4.92; anth. coal, \$6.60.
Price oil, delivered, 4.85c.
Annual prod., coal gas, 65,344,000 c. f.; water gas, 135,077,774 c. f.
Gas purchased, 81,623,876 c. f.
Calorific value, 600 B. t. u.
By-products made: Coke, 4,113 tons; tar, 168,350 gals.; ammonia, 80,400 gals.
Total gas holders capacity, 450,000 c. f.
Holder pressure, 6 in.
Max. day's send out, 1,197,136 c. f.
Miles of street mains, approx., 79.38.

GAS EXHAUSTERS

Built with Care

**GAS BOOSTERS**

Tested Under Power

Street main pressures, max., 5 in.; min., 3 in.
 High pressure mains, 2.25 miles.
 Annual sales, approx., 230,205,935 c. f.
 Gas unaccounted for, 17.11 p. c.
 By-products sold: Coke, 3,069 tons; tar, 168,350 gals.; ammonia, 80,400 gals.
 Pop. city, 331,069; of dist. supplied, 46,000.
 No. consumers, 5,014.
 No. meters, reg., 4,636; prepay., 464.
 Price gas: Light, 85c. Penalty, 10c., 10 days.
 No. public lamps, 659 Welsbach incand.
 Price: Lamp posts owned by gov't, \$16.75; lamp posts owned by company, \$18.40.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 3,942.
 Ranges in use, 3,071; heaters, 200; water heaters, 1,603.
 No. commercial gas arc lamps, 248.
 Supplies Georgetown, part of Washington, Chevy Chase, Md.

Washington Gas Light Co., Washington.

RRs.: B. & O.; C. & O.; Phila., Balt. & Wash.; So.; Wash., Alex. & Mt. Ver.; Wash. So. S. Bs.; Randall Pot. R. L.; Mt. V. & M. H. S. B.; Norf. & Wash. S. B.; Md., Del. & Va. Ry.; Fy. to Alexandria. Ex.: Ad.; So.

For capitalization, bonds, etc., see Appendix.
 President, Howard S. Reeside.
 Secretary and pur. agent, William B. Orme.

Treasurer, Lawrence Townsend.
 Gen. auditor, Sanford N. Whitwell.
 Asst. sec'y, Geo. M. Whitwell.
 Asst. treas., Rawlins Hume.
 Engineer, J. S. McIlhenny.
 Supt. of dis., E. S. Umstead.
 Supt. west station, T. B. Hopper.
 Supt. east station, T. S. Tinchier.
 New bus. mgr., H. G. Reed.
 Process manufacture, Lowe (Oil).
 Candle-power, 19; cal. value, 609 B. t. u.
 Annual production, 3,607,865,000 c. f.
 Gas holder capacity, 7,500,000 c. f.
 Max. day's send out, 15,525,000 c. f.
 Miles of mains, approx., 541.
 Street main pressures, max., 4 in.; min., 3.2 in.
 High pressure mains, miles, 6.4; pressure, 2 lbs.
 Annual sales, approx., 3,314,694,105 c. f.
 Gas unaccounted for, 9.942 p. c.
 Pop. city, approx., 400,000.
 No. consumers, 73,326.
 No. meters, reg., 69,261; prepay., 4,065.
 Price gas: Light and Fuel, 75c. (Application before P. S. Com. for increase.) Price, 70c. to government.
 No. public lamps, 10,537, incl. 10,171 Welsbach.
 No. hours lamp is lighted per year, 3,942 hrs.
 Contract includes repairs, care, lighting and extinguishing.
 Supplies Washington, D. C., and Tacoma Park, Md.

FLORIDA

Total population, 904,839.

Daytona Public Service Co., Daytona.

RRs.: Fla. E. C. Ex. So.

General office, 77 Franklin St., Boston, Mass.
 Controlled by The Light, Heat and Power Corp.
 Capital stock, \$300,000.
 Annual dividend, 1 p. c.
 Bonds, \$300,000; due 1938, int., 5 p. c.
 President, Arthur E. Childs.
 Secretary and treas., C. N. Burnell.
 Purchasing agent, Gas & El. Improvement Co.
 Gen'l mgr., G. K. Dustin.
 Engineers, W. S. Bishop and R. Y. Conklin.
 Local manager, J. C. Lyle.
 Com'l mgr., Wm. Gould.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$5.657; coal, \$6.08.
 Price of oil per gal., 5.38c.
 Candle-power, 17.
 Calorific value, 600 B. t. u.
 Annual production, 19,823,800 c. f.
 Gas holder capacity, 258,000 c. f. press., max., 3.5 in.
 Max. day's send out, 108,000 c. f.
 Miles of mains, approx., 16.
 Street main pressures, max., 3.5 in.; min., 2 in.
 Annual sales, approx., 18,542,900 c. f.
 Gas unaccounted for, 5 p. c.

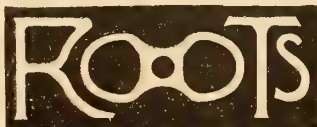
Pop. city, 6,000; of dist. supplied, 7,000.
 No. consumers, 1,542.
 No. meters, reg., 1,033; prepay., 509.
 Price gas: Light and Fuel, gross, 1st 10,000 c. f., gross \$1.85, net \$1.75; over 10,000 c. f., \$1.60 gross, \$1.50 net. Special rates to large consumers.
 Ranges in use, 850; heaters, 652; water heaters, 400.
 Supplies Daytona, Seabreeze and Daytona Beach.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Generating capacity, lighting and power, 1,100 kw.
 Voltage: Arcs 78; incand., 110; power 110-220.
 Miles of overhead wires, 30.
 City lighting contract: Hours lighted per year. Incand., 3,000.
 No. public incand., 482.
 Commercial lighting: Price current per kw. hr., gross, 15c. Discounts, 10 p. c.
 Power circuits: No. motors, 60; price per kw. hr. 10.6c. to 7.15c.
 Output of station, kw. hrs. for year, 707,567.
 Generating power used. Steam. rated 1,000 h. p.
 Cost of station boiler coal per ton, \$6.11.

WASH OIL PUMPS

Guaranteed



P.H. & F.M. ROOTS CO.
 Connersville
 Indiana
 New York
 Chicago

Citizens Manufacturing Co., De Land.

RRs.: A. C. L. S. Bs.: Clyde's St. J. R. L.
Ex.: So.

Capital stock, \$50,000.
President, W. S. Taylor.
Secretary, J. Frank Alldis.
Treasurer, J. E. Bigelow.
Business manager, J. Frank Alldis.
Process manufacture, Lowe.
Pop. city supplied, 2,812.
Miles of mains, approximate, 5.
Price gas: Light and Fuel, net, \$1.50.
Supplies De Land.
(No 1918 report.)

Gainesville Gas Co., Gainesville.

RRs.: S. A. L.; A. C. L.; Tampa & Jack. Ex.:
So.

(Successor to Gainesville Gas & Electric Power Co.).

Capital stock, \$50,000.
President, J. L. Medlin.
Manager and pur. agent, E. D. Wynn.
Price coke per ton, delivered, \$9.50.
Price oil per gal., delivered, 8c.
Candle-power, 18.
Calorific value, 585 B. t. u.
Max. day's send out, 25,000 c. f.
Total gas holders capacity, 20,000 c. f.
Holder pressure, max., 3 in.
Miles of mains, approx., 15.
Street main pressures, max., 6 in.; min., 3 in.
Annual sales approx., 19,000,000 c. f.
Pop. city supplied, 6,183 (1910); now est. 11,000.
No. meters, reg., 500; prepay., 50.
No. consumers, 550.
Price gas: Light and Fuel, \$1.75 net.
Ranges in use, 538; heaters, 275; water heaters, 200.
No. commercial gas arc lamps in use, 25.
Supplies Gainesville.

Jacksonville Gas Co., Jacksonville.

RRs.: S. A. L.; So.; Fla. E. C.; Ga. So. & Fla.; A. C. L. S. Bs.: Clyde; So.; Jack. & May.; Clyde's St. J. R. L.; Naval Stores; Ind. L.; B. & M.; Balsano L. Ex.: So.

For capitalization and bonds, see Appendix.
President and treasurer, K. L. Ames.
Vice-pres., H. B. Hoyt.
Secretary, L. R. Kennedy.
Gen. mgr. and purchasing agent, H. B. Hoyt.
Superintendent, H. G. Vesey.
Engineer, Geo. F. Goodnow.
New bus. mgr., A. H. Rumbold.
Process manufacture, Coal and Lowe.
Mixture, 60 p. c. coal gas; 40 p. c. water gas.
Candle-power, 20.
Calorific value, 600 B. t. u.
Gas holder capacity, 1,900,000 c. f.
Holder pressure, max., 7 in.
Miles of mains, approx., 112.70.
Street main pressures, max., 4 in.; min., 2.5 in.
Annual sales, approx., 321,389,300 c. f.
Gas unaccounted for, 12 p. c.
Pop. city, 57,699; of dist. supplied, 80,000.
No. consumers, 11,660.

No. meters, reg., 3,419; prepay., 8,241.
Price gas: Light and Fuel, gross, \$1.25; sliding scale to 75c.
Ranges in use, 12,624; heaters, 8,795; water heaters, 4,874.
No. commercial gas arc lamps, 1,866.
Supplies Jacksonville and South Jacksonville.

Key West Gas Co., Key West.

SBs.: M. S.S.; So. S.S.; Pen. & Oc. S.S. Ex.:
So.

Controlled by Starr & Reed, Philadelphia, Pa.
Capital stock, \$500,000.
Bonds, \$590,000; due 1931; int., 6 p. c.
President, Heverin S. Reed.
Vice-pres., Chas. E. Starr.
Secretary, Earl Godwin.
Treasurer, John C. Reed.
Pur. agents, Starr & Reed, Philadelphia, Pa.
Superintendent, M. F. Sands.
Process manufacture, Lowe.
Candle-power, 21; cal. value, 660 B. t. u.
Price coal per ton, delivered, \$13; oil per gal., 7c.
Gas holder capacity, 250,000 c. f.
Max. day's send out, 290,000 c. f.
Miles of main, approx., 32.
Street main pressures, max., 3 in.
Annual sales, approx., 73,000,000 c. f.
Gas unaccounted for, 7.5 p. c.
Pop. of city, 19,945; of dist. supplied, 26,000.
No. consumers, 3,800.
No. meters, reg., 1,250; prepay., 2,550.
Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.
No. public Lindsay incand., gas lamps, 23.
No. private street lamps, 16.
No. gas ranges in use, 3,034; heaters, 350; water heaters, 133.
No. commercial gas arc lamps, 565.
Supplies Key West.

Lakeland Gas Co., Lakeland.

RRs.: A. C. L.; Ex. So.

Capital stock, \$100,000.
Bonds, \$100,000; due 1941; int., 5 p. c.
President, David J. Collins.
Secretary and gen'l mgr., Rosco Nettles.
Treasurer, J. D. Shattuck.
Process manufacture, Lowe.
Price of coke, per ton, delivered, \$6; oil per gal., 3.25c.
Candle-power, 22.
Annual production, 10,300,000 c. f.
Gas holder capacity, 115,000 c. f.
Holder pressure, 5 in.
Max. day's send out, 75,000 c. f.
Street mains, approx., 12 miles.
Street pressures, max., 3.5 in.; min., 3 in.
Annual sales, approx., 9,900,000 c. f.
Gas unaccounted for, 5 p. c.
Pop. of dist. supplied, 7,000; of city, 3,719.
No. of consumers, 633.
No. meters, reg., 605; prepay., 29.
Price of gas to consumers: 1st 5,000 c. f., \$1.70; next 5,000 c. f., \$1.50; next 5,000 c. f., \$1.25; next 10,000 c. f., \$1.15; next 20,000 c. f., \$1.

RECOVER TOLUOL AND BENZOL by scrubbing your gas to remove the light oils. We will be pleased to advise you in regard to a plant for this purpose.

HOPE ENGINEERING & SUPPLY COMPANY,
Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Ranges, 450; water heaters, 150.
No. commercial gas arc lamps, 80.
Supplies Lakeland.

Miami Gas Co., Miami.

RR.: Fla. E. C. Ex.: So.

Main office, 401 Market St., Philadelphia, Pa.
Capital stock, \$200,000.
Bonds, \$377,600; due 1934; interest, 5 p. c.
President, H. M. Van Court.
Secretary, W. C. Roome.
Treasurer, H. G. Van Court.
Superintendent, J. W. Murdock.
Engineer, L. E. Miksitz.
Process manufacture, Lowe.
Annual production, 90,000,000 c. f.
Price coke per ton, delivered, \$10.58.
Price oil per gal., delivered, 7.26c.
Calorific value, 600 B. t. u.
Av. candle-power, 25.
Total gas holder capacity, 380,000 c. f.
Holder pressure, max., 7 in.
Max. day's send out, 500,000 c. f.
Miles of mains, approx., 60.
Street main pres., max., 9 in.; min., 6 in.
High pressure mains, 25 miles.
Annual sales, approx., 90,000,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. dist. supplied, 23,000.
No. consumers, 3,000.
No. meters, reg., 1,700; prepay., 1,300.
Price gas: Light and Fuel, net \$1.50.
Ranges, 2,100; heaters, 500; water heaters, 700.
Supplies Greater Miami, including Riverside, Buena Vista and Southside.

Ocala Gas Co., Ocala.

RRs.: S. A. L.; A. C. L. Ex.: So.

(Successor to Citizens Gas Co.)
Capital stock, auth., \$50,000; issued, \$7,800.
President, R. S. Hall.
Secretary, C. W. Hunter.
Treasurer, W. M. Palmer.
General manager, C. W. Hunter.
New bus. mgr. and pur. agt., C. W. Hunter.
Process manufacture, Lowe.
Price coke per ton, delivered, \$5.25.
Price oil per gal., delivered, 4.5c.
Candle-power, 18. Calorific value, 600 B. t. u.
Annual production, 7,500,000 c. f.
Total gas holders capacity, 25,000 c. f.
Holder pressure, max., 3.2 in.
Max. day's send out, 36,000 c. f.
Miles of mains, approx., 7.
Street main pres., max., 3.2 in.; min., 3 in.
Annual sales, approx., 7,500,000 c. f.
Gas unaccounted for, 12 p. c.
Pop. of city, 4,370; of dist. supplied, 5,000.
No. meters, reg., 180; prepay., 81.
No. of consumers, 261.
Price gas: Light, \$2. Fuel, \$1.50.
Ranges in use, 255; heaters, 298; water heaters, 78.
No. commercial gas arc lamps, 98.
Supplies Ocala.
(No 1918 report.)

Orlando Water and Light Co., Orlando.

RRs.: S. A. L.; A. C. L. Ex.: So.

Capital stock, \$300,000.
Bonds, \$226,500; int., 4, 5 and 6 p. c.
President, William P. Beeber.
Secretary and treas., J. M. Cheney.
General manager, D. A. Cheney.
Mgr. gas dept., J. Y. Cheney.
Superintendent, A. L. Kivet.
Process manufacture, Lowe (U. G. I.).
Annual production, 12,500,000 c. f.
Price coke per ton, delivered, \$12.
Price oil per gal., 7c.
Candle-power, 20.
Total gas holders capacity, 30,000 c. f.
Holder pressure, max., 4.2 in.
Max. day's send out, 85,000 c. f.
Miles of mains, approximate, 20.
Street main pressures, max., 4 in.; min., 3 in.
Annual sales, approx., 12,500,000 c. f.
Gas unaccounted for, 12.5 p. c.
Pop. city, 3,894 (1910); now est. 9,000; dist. supplied, 5,000.
No. consumers, 800.
No. meters, reg., 500; prepay., 300.
Price gas: Light and Fuel, up to 1,000 c. f., 25c. per 100 c. f.; 1,000 to 5,000 c. f., \$2.22; next 5,000 c. f., \$2.00; next 10,000 c. f., \$1.75; all over 20,000, \$1.65; min., \$1; disc., 10 p. c., 10 days. Prepay., \$2.50.
No. ranges, 350; heaters, 300; water heaters, 300.
No. commercial gas arc lamps, 80.
Supplies Orlando.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$180,000.
System operated: Arc, D. C.; incand. A. C., single phase, 60 cycles: power, 1 and 3 phase.
Generating capacity: Lighting, 1,200 kw.
Voltage: Line, 2,300; incand., 110; power, 110-220.
City lighting contract: Hours lighted per year, ares, 4,000.
No. public arcs, 10; 450 watt. Price per year, \$110.
No. public incand., 260 80-60 watt. Price per year, \$36 and \$24.
Price current, commercial, per kw. hr., gross, 10c.; disc., 10 p. c. Rates for dom. use, 11c. per kw.
Power circuits: No. motors, 100; price per kw. hr., avg. 7c. Disc., 10 p. c.
Output of station for year, 1,500,000 kw. hrs.
Generating power used, Steam; rated h. p., 1,400.
Operate ice plant and water plant.
Cost of station boiler fuel: Coal, per ton, \$8; wood, per cord, \$3.50; oil, per bbl., \$1.20.

Palatka Public Service Co., Palatka.

RRs.: A. C. L.; Fla. E. C.; Ga. So. & Fla. S. Bs.; Clyde's St. J. R. L.; Naval Stores; B. & M.; Hart Line. Ex.: So.

(Successor to Palatka Gas Light & Fuel Co.)
Controlled by Southern Utilities Co.
Capital stock, \$55,000.



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



President, C. I. Day.
 Secretary and treasurer, F. G. Whitney.
 Manager, R. E. L. Mann.
 Purchasing agent, J. G. White Mgt. Corp.
 Process manufacture, Lowe.
 Price of oil per gallon, 7.4c.
 Candle-power, 18.
 Gas holder capacity, 17,200 c. f.
 Miles of mains, approximate, 4.5.
 Annual sales, approx., 4,565,000 c. f.
 Pop. dist. supplied, 3,779 (1910); now est., 6,800.
 No. meters, reg., 113; prepay., 76.
 Price gas: Light and Fuel, \$1.60.
 Supplies Palatka.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated: Single phase, 60 cycle.
 Generating capacity, 400 kw.
 No. incand. (80c. p.), 111. Lighted all night.
 Price per year, \$75.
 Price incand., Com'l, per mo., min. \$1.50.
 Meters at 10c. per kw. hr.
 Power used, Steam.
 Price boiler fuel, pine wood, per cord, \$3.76.

Pensacola Gas Co., Pensacola.

RRs.: L. & N.; Pens., Ala. & Tenn. S. Bs.:
 Milton & Pens.; P., St. A. & G.; M. & G.;
 Gulf. Fla. & Ala. Ex.: So.; Fed.
 Capital stock, \$200,000.
 Bonds, \$200,000; due 1934; interest, 5 p. c.
 President, Walton Clark.
 Secretary, G. W. Curran.
 Treasurer, James Ball.
 Purchasing agent, J. A. Pearson.
 Superintendent, C. F. Zeek.
 Process manufacture, Lowe.
 Calorific value, 575 B. t. u.
 Miles of mains, approx., 38.
 Annual sales, approx., 56,000,000 c. f.
 Pop. dist. supplied, 23,247.
 No. consumers, 2,772.
 No. meters, reg., 599; prepay., 2,173.
 Price gas: Light and Fuel, \$1.50.
 Ranges, 2.326; heaters, 1.700; water heaters, 386.
 No. commercial gas arc lamps, 442.
 Supplies Pensacola.

St. Augustine Gas and Electric Light Co., St. Augustine.

RR.: Fla. E. C. Ex.: So.
 Capital stock, com. auth., \$250,000; issued \$200,000.
 President, Wm. G. Warden.
 Secretary, G. W. Curran.
 Treasurer, Lewis Lillie.
 Superintendent, C. L. Lyons.
 Purchasing agent, J. A. Pearson.
 Process manufacture, Lowe.
 Miles of mains, approx., 16.36.
 Annual sales, approx., 38,139,000 c. f.
 Pop. dist. supplied, 7,575.
 No. consumers, 1,947.
 No. meters, reg., 944; prepay., 1,003.

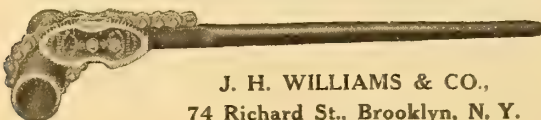
Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 Ranges, 1.449; heaters, 1.330; water heaters, 153.
 No. commercial gas arc lamps, 285.
 Supplies St. Augustine and New Augustine.

St. Petersburg Gas Works, St. Petersburg.

RRs.: A. C. L.; SS. bet. Port Tampa and St. Petersburg, and Ind. Line. Ex.: So.
 (Municipal plant.)
 Bonds, \$148,000; serial (\$25,000, due every 5 years); int., 6 p. c.
 Director of Public Utilities, R. E. Ludwig.
 Engineer, R. E. Ludwig.
 Superintendent, John W. Perkerson.
 Process manufacture, Lowe.
 Candle-power, 18.
 Calorific value, 650 B. t. u.
 Price of coke per ton, del'd. \$8.23 to \$10.38;
 oil per gal., 5.02c. to 7.55c.
 Annual production, 28,483,092 c. f.
 By-products made: Tar, approx., 14,000 gals.
 Gas holder capacity, 175,000 c. f.
 Holder pressure, 3.5 in.
 Max. day's send out, 405,000 c. f.
 Street mains, approx., 32 miles.
 Pressures, max., 3.5 in.; min., 3 in.
 Annual sales, approx., 30,300,000 c. f.
 Gas unaccounted for, 5½ p. c.
 By-products sold: Tar, approx., 50,000 gals. (accumulation).
 Population of city, 4,127 (1910); dist. supplied, normal, 10,000; winter, 30,000.
 No. consumers, 2,416.
 No. meters, reg., 600; prepay., 1,816.
 Price gas: Light and Fuel, gross, \$1.35 for 1st 5,000 c. f.; next 5,000 c. f., \$1.25; next 10,000 c. f., \$1.15; next 20,000 c. f., \$1.05; all over 40,000 c. f., special with min., 90c. Discount, 10c., 10 days.
 Gas appliances in use: Ranges, 1,400; heaters, 750; water heaters, 900.
 Supplies St. Petersburg.

Sanford Public Service Co., Sanford.

RRs.: A. C. L.; Fla. E. Co.; Ind. L. Ex.: So.
 (Successor to Sanford Light & Fuel Co.)
 Controlled by Southern Utilities Co., Jacksonville, Fla.
 Capital stock, auth. and issued, \$50,000.
 Bonds, \$40,000; due 1935; int., 6 p. c.
 President, C. I. Day.
 Sec'y and treas., F. G. Whitney.
 Purchasing agents, J. G. White Management Corp.
 Local mgr., F. P. Rines.
 Process manufacture, Lowe (Granger-Collins).
 Price oil per gal., delivered, 5.1c.
 Candle-power, 22; calorific value, 540 B. t. u.
 Total gas holders capacity, 57,000 c. f.
 Max. day's send out, 44,000 c. f.
 Miles of mains, approx., 7.9.
 Street main pressures, max., 3 in., min., 2 in.
 Annual sales, approx., 6,855,000 c. f.
 Gas unaccounted for, 20.4 p. c.



J. H. WILLIAMS & CO.,
 74 Richard St., Brooklyn, N. Y.

Williams' Improved "Vulcan" Drop-Forged Chain Pipe Wrench

With Double-Ended Reversible Jaws for Turning
 or Holding Pipe, Pipe-Fittings, etc., from ¼ to 12
 Inches Diameter.

Pop. dist. supplied, 5,000; of city, the same.
No. consumers, 467.
No. meters, reg., 221; prepay., 246.
Price gas: Light and Fuel, net, \$2.
Supplies Sanford. ———

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$50,000.
System operated: A. C. 2 phase; 7,200 alt. per min. Arc lamps in series; incand. lamps in series.
Generating capacity: Lighting and power, 450 kw.
Voltage: Series, 1,700; incand., 110; power, 110-220-2,300.
City lighting contract: Hours lighted per year, arc, 4,000; incand., 4,000.
No. public arcs, 12; 500 watt.
No. public incand., 152.
Commercial lighting: No. incand., 6,675—50 watt equiv.
Price current per kw. hr., gross, 12c. to 8c.
Power circuits: No. of motors, 57; price per kw. hr., 9c. to 6c. Used for power as well as lighting.
Output of station, kw. for year, \$94.483.
Generating power used: Steam.

Board of Public Works, City of Tallahassee.

RRs.: Ga., Fla. & Ala.; S. A. L. Ex.: So.

(Municipal plant.)
Chairman, B. M. Cates.
Secretary, J. W. Collins.
Treasurer, Geo. W. Saxon.
Pur. agent, D. R. Swing.
Manager, D. R. Swing.
Superintendent, D. R. Swing.
New bus. mgr., D. R. Swing.
Engineer, F. Raiford.
Process manufacture, Coal.
Annual prod., approx., 6,000,000 c. f.
Price coal, delivered, per ton, \$5.45.
Candle-power, 16.
Calorific value, 600 B. t. u.
Gas holder capacity, 20,000 c. f.
Holder pressure, max., 3 in.
Max. day's send out, 30,000 c. f.
Miles of mains, approx., 8.
Street main pressures, max. 3 in.; min. 2 in.
Annual sales, approx., 6,000,000 c. f.
Gas unaccounted for, 11 p. c.
Pop. of city, 5,018 (1910); of dist. supplied, 7,000.
No. consumers, 310.
No. meters, reg., 302; prepay., 8.
Price gas: Light, net \$2 per 1,000 c. f.; \$1.75 per 2,000 c. f.; \$1.50 over 3,000 c. f. Fuel, net \$1.50. Min., 50c.
Gas appliances in use: Ranges, 168; heaters, 82; water heaters, 53.
Supplies Tallahassee and vicinity.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. series; incand., A. C.; power, A. C. single and 2 phase, 60 cycle.
Generating capacity: Lighting, 350 kw.; power, 350 kw.

Voltage: Arcs, series; incand., 110; power, 110-220.

City contract: Hours lighted, moonlight schedule.

No. public arcs, 83; series 6.6 amp.; price per year, \$70.

No. public incand., 47; 100 watt; price per year, \$25.

Commercial lighting: Incand., 16,500.

Price per kw. hr., gross, 10c.; disc., sliding scale to 5.5c. Min. \$1.00.

Power circuits: No. motors, 48; price per kw. sliding scale, 7c. to 5c.

Generating power used, Steam; rated h. p., 525.

Cost of station boiler coal, per ton, \$4.65 at plant.

The Tampa Gas Co., Tampa.

RRs.: A. C. L.; Cen. of Ga.; S. A. L.; Ga. Nor. Ex.: So.

For capitalization and bonds, see Appendix.
President, John Gribbel.
Vice-pres. and treasurer, David J. Collins.
Secretary, Rosco Nettles.
Manager and pur. agent, Rosco Nettles.
Engineer, J. D. Shattuck.
Superintendent, G. L. Hatsell.
New bus. mgr., H. T. Timberlake.
Process manufacture, Lowe.
Annual production, 222,000,000 c. f.
By-products made: Tar, 10,000 gals.
Candle-power, 21.
Calorific value, 585 B. t. u.
Total gas holders capacity, 600,000 c. f.
Holder pressure, 5.5 in.
Max. day's send out, 1,250,000 c. f.
Miles of mains, approx., 93.
Street main pressures, max., 5 in.; min., 3 in.
Booster mains, 3; pressure, 9 lbs.
Annual sales, approx., 200,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city, est., 60,000; of dist. supplied, est., 50,000.
No. consumers, 6,771.
No. meters, reg., 3,697; prepay., 3,074.
Price gas: Light and Fuel, sliding scale: 1st 1,000 c. f., \$1.44 net; next 5,000 c. f., \$1.35; next 10,000 c. f., \$1.26; next 20,000 c. f., \$1.13; next 40,000 c. f., \$1.
No. public Miner incand. lamps, 2,070.
Price per year, \$25.
Price includes repairs, care, lighting and extinguishing.
No. hours lighted per year, 4,000.
No. ranges, 6,500.
No. commercial gas arc lamps, 1,500.
Supplies Tampa and West Tampa.

West Tampa Gas Co., West Tampa.

RRs.: A. C. L. Ex. So.

Capital stock, \$100,000.
President, John Gribbel.
Sec'y and mgr., Rosco Nettles.
Treasurer, David J. Collins.

RELIABLE

"ANGLIRON"

RANGES

The bright polished and nickel-plated door frames, ebony black finished angle iron main front, main top and base in connection with the white porcelain enameled trimmings, all with surface smooth as glass, effect a most beautiful and attractive appearance. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Pur. agent, Rosco Nettles.
 Gas purchased from Tampa Gas Co.
 Population of city, 9,050 (1916).
 Price gas: Light and Fuel, sliding scale, \$1.50
 to \$1 net. (See Tampa.)

No. public lamps, 200.
 Contract includes repairs, care, lighting and
 extinguishing.
 No. hours lamp is lighted per year, 4,000.
 Supplies West Tampa.

GEORGIA.

Total population, 2,875,953.

Albany Gas and Electric Works, Albany.

RRs.: A. C. L.; Cen. of Ga.; S. A. L.; Ga.
 Nor. Ex.: So.

(Municipal plant.)
 Bonds, \$50,000; int., 5 p. c.
 Superintendent, N. F. Tift.
 Process manufacture, Lowe (Sutherland).
 Candle-power, 18.
 Price coke per ton, delivered, \$9.50.
 Price oil per gal., 9c.
 Annual production, 18,000,000 c. f.
 By-products made: Tar, 5,000 gals.
 Gas holder capacity, 40,000 c. f.; pressure, 3 in.
 Max. day's send out, 60,000 c. f.
 High pressure mains, miles, 11.5; pressure, 8
 in to 4 in.
 Annual sales, approx., 16,000,000 c. f.
 Pop. of city, 8,190 (1910); now est., 14,000.
 No. consumers, 540.
 No. meters, reg., 500; prepay., 40.
 Price of gas, \$1.30 for first 10,000 c. f.; \$1.25
 next 10,000 c. f.; \$1.10 for 30,000 c. f.
 and over. Disc., 10 p. c., 10 days.
 No. ranges in use, 475; heaters, 200; water
 heaters, 75.
 No. commercial gas arc lamps, 20.
 Supplies Albany.

ELECTRICAL DEPARTMENT.

System, A. C., 60 cycles; 3 phase.
 City lamps lighted all night and every night.
 No. public arcs, 100; 400 c. p.
 No. public incand., 40; 100 c. p. (450 60 c. p.
 in "white way").
 No. consumers, 1,800.
 No. motors, 5, used for compressors and pump-
 ing.
 Output at station, kw. for year, 1,601,000.
 Power is furnished by Albany Light & Power
 Co., two and a half miles from city, on
 contract.

Americus Lighting Co., Americus.

RRs.: Cen. of Ga.; S. A. L. Ex.: So.

(Successor to Americus Public Service Co.)
 (Controlled by the General Utilities & Operat-
 ing Co., Munsey Bldg., Baltimore, Md.)
 Capital stock, \$100,000.
 Bonds, \$250,000; due 1937; int., 6 p. c.
 President, J. C. M. Lucas.
 Sec'y and treas., H. P. Lucas.
 General manager, J. E. Johnson.
 Pur. agent, J. E. Johnson.
 Engineer, J. E. Johnson.
 Process of manufacture, Coal.
 Price coal per ton, delivered, \$5.50.

Candle-power, 14; calorific value, 600 B. t. u.
 Annual production, 15,000,000 c. f.
 By-products made: Coke, 1,147.29 tons; tar,
 20,365 gals.
 Max. day's send out, 60,800 c. f.
 Gas holder capacity, 60,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approx., 6.
 Street main pressures, max., 4 in.; min., 2 in.
 Annual sales, approx., 14,000,000 c. f.
 Gas unaccounted for, 12.5 p. c.
 By-products sold: Coke, 1,147.29 tons; tar,
 20,365 gals.
 Pop. of city, 8,063; of dist. supplied, 6,000.
 No. consumers, 704.
 No. meters, reg., 387; prepay., 317.
 Price gas: Light and Fuel, \$1.40.
 Ranges in use, 650; heaters, 400; water heat-
 ers, 300.
 No. commercial gas arc lamps, 50.
 Supplies Americus.

ELECTRICAL DEPARTMENT.

System operated: Lighting: Arc, series A.
 C.; incand., A. C.; power, A. C., 60 cycles.
 3 phase.
 Generating capacity: Lighting and power,
 1,500 kw.
 Voltage: Incand. and power, primary, 2,300.
 220-110.
 City lighting contracts: hours lighted, dark un-
 til daylight.
 No. public arcs, 21; 450 watt. Price per year,
 \$65.
 No. public incand., 185; 250 c. p. Price per
 year, \$35.
 Commercial lighting: Incand., 7,500; other
 lamps equal to 10,000 50 watt equiv.
 Price per kw., 10c., 9c., 8c., 7c., 6c. and 5c.;
 10 p. c. penalty.
 Power circuits: Motors, 50; price per kw. hr.,
 7c. to 15c.
 Output of station, kw. for year, 1,526,728.
 Power used: Steam; rated 900 h. p.
 Cost boiler coal per ton, \$5.20.

Athens Gas Light and Fuel Co., Athens.

RRs.: Ga. R. R.; So.; S. A. L.; Cen. of Ga.;
 Gaines Mid. Ex.: So.

Capital stock, \$125,000.
 Bonds, \$250,000; due 1942; int., 5 p. c.
 President, John Gribbel.
 Secretary, Wm. H. Roberts, Jr.
 Treasurer, Wm. H. Roberts, Jr.
 Purchasing agent, Rodney C. Wilson.
 General manager, Rodney C. Wilson.



Superintendent, Geo. W. Joiner.
New bus. mgr., Rodney C. Wilson.
Process manufacture, Coal.
By-products made: Coke. 2,200 tons; tar,
36,000 gals.

Price coal per ton, delivered, \$3.10.
Candle-power, 18; calorific value, 600 B. t. u.
Total gas holders capacity, 83,000 c. f.
Max. day's send out, 200,000 c. f.
Miles of mains, approx., 25.
Street main pressures, max., 4.8 in.; min.,
2.5 in.

Annual sales, approx., 30,000,000 c. f.
Gas unaccounted for, 9.5 p. c.
Pop. dist. supplied, 14,000; of city, 14,913.
No. meters, reg., 900; prepay, 200.
No. consumers, 1,100.

Price gas: Light and Fuel, net, \$1.70 first
5,000 c. f.; \$1.50 next 5,000; \$1.30 next
10,000; \$1.15 next 10,000; all over 40,000
c. f. \$1 net. Min. charge, \$1 per mo.
Ranges in use, 600; heaters, 260; water heat-
ers, 290.

No. commercial gas arc lamps, 460.
Supplies Athens.

Atlanta Gas Light Co., Atlanta.

RRs.: A. & W. P. & W.; A. B. & A.; Cen.
of Ga.; Ga. R. R.; L. & N.; N. C. & St.
L.; So.; S. A. L. Ex.: Ad.; So.

Controlled by Georgia Railway and Power Co.
For capitalization and bonds, see Appendix.
President, G. W. Brine.

Vice-president, P. S. Arkwright.
Sec'y and manager, R. C. Congdon.
Treasurer, I. S. Mitchell, Jr.
Supt. of mains, C. J. Weinmiester.
Supt. of works, A. D. Whitaker.
Supt. new business dept., W. R. Collier.
Pur. agent, W. H. Shaw.
Auditor, H. Flynn.

Process manufacture, Coal and Lowe.
Annual prod., coal gas, 477,609,695 c. f.; water
gas, 556,418,415 c. f.

By-products made: Coke, 29,079.35 tons; tar,
908,126 gals.; ammonia, 144,659 lbs.

Candle-power, 18.85.
Calorific value, 601 B. t. u.
Total gas holders capacity, 3,144,000 c. f.
Holder pressure, 12 in.
Max. day's send out, 3,500,000 c. f.
Miles of mains, approx., 265.20.

Street main pressures, max., 6 in.; min., 3 in.
Booster mains, 7 miles; press., 20 in.
Annual sales, approx., 957,000,000 c. f.
Gas unaccounted for, 4.199 p. c.
Pop. dist. supplied, 170,000; of city, 154,839.
No. consumers, approx., 26,900.
No. meters, reg., 15,180; prepay., 11,779.

Price gas: Light and Fuel, gross, \$1.10 to 80c.;
sliding scale: 1st 10,000 c. f., \$1.10; next
20,000 \$1; next 20,000, 90c.; over 50,000,
80c. Disc., 10 p. c., 10 days.

No. ranges, approx., 19,000.
No. commercial gas arc lamps, approx., 1,150.
Supplies Atlanta and Decatur.

The Gas Light Co. of Augusta, Augusta.

RRs.: Aug. So.; Cen. of Ga.; Chas. & W. C.;
So.; A. C. L.; Ga. R. R.; S. Bs. from
Savannah. Ex.: So.

Controlled by Southern Gas & Electric Corp'n.
Capital stock, pref., auth., \$150,000; issued,
\$35,000; com., auth. and issued, \$300,000.

Bonds, \$732,000; due 1936; int., 5 p. c.
President and gen'l mgr., L. I. Pollitt.
Vice-pres., A. C. Howard.
Secretary and treas., M. M. May.
Asst. sec'y and asst. treas., M. G. Banigan.
Manager and pur. agt., F. L. Marshall.
Process manufacture, Lowe.
Calorific value, 575 B. t. u.

Annual production, 156,441,600 c. f.
Total gas holder capacity, 425,000 c. f.
Max. day's send out, 828,900 c. f.
Miles of mains, approximate, 77.
Street main pressures, max., 4 in.; min., 3 in.
Annual sales, approx., 134,294,400 c. f.

Gas unaccounted for, 12.4 p. c.
Pop. dist. supplied, 45,000; of city, est., 55,000.
No. consumers and meters, 5,548.

Price gas, gross, \$1.40; net, \$1.30 1st 20,000
c. f.; second 10,000 c. f., \$1.15 net; 3d
10,000 c. f., \$1; all over 40,000 c. f., 90c.
No. gas ranges in use, 5,066; water heaters,
883.

No. commercial gas arc lamps, 1,882.
Supplies Augusta and Summerville.

Mutual Light and Water Co., Brunswick.

RRs.: A. C. L.; A. B. & A.; So. S. B.;
Bruns.; Bruns. & Fla.; Bruns. & Sat. n.
Route; Bruns., St. S. & D. Ex.: So.

(Controlled by Brunswick Terminal & Ry.
Securities Co., New York City.)

Capital stock, issued, \$133,500.
Bonds, \$400,000; due 1928; int., 5 p. c.
President, Albert Fendig.
Sec'y and treas., Geo. H. Smith.
Pur. agent, J. M. Armstrong.
Engineer, J. M. Armstrong.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.60.
Candle-power, 18.

Miles of mains, approx., 12.
Street main pressure, avg., 3 in.
Annual sales, approx., 7,500,000 c. f.
By-products sold: Coke, 300 tons; tar, 1,500
gals.

Pop. city supplied, est. 12,180.
No. consumers, 550.
No. meters, reg., 205; prepay, 255.
Price gas: Light, \$1.50; Fuel, \$1.25.
Ranges in use, 550.
Supplies Brunswick.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
Arc system, A. C., series circuit.
Voltage: Incand., 110; power, 220.
City lighting contract: Hours lighted, arcs,
3,000; incand., continuous.

Provide your men with the greatest insurance against disaster. Use
the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY.

263 East 133rd Street, New York, N. Y.

No. public arcs, 58; 600 c. p. Price per year, \$75.
 No. public incand., 198; 60 watt; price per year, \$18.60.
 Price commercial, per kw. hr., gross, 11c.
 Rates for domestic use, 11c.
 Price power per kw. hr., 7.5c.
 Power used, Steam; rated, 500 h. p.
 Cost boiler coal per ton, \$4.50.

Cartersville Gas Works, Cartersville.

RRs.: S. A. L.; N. C. & St. L.; L. & N. Ex.: Ad.; So.

(Municipal plant.)
 Mayor, P. C. Flemister.
 Clerk, W. W. Davis.
 Superintendent, A. Cook.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.50.
 Candle-power, 18.
 Annual production, approx., 5,000,000 c. f.
 By-products made and sold, 250 tons coke; 9,000 gals. tar.
 Gas holder capacity, 50,000 c. f.
 Miles of mains, approx., 10.
 Street main pressure, max., 2.5 in.
 Annual sales, approx., 5,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city, 5,500 (1916); dist. supplied, 2,000.
 No. consumers, 350.
 No. meters, reg., 200; prepay., 150.
 Price gas, \$1.25.
 Ranges in use, 175; water heaters, 100.
 No. commercial gas arc lamps, 20.
 Supplies Cartersville.

ELECTRICAL DEPARTMENT.

(Operated by Water, Light and Bond Commission.)

Generating capacity: Lighting and power, 500 kw.
 No. public incand., 200; 40 400 c. p.; 50 250 c. p.; 110 100 c. p.
 Price per kw. hr., gross, 12c. Disc., 20 p. c.
 Power circuits: No. motors, 48. Price current per kw. hr., 3c. to 12c. Discount, 20 p. c.
 Output of station, kw. hrs. for year, 900,000.
 Generating power used, Steam, rated, 350 kw.
 Cost of station boiler coal, per ton, \$4.40.

Gas Light Co. of Columbus, Columbus.

RRs.: Cen. of Ga.; S. A. L.; So.; Chat. R. S. Bs.: Ex.: So.

(Stock and bonds of this Co. all owned by Columbus Electric Co.; see Parent Co.)
 Gen. mgrs., Stone and Webster.
 Manager, John S. Bleeker.
 Process manufacture, Coal.
 Calorific value, 580 B. t. u.
 Annual production, 52,407,000 c. f.
 By-products made: Coke, 3,927 tons; tar, 51,510 gals.
 Gas holder capacity, 273,000 c. f.
 Max. day's send out, 200,000 c. f.
 Miles of mains, approx., 34.9.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 43,314,000 c. f.

Gas unaccounted for, 15.4 p. c.
 Pop. city, 20,554; dist. supplied, 26,100.
 No. meters, reg., 1,053; prepay., 856.
 Price gas: Light and Fuel, gross, \$1.45; net, \$1.35; 50 M. c. f. and over, \$1.10 gross, \$1 net.
 Ranges in use, 1,476; water heaters, 698.
 No. commercial gas arc lamps, 157.
 Supplies Columbus and suburbs.

Water, Light and Sinking Fund Commission, Dalton.

RRs.: N., C. & St. L.; So. Ex.: So.

(Municipal plant.)
 Chairman, Paul B. Trammell.
 Gen. mgr. and pur. agt., C. C. McCamy.
 Superintendent, C. C. McCamy.
 Process manufacture, Coal.
 Candle-power, 18; calorific value, 625 B. t. u.
 Annual production, 10,000,000 c. f.
 By-products made: Coke, 700 tons; tar, 7,000 gals.
 Total gas holders capacity, 20,000 c. f.
 Holder pressure, max., 3 in.
 Max. day's send out, 30,000 c. f.
 Miles of mains, approximate, 12.
 Street main pressures, max., 3 in.; min., 2 in.
 Annual sales, approx., 8,000,000 c. f.
 Gas unaccounted for, 20 p. c.
 By-products sold: Coke, 500 tons; tar, 1,000 gals.
 Pop. dist. supplied, 3,000; of city, 5,324.
 No. consumers, 300.
 No. meters, reg., 200; prepay., 100.
 Price gas: Light and Fuel, gross, \$1.20; net, \$1.00.
 Ranges in use, 150.
 Supplies Dalton.

ELECTRICAL DEPARTMENT.

System operated: Arc., incand. and power, A. C., 3 phase.
 Generating capacity: Lighting, 300 kw.
 Voltage: Arcs, series, A. C.; incand., 110; power, 110-220.
 No. public incand., 300; 100-500 watt.
 Price commercial current per kw. hr., 12c. to 18c. Disc., 10 p. c.; domestic, 12c. to 18c.
 Power purchased from Ga. Ry. & Pr. Co.
 Power circuits: No. motors, 45.
 Power, price per kw. hr., 5c. to 2c.
 Output of station, kw. hrs. per year, 850,000.
 Generating power used, Steam; rated, 300 h. p. (Steam plant for emergency only.)
 Cost of station boiler coal, per ton, \$2.25.

Suburban Gas and Electric Co., Decatur.

RRs.: Ga. R. R. Ex.: So.

This company has been taken over by Georgia Railway & Power Co., Atlanta, and is no longer in business.

Griffin Gas, Ice and Cold Storage Co., Griffin.

RRs.: Cen. of Ga.; So. Ex.: So.

(Controlled by W. J. Kincaid and associates.)
 Capital stock, 50,000.
 Bonds, \$100,000; due 1934; int., 6 p. c.
 President, W. J. Kincaid.

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Secretary, Joseph M. Thomas.
Treasurer, B. W. Kincaid.
Pur. agt. and gen'l mgr., B. W. Kincaid.
Superintendent and engineer, G. M. Lane.
New-business manager, B. W. Kincaid.
Process manufacture, Lowe.
Annual production, 10,000,000 c. f.
Price, delivered, coke per ton, \$5.
Candle-power, 18.
Gas holder capacity, 30,000 c. f.
Holder press., max., 3.5 in.
Max. day's send out, 30,000 c. f.
Street mains, approx., 8 miles.
Annual sales, approx., 10,000,000 c. f.
Gas unaccounted for, 3 p. c.
Pop. of dist. supplied, est. 7,000.
No. consumers, 400.
No. meters, reg., 350; prepay., 50.
Price gas: Light, gross, \$1.60; net, \$1.50. Fuel,
gross, \$1.60; net, \$1.50.
Gas appliances in use: Ranges, 350; heaters,
100; water heaters, 150.
No. commercial gas arc lamps in use, 100.
Supplies Griffin.

City of La Grange Gas Plant, La Grange.

RRs.: A. & W. P. & W.; A., B. & A.; Macon
& Birm. Ex. So.
(Municipal plant.)
Bonds, \$40,000; due 1930; interest $4\frac{1}{2}$ p. c.
Sec'y and treas., T. J. Harvell.
Gen'l manager and pur. agent, G. H. Sargent.
New bus. manager, G. H. Sargent.
Superintendent, H. W. Candle.
Process manufacture, Lowe.
Price of coke per ton, delivered, \$16.50.
Price of oil per gal., delivered, 10c.
Candle-power, 20; calorific value, 650 B. t. u.
Annual production, 15,000,000 c. f.
Gas holder capacity, 40,000 c. f.
Holder pressure, 4.5 in.
Max. day's send out, 40,000 c. f.
Miles of mains, approx., 10.
Street main pressure, max., 4.5 in.; min., 4 in.
Annual sales, approx., 15,000,000 c. f.
Gas unaccounted for, 5 p. c.
Population of city, 5,587 (1910); of dist. sup-
plied, 10,000.
No. consumers, 650.
No. meters, reg., 450; prepay., 150.
Price gas: Light and Fuel, \$1.25.
No. ranges, 400; heaters, 200; water heaters,
100.
No. commercial gas arc lamps, 20.
Supplies La Grange.

ELECTRICAL DEPARTMENT.

(Operated under the name of City of La
Grange Light Dept.)
System operated: Arcs, A. C.; incand., A. C.;
power, A. C., 3 phase, 60 cycles.
Generating capacity; Lighting, 600 kw.
Voltage: Incand., 110; power, 220-440-2,300.
City lighting contract: Hours lighted per
year: Arc and incand., 3,200.
No. public arcs, 101; 500 watt. Price per
year, \$72.
No. public incand., 75; 250 watt. Price per
year, \$32.

Price current per kw. hr., gross, 7c. Dis-
counts, 10 p. c. to 40 p. c.
Domestic rates, 10c. to 7c.
Power circuits; No. motors, 50; price per kw.
hr., 2c. to 7c. net.
Output of station, kw. hrs. for year, 1,200,000.
Generating power used; Water, rated 550 h. p.
Purchase power from Columbus Power Co.

Macon Gas Co., Macon.

RRs.: Cen. of Ga.; So.; Ga. R. R.; Ga. So.
& Fla.; Macon & Birm.; Macon, Dub. &
Sav. Ex.: So.
(Controlled by Georgia Light, Power & Rys.)
Capital stock, pref., auth., \$30,000; issued,
\$20,000; com., auth., \$480,000; issued,
\$475,500. Annual dividend, pref., 5 p. c.;
common, 5 p. c.
President, W. H. Felton.
Vice-president, P. G. Gossler.
Secretary, R. Frank Jones.
Treasurer, J. J. Thames, Jr.
General manager, L. A. Magraw.
Pur. agent, S. W. Hatfield.
New bus. mgr., M. A. Bowlin.
Superintendent, W. W. Klyce.
Process manufacture, Coal and Lowe.
Annual prod., coal gas, 70,573,700 c. f.; water
gas, 67,861,300 c. f.
By-products made: Coke, 4,500 tons; tar,
100,000 gals.; ammonia, 25,000 gals.
Price coal per ton, delivered, \$4.40.
Price oil per gal., delivered, 5.85c.
Candle-power, 16.
Calorific value, 580 B. t. u.
Gas holder capacity, 575,000 c. f.
Holder pressure, max., 8.8 in.
Max. day's send out, 880,000 c. f.
Miles mains, approx., 53.
Street main pressures, max., 4.5 in.; min.,
2.5 in.
High pressure mains, 1.1 miles; pressure, 5
lbs.
Annual sales, approx., 116,122,300 c. f.
Gas unaccounted for, 16 p. c.
By-products sold: Coke, 1,467 tons; tar, 119,
719 gals.; ammonia, 16,200 lbs. (15 p. c.
N.H.₃).
Pop. district supplied, 50,000; of city, 42,000.
No. consumers, 4,075.
No. meters, reg., 2,389; prepay., 1,686.
Price gas: Gross, \$1.35 net, \$1.25 for first
10,000 c. f.; second 10,000 c. f., \$1.15 net;
third 10,000 c. f., \$1.05 net; over 30,000
c. f., 90c. net; Disc. 20 p. c. allowed on
bills, \$35 to \$150; 22.5 p. c. allowed on
bills, \$150 to \$200; 25 p. c. on bills over
\$200.
No. ranges, 3,405; water heaters, 676.
No. commercial gas arc lamps, 261.
Supplies Macon.

Rome Municipal Gas Co., Rome.

RRs.: Cen. of Ga.; N., C. & St. L.; So.; G.
& A. S. B. Ex.: So.
(Incorporated company.)
Capital stock, pref. auth., \$60,000; com. auth.
and issued, \$40,000.
Bonds, \$40,000; due 1933; interest, 5 p. c., and
\$40,000, due 1936; int., 6 p. c.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street **PHILADELPHIA, PA.**

President, S. E. De Frese.
 Sec'y and treas., W. A. Sadd.
 Purchasing agent, F. J. Cahill.
 Gen'l mgr., F. J. Cahill.
 Superintendent, J. A. Hamilton.
 New bus. mgr., F. J. Cahill.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.10.
 Candle-power, 18; calorific value, 578 B. t. u.
 Annual production, 20,000,000 c. f.
 Total gas holders capacity, 57,000 c. f.
 Holder pressure, 4.5 in.
 Max. day's send out, 78,700 c. f.
 Miles of mains, approx., 13.
 Street main pressures, max., 5 in., min., 2 in.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 10,000; of city, 12,099.
 No. consumers, 998.
 No. of meters, reg., 720; prepay., 278.
 Price gas: Light and Fuel, \$1.50 net.
 Ranges in use, 852; heaters, 400; water heaters, 240.
 No. commercial gas arc lamps, 179.
 Supplies Rome.

Savannah Gas Co., Savannah.

RRs.: A. C. L.; Cen. of Ga.; S. A. L.; So.;
 Sav. & States; Savannah & Northwestern
 S. Bs.; Mer. & Min. Trans.; Sav. & Bluff S.
 B.; Ocean S. S.; Sav. & Beauf. L. Ex.: So.

For capitalization and bonds, see Appendix.
 President, Walton Clark.
 Vice-president, John W. Golden.
 Secretary, G. W. Curran.
 Treasurer, James Ball.
 Superintendent, G. F. Carter.
 Purchasing agent, J. A. Pearson.
 Process manufacture, Lowe.
 Miles of mains, approx., 72.52.
 Annual sales, approx., 269,428,800 c. f.
 Pop. dist. supplied, 51,000; of city, 72,000.
 No. consumers, 8,461.
 No. meters, reg., 6,368; prepay., 2,093.
 Price gas: Light and Fuel: Gross, \$1.20 to
 90c.; net, \$1.10 to 80c.; 1st 10,000 c. f.,
 \$1.20; next 20,000 c. f., \$1.10; next 20,000
 c. f., \$1; over 50,000 c. f., 90c.
 Ranges, 9,664; heaters, 6,660; water heaters,
 2,769.
 No. commercial gas arc lamps, 120.
 Supplies Savannah.

Valdosta Gas Co., Valdosta.

RRs.: A. C. L.; Ga. So. & Fla.; Ga. & Fla.
 Ex.: So.
 Capital stock, \$50,000.
 Annual dividend, 6 p. c.
 President, W. C. Lewis.

Secretary, C. A. Cay.
 Treasurer, W. C. Lewis.
 Pur. agent, J. H. Hagerty.
 Gen'l mgr. and engineer, J. H. Hagerty.
 Superintendent, C. H. Hagerty.
 New bus. mgr., C. H. Hagerty.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$5.45.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual prod., 20,000,000 c. f.
 By-products made: Coke, 600 tons; tar, 20,000
 gals.
 Gas holder capacity, 40,000 c. f.
 Holder pressure, max., 4 in.
 Max. day's send out, 90,000 c. f.
 Miles of mains, approx., 9.
 Street main pressure, max., 4 in.; min., 3 in.
 Annual sales, approx., 17,500,000 c. f.
 Gas unaccounted for, 8 p. c.
 By products sold: Coke, 450 tons; tar, 1,800-
 000 gals.
 Pop. city, est., 11,000; of dist. supplied, 6,000.
 No. consumers, 675; No. meters, 500; prepay.,
 175.
 Price gas: Light and Fuel, gross, \$2; net,
 \$1.50.
 No. public gas lamps, 32.
 No. gas appliances in use: Ranges, 550; heat-
 ers, 450; water heaters, 350.
 No. commercial gas arc lamps, 350.

Consumers Gas and Coke Co., Waycross.

RRs.: A. B. & A.; A. C. L. Ex.: So.

Controlled by Appleby-Wagner Co., Saginaw,
 Mich.
 Capital stock, \$50,000.
 Bonds, \$110,000; due 1941; int., 6 p. c.
 President, B. G. Appleby.
 Vice-pres., R. B. Wagner.
 Sec'y and treas., C. W. Orton.
 Manager, H. D. Wilson.
 Superintendent, R. W. Martin.
 Process manufacture, Coal.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 60,000 c. f.
 High-pressure mains, 19 miles; pressure, 2 to
 1.25 lbs.
 Annual sales, approx., 15,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 14,485; dist. supplied, 15,000.
 No. consumers, 700.
 Price of gas, \$1.40; disc., 10c., 10 days.
 No. ranges, 450; heaters, 180; water-heaters,
 140.
 No. commercial gas arc lamps, 340.
 Supplies Waycross.

HAWAII.

Total population, 217,660.

Hilo Gas Co., Ltd., Hilo.

Capital stock pref., \$40,000; common, \$60,000.
 Annual dividend, pref., 7 p. c.
 Bonds, \$60,000; due 1932; interest, 6 p. c.
 President, P. C. Beamer.

Vice-pres., J. W. Russell.
 Secretary, W. H. Beers.
 Treasurer, H. A. Truslow.
 Engineer, J. M. Berkley.
 Superintendent, E. J. Smith.
 Process manufacture, Oil (Berkeley).

EXPERIMENTAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. We make various styles, includ-
 ing the calorimeter, photometer and labora-
 tory meters. These are carried in stock.

Street mains, approx., 12 miles.
Pop. of city supplied, est. 10,000.
No. consumers, 800.

Honolulu Gas Co., Ltd., Honolulu.

Capital stock, \$450,000.
Annual dividend, 6.5 p. c.
Bonds, \$382,000; due 1940; int., 5 p. c.
President, W. R. Castle.
Secretary, A. L. Castle.
Treasurer, A. N. Campbell.
Manager, F. Q. Cannon.
Pur. agent, C. A. White.
Engineer, R. Cheatham.
New bus. mgr., F. Q. Cannon.
Superintendent, R. Cheatham.
Process manufacture, Lowe (crude oil).
Price oil per gal., delivered, 2.6c.
Candle-power, 20; calorific value, 575 B. t. u.
Annual production, 166,854,400 c. f.

By-products made and sold, approx., 1,000 tons
of carbon; price carbon per ton del'd, \$6.
Gas holder capacity, 260,000 c. f.
Max. day's send out, 583,700 c. f.
High pressure mains, miles, 71; pressure, 20
to 4 in.
Annual sales, approx., 135,522,500 c. f.
Gas unaccounted for, 16.9 p. c.
Pop. of city, 12,000 (white), 52,000 (Oriental);
pop. dist. supplied, 64,000 (all estimated).
No. consumers, 5,383.
No. meters, reg., 1,983; prepay., 3,400.
Price gas: Light and Fuel, gross, \$2 for 1st
2,000 c. f.; \$1.75 from 2,001 to 29,999 c. f.;
and further discounts for quantity to
\$1.20. (Effective Oct. 1, 1917). Disc. 25c.,
10 days.
Gas appliances in use: Ranges, 4,000; water
heaters, 1,500.
No. commercial gas arc lamps, 559.
Supplies Honolulu.

IDAHO.

Total population, 436,881.

Boise Gas Light and Coke Co., Boise.

RRs.: Ore. Short L.; Boise & Int. Ex.: Pac.
(Owned by American Public Utilities Co.)
Bonds, \$335,000; due 1941; int., 5 p. c.
President, Charles Theis.
Vice-pres., J. H. Brewer.
Sec'y and pur. agent, Chas. Eyman.
Treasurer, Chas. Eyman.
Engineer, Chas. Eyman.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.75.
Candle-power, 16.
Calorific value, 600 B. t. u.
Gas holder capacity, 200,000 c. f.
Max. day's send out, 150,000 c. f.
Miles of mains, approx., 33.
Street main pressures, max., 4 in.; min., 3 in.
Annual sales, approx., 45,000,000 c. f.
Gas unaccounted for, 5.5 p. c.
Pop. dist. supplied, 23,000; of city, 17,358.
No. consumers, 2,200.
No. meters, 2,459.
Price gas: Light and Fuel, gross, \$2; net,
\$1.75; industrial gas, gross, \$1.10; net, \$1.
No. public lamps, 5.
No. hours each lamp is lighted per year, 4,000.
Ranges in use, 1,635; heaters, 294; water heat-
ers, 506.
No. commercial gas arc lamps, 300.
Supplies Boise.
(No report.)

East Idaho Gas Co., Idaho Falls.

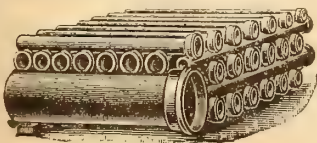
RRs.: Ore. Short L., Ex. Pac.
(Plant under construction.)
Chicago office, 1247 Webster Building.
Capital stock, auth., pref., \$50,000; issued, \$21,-
700; com. auth., \$75,000; issued, \$46,700.
President, W. D. Wilcox, Chicago, Ill.
Vice-pres. and treas., V. K. Tuggle.
Secretary, A. V. Scott, Idaho Falls.
Process manufacture, Coal.
Street mains, approx., 10 miles.

Pacific Power and Light Co., Lewiston.

RRs.: No. Pac.; O.-W. R. R. & Nav. Co. (R. R.
& S. S.). Ex.: N. P.
(Successor to Northwestern Corporation.)
Operated by American Power and Light Co.,
New York City.
General office, Spalding Bldg., Portland, Ore.
(For capitalization, bonds and officers, see
Parent Co.'s Appendix.)
Vice-pres. and gen'l mgr., Lewis A. McArthur.
Local manager, J. E. Law, Lewiston.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.05.
Calorific value, 620 B. t. u.
Gas holder capacity, 30,000 c. f.
Max. day's send out, 63,400 c. f.
Miles of mains, approx., 17.5.
Street main pressures, max., 4.4 in.; min., 4.2
in.
High pressure mains, 1.5 miles; pressure, 10
lbs.
Annual sales, approx., 16,000,000 c. f.
Gas unaccounted for, 12½ p. c.
Pop. dist. supplied, 9,500; of city, Lewiston,
8,000.
No. consumers, 844.
No. meters, reg., 707; prepay., 137.
Price gas: Light and Fuel, gross, \$2.10; net,
70c. Discount, 10c., 10 days. Min.
charge, 50c.
No. gas ranges in use, 510; water heaters, 196.
Supplies Lewiston and Clarkston.

The Pocatello Gas and Power Co., Pocatello.

RR.: Ore. Short Line. Ex.: Pac.
Capital stock authorized, \$150,000; issued,
\$150,000.
Bonds, \$225,000; due 1933; int., 6 p. c.
President, William A. Baehr.
Vice-pres. and treas., Scott Brown.
Secretary, H. L. Hanley.
Pur. agent, William A. Baehr.



**We carry in stock or have in process of
manufacture a full line of all regular sizes of**

**CAST IRON PIPE R. D. WOOD & CO.
PHILADELPHIA, PA.**

Manager, H. L. Peck.
 Engineer, William A. Baehr.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.38.
 Candle-power, 17.
 Calorific value, 650 B. t. u.
 Annual production, 29,027,300 c. f.
 Gas holder capacity, 80,000 c. f.
 Holder pressure, max., 5 lbs.
 Max. day's send out, 126,000 c. f.
 Miles of mains, approx., 22.12.
 Pressure carried, max., 5 lbs.; min., 4 lbs.
 Annual sales, approx., 23,228,200 c. f.
 Gas unaccounted for, 19 p. c.

Pop. of city, 9,110 (1910).
 Pop. dist. supplied, 14,000.
 No. consumers and meters, 1,448.
 Price gas: 1st 5,000 c. f., \$1.55; next 5,000 c. f., \$1.45; next 10,000, \$1.30; next 30,000, \$1.10; over 50,000, \$1. Disc., 10c.
 No. public incand. gas lamps, 18.
 Contract includes repairs, care, lighting and extinguishing.
 Lamps lighted 10 hours per day.
 No. ranges, 1,209; heaters, 223; water heaters, 163.
 No. commercial gas arc lamps, 24.
 Supplies Pocatello.

ILLINOIS.

Total population, 6,193,626.

Alton Gas and Electric Co., Alton.

RRs.: C. & A.; C., P. & St. L.; C., C., C. & St. L.; C., B. & Q.; Ill. Term.; Mo., Kan. & Tex. S. Bs.; Eagle Packet; Diamond Jo. L.; St. L. & Cal. Packet. Ex.: Ad.; Am.; Pac.; National.

(Controlled by East St. Louis & Suburban Co.)

Capital stock pref. auth. \$100,000, issued \$100,000; com. auth. \$500,000, issued \$500,000.
 Annual div., pref., 5 p. c.
 Bonds, \$90,000; due 1927; int., 6 p. c.
 President, O. S. Stowell.
 Sec'y and asst. treas., T. W. Gregory.
 Treasurer, O. S. Stowell.
 Gen'l mgr., D. E. Parson.
 Pur. agent, E. C. Johnston.
 Gen'l supt., W. C. Myers.
 Engineer, E. C. England.
 New bus. mgr., J. R. Monks.
 Process manufacture, Coal and Lowe.
 Price coal, delivered, per ton, \$5.09; oil, per gal., 6.08c.
 Annual production, 67,000,000 c. f.
 Total holder capacity, 166,000 c. f.
 Max. day's send out, 226,000 c. f.
 Miles of mains, approximate, 27.
 Street main pressures, max., 6 in.; min., 3.5 in.; Booster main, 1/6 mi.; pressure, 10 in.
 Candle-power, 17; calorific value, 585 B. t. u.
 Annual sales, approx., 60,000,000 c. f.
 By-products sold: Coke, 3,260 tons; tar, 134,705 gals.; ammonia, 7,513 lbs.
 Pop. dist. supplied, 22,000; of Alton, 17,528; of Upper Alton, 2,918 (1910 census).
 No. consumers, 3,192.
 No. meters, reg. and prepay., 3,192.
 Price gas: Light and Fuel, gross, \$1.10; net, \$1.
 No. commercial gas arc lamps, 35.
 Supplies Alton and Upper Alton.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated: Lighting, A. C. Power, A. C. and D. C.
 City lighting contract: Hours lighted, 4,000.
 Price arc and incand., Com'l. per kw. hr., gross, 10, 6 and 4c. Disc., 5 p. c.

Power purchased from E. St. Louis Lt. & Pr. Co.

Price power current per kw. hr., 6c. to 2.1c., under 50 h. p.; over 50 h. p., sliding scale to .006c.

(Operates 75,000 feet radiation on hot water heating plant.)

Western United Gas and Electric Co., Aurora.

RRs.: Auro. & De K.; C. & No. W.; C., B. & Q.; El. Jo. & E.; C. M. & Gary. Ex.: Ad.; Am.

(For detailed financial information see Appendix.)

President, I. C. Copley.

Vice-president, C. B. Strohn.

Secretary, Fred Bennitt.

Assistant treasurers, Helen O'Meara and C. B. Strohn.

General manager, ————

Gas purchased from Coal Products Mfg. Co.
 Candle-power, 16.

Calorific value, 600 B. t. u.

Miles of mains, 1,030.

Annual sales, approx., 1,489,998,200 c. f.

Pop. dist. supplied, 210,000; of Aurora, 29,807; Joliet, 34,670; Elgin, 25,976.

No. consumers and meters, 48,506.

Price gas: Light and Fuel, gross, 95c.; net, 90c.
 Ranges in use, 37,908.

Supplies Joliet, Plainfield, Lockport, Lemont, Aurora, North Aurora, Montgomery, Lisle, Naperville, Batavia, Geneva, St. Charles, Elgin, South Elgin, West Dundee, East Dundee, Carpentersville, Marengo, Woodstock, Algonquin, Cary, Crystal Lake, Ridgefield, Harvard, La Grange, La Grange Park, Brookfield, Congress Park, Hollywood, Western Springs, Hinsdale, Fullersburg, East Grove, Downers Grove, Wheaton, Glen Ellyn, Lombard, Elmhurst, Winfield, West Chicago, Oswego, Huntley, Union, Rockdale, Bristol, Yorkville, Plano, Gilberts, Hampshire, Sandwich, McHenry, Wayne, Addison, Bensonville, Itasca, Clarendon Hills, Fox River Grove, Westmore, Ardmore, Rockdale, Bartlett, Bloomingdale, Warrenville, Roselle.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY
 111 BROADWAY, NEW YORK

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
Two Natl. Elec. 700 kw. total rated capacity,
A. C. 60 cycle, 2 phase engine generators.
Three Allis Chalmers 2,500 rated capacity,
kw., A. C., 60 cycle, 2 phase turbo gen-
erators.

Three Natl. Elec. 750 kw. total rated capacity,
550 volt D. C. power generators.

The municipal plant lights the streets.

Price current, com'l light per kw., gross, 12c.
Discounts, 2c. to 4c.; power (readiness-to-
serve system) \$1.50 per kw. hr. of max.
dem., plus, 4c; per kw. hr., with discounts
to 1.5c.

Power used: Steam.

Annual sales, approx., 6,265,600 kw.

Supplies Aurora, North Aurora, Montgomery,
Oswego, Wheaton, Warrenville and Glen
Ellyn.

Central Illinois Public Service Co., Beardstown.

RRs.: C., B. & Q.; B. & O.; So. W.; Eagle
Packet. Ex.: Ad.

(Successor to Beardstown Electric Lt. & Pow-
er Co., and Beardstown Public Service
Co.)

For capitalization and officers, see Parent Cos.

General mgr., B. F. Tucker.

Engineer (gas), C. L. Paullin.

Superintendent, H. E. Montgomery.

New bus. mgr., C. O. Duntun.

Pur. agent, D. R. Truax.

Process manufacture, Water-gas (Tenney);
Coal-gas plant for emergency.

Annual prod. water gas, 12,000,000 c. f.; coal-
gas, 3,000,000 c. f.

By products made: Coke, 180 tons; tar, 4,200
gals.

Price coal per ton, delivered, \$3.89.

Price oil, per gal., 3.2c.

Candle-power, 20.

Calorific value, 575 B. t. u.

Total gas holders capacity, 50,000 c. f.

Holder pressure (est.), 3.5 in.

Max. day's send out, 62,000 c. f.

Miles of mains, approx., 14.5.

Street main pres., max., 3.5 in.; min., 2.5 in.

Annual sales, approx., 15,000,000 c. f.

Gas unaccounted for, 15 p. c.

By products sold: Coke, 60 tons.

Pop. dist. supplied, 5,500; of city, 6,107.

No. consumers, 1,021.

No. meters, reg., 934; prepay., 30.

Price gas: Light and Fuel, gross, \$1.30, net,
\$1.20.

Ranges, 697; heaters, 14; water heaters, 66.

Commercial gas arc lamps, 15.

Supplies Beardstown.

ELECTRICAL DEPARTMENT.

System operated, A. C., 3 phase, 60 cycle.

Generating capacity: Lighting and Power, 875
kw.

Voltage: At arc, 70; incand., 110; power, 220.

City lighting contract; hours lighted, 2,700.

Public incand., 145; 80 c. p. Price per year:
106—dusk to dawn—\$21.60; 39—dusk to
midnight—\$15.60; also 48-400 c. p. Price:
13 lighted—dusk to midnight—\$45; 35-
400 c. p. and 6-600 c. p., dusk to dawn,
price per year, total, \$2,460.

Price current per kw. hr., gross, com., 13.5c.,
8c., and 5c.; res., 13.5c. and 8c. Disc., 1c.
per kw. hr.

Power price, 11c., 6c. and 4c. Disc. 1c per
kw. hr.

Output of station, kw. hrs. for year, 2,061,528.
Generating power used, Steam; rated h. p.,
1,050.

Cost of station boiler coal, per ton, \$1.80.

St. Clair County Gas and Electric Co., Belleville.

(See report under East St. Louis, Ill.)

Illinois Northern Utilities Co., Belvidere.

RR.: C. & No. W. Ex.: Am.

(For capitalization and officers see Parent
Cos. and Appendix.)

Superintendent, W. D. Hart.

Process manufacture, Lowe Improved.

Annual production, 39,276,400 c. f.

Candle-power, 21.

Calorific value, 600 B. t. u.

Price coke per ton, delivered, \$8.50.

Price oil per gal., 3.6c.

Gas holder capacity, 150,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 125,000 c. f.

Miles of mains, 26.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 31,824,000 c. f.

Gas unaccounted for, 19 p. c.

Pop. city supplied, 7,253.

No. consumers and meters, 1,596.

Price gas: Light and Fuel, gross, \$1.30; net,
\$1.15.

Ranges in use, 1,178; water heaters, 100.

Supplies Belvidere.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System operated: Arcs, Brush, D. C.; incand.
and power, A. C., 2 phase.

Generating capacity, lighting and power,
525 kw.

Voltage: Line, 1,150; incand., 115; power,
230; transmission, 33,000.

City lighting contract: Hours lighted per
year, arcs and incand.; some 'til mid-
night, some all night.

No. public arcs, 135; 4 amp. (midnight), price
per year, \$57, 15; 4 amp. (all night),
price per year, \$72.

No. public incand., 70; 80 c. p. (midnight).
Price per year, \$23. 1-80 c. p. (all night).
Price per year, \$30.

Commercial lighting: No. arcs, 15.

Other lamps, Tungsten and Mazda.

Price arc and incand., Com'l, per kw. hr.,
13.5c. Disc., 7c. (all over 1 hr., 7c.).

Output of station, kw. hrs., total for year,
1,251,000.

Generating power used, Steam, rated 600 h. p.

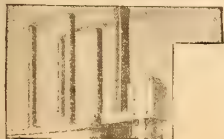
Cost of station boiler coal per ton, \$4.18.

SMOKE STACK AND CHIMNEY PAINTS

We have different kinds of smoke stack and chimney paints depending upon the temperature to
be met with and on other conditions; write and we will submit specifications. For most service
we recommend our No. 750 Smoke Stack Black.

Write for

REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York



Union Gas and Electric Co., Bloomington.

RRs.: C. & A.; Ill. Cen.; C., C. C. & St. L.; L. E. & W.; Ill. Trac. Ex.: Am.; Nat.

(Controlled by United Gas & Electric Corp. For capitalization and bonds, see Appendix.)

President, Geo. B. Tripp.
Secretary and treasurer, J. A. McKenna.
Asst. sec. and asst. treas., W. Beasley.
General mgr., A. E. Merchant.
Engineers and pur. agt., United Gas & Elec. Engineering Corp.

New-business manager, J. V. Murdaugh.
Superintendent, Guy Veatch.
Process manufacture, Lowe.
Annual production, 215,372,000 c. f.
Calorific value, 580 B. t. u.
Total gas holders capacity, 475,000 c. f.
Max. day's send out, 681,000 c. f.
Miles of mains, approx., 82.06.
Street main pressures, max., 5 in., min., 2.5 in.
Annual sales, approx., 191,448,000 c. f.
Gas unaccounted for, 9.6 p. c.
Pop. dist. supplied, 31,861; of city, 25,768.
No. consumers and meters, 7,205.
Price gas: Light and Fuel, gross, \$1.20; net, \$1.10 to 80c.
Ranges in use, 7,104; heaters, 1,320; water heaters, 1,660.
No. commercial gas arc lamps, 1,437.
Supplies Bloomington and Normal.

Public Service Co. of Northern Illinois, Blue Island.

RRs.: C. R. I. & P.; B. & O.; C. Term. Tr.; Ill. Cen.; Ind. Har. Belt; Gr. Trunk. Ex.: Am.; Nat.

(Successor to Northwestern Gas Light & Coke Co. For officers, capitalization and companies controlled, see Appendix.)

Local mgr., O. L. Hyatt.
Process manufacture, Lowe.
Candle-power, 25.
Annual production, 541,117,000 c. f.
Gas holder capacity, 1,000,000 c. f.
Holder pressure, max. 6.5 in.; min., 3.5 in.
Max. day's send out, 1,800,000 c. f.
Street mains, approximate, 114 miles; pressure 30 to 15 lbs.
Annual sales, approx., 486,248,200 c. f.
Gas unaccounted for, 2 p. c.
Population of Blue Island, 9,394; population district supplied, 29,452.
No. consumers and meters, 6,300.
Price gas: Light and Fuel, gross, \$1.10; net, \$1.
No. public lamps, 30.
Price \$1.10 for 1st 1,000 c. f., \$1, next 2,000 c. f.; 90c over 3,000 c. f., consumption.
Price includes repairs, care, lighting and extinguishing.
Gas appliances in use: Ranges, 4,800; water heaters, 240.
Supplies Blue Island, Mt. Greenwood, Harvey, Riverdale, Dolton, Homewood, Hazelcrest, Evergreen Park, Oak Lawn, Posen, Thornton, South Holland, Flossmoor and Wireton.

ELECTRICAL DEPARTMENT.

(Report covers all plants of Public Service Co. of Northern Illinois.)

Generating capacity: Engine and turbine, 71,213 kw.; hydro, 4,750 kw.
Frequency, 25 and 60 cycles.
Voltage: Transmission lines, 33,000, 20,000, 18,000, 12,000 and 9,000.

No. of customers, 84,000.
Miles of transmission lines, 561.
Connected load, 154,000 kw.
Output of station, kw. hrs., total for year, 220,210,000.

Electric generating stations at Blue Island, Joliet, Maywood, Oak Park, Kankakee, Wilmington, Pontiac, Streator, Cornell, Lacon, Waukegan, Evanston, Highwood, Wyoming, Toulon and Washburn.

Principal towns supplied with electric service: Joliet, Maywood, Oak Park, Hodgkins, Lemont, Harvey, Chicago Heights, Elwood, Wilmington, Braidwood, Dwight, Odell, Pontiac, Coal City, Mazon, Morris, Yorkville, Seneca, Grand Ridge, Varna, Kinsman, Ransom, Cornell, Streator, Tonica, Lostant, Rutland, Minonk, Toluca, LaRose, Henry, Lacon, Chillicothe and adjoining territory, Waukegan, N. Chicago, Antioch, Zion City, Fox Lake, Lake Bluff, Highland Park, Lake Forest, Fort Sheridan, Glencoe, Highwood, Evanston, Wilmette, Desplaines, Park Ridge, Crystal Lake, Palatine, Arlington Heights, W. Dundee, Kankakee, Bradley, St. Anne, and Manteno.

Cairo City Gas Co., Cairo.

RRs.: C., C. C. & St. L.; Ill. Cen.; Mo. Pac.; St. L. So. W.; M. & O. S. Bs.; Lee Line; Tenn. & O. R. Trans.; St. L. & T. R. Packet; Chat. Packet. Ex.: Am.; Ad.; Pac.; So.

Controlled by Illinois Traction Co.
Capital stock, \$100,000.
Bonds, \$75,000; due 1923; int., 5 p. c.
President, W. B. McKinley.
Vice-pres. and gen. mgr., H. E. Chubbuck.
Secretary, E. A. Macnutt.
Treasurer, Geo. M. Mattis.
Purchasing agent, H. J. Vance.
Gen. supt., W. F. Crossley.
Engineer, F. W. Bedard.
Pur. agent, H. J. Vance.
Process manufacture, Coal and Lowe.
Price gas coal per ton, delivered, \$3.02.
Price of oil per gal., delivered, 6.31c.
Candle-power, 16.
Calorific value, 600 B. t. u.
Annual production, coal gas, 22,454,500 c. f.; water gas, 10,065,100 c. f.
By-products made: Coke, 1,640.13 tons; tar, 29,653 gals.
Gas holder capacity, 145,000 c. f.
Holder pressure, max., 4 in.
Max. day's send out, 123,000 c. f.
Miles of mains, approx., 23.5.
Street main pressures, max., 4.5 in.; min., 3.5 in.
Annual sales, approx., 26,582,400 c. f.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : **of Cleveland, Ohio**

Gas unaccounted for, 18 p. c.
 By-products sold: Coke, 426.42 tons; tar, 18,305 gals.
 Pop. dist. supplied, 15,000, of city, 14,548 (1910).
 No. consumers, 1,440.
 No. meters, reg., 1,281; prepay., 159.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.25; 20,000 c. f. or more, \$1 net.
 Ranges in use, 900; heaters, 40; water heaters, 300.
 No. commercial gas arc lamps, 25.
 Supplies Cairo. ———

ELECTRICAL DEPARTMENT.

(Operated under the name of Cairo Electric & Traction Co.)
 System operated: Arc and incand., A. C.; power, A. C. 60 cycles and D. C.
 Generating capacity: Lighting, 1,000 kw.; power, 1,000 kw.
 Voltage: incand., 108; power, 220 A. C., 550 D. C.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 133; 300 watt. Price per year, \$80.
 No. public incand., 197; 50 watt. Price per year, \$16.
 Commercial lighting: No. arcs, 20; No. incand., 27,500.
 Price current per kw. hr., gross, 12c. Disc., 10 p. c.; residences, 15c. gross, per kw. hr.
 Power circuits: Price per kw. hr., 8 to 2c. Disc. 10 p. c. Motors, 3,300 h. p.
 Power used also for street railway.
 Output of station, kw. hrs., total for year, 5,301,947.
 Generating power, Steam: Rated 2,400 h. p.
 Cost of station, boiler coal, \$1.40.
 Buys current from Cairo and St. Louis Ry. Co.

Canton Gas and Electric Co., Canton.

RRs.: C., B. & Q.; Tol., Peo. & W. Ex.: Ad.

Capital stock, auth., \$300,000; issued, \$300,000.
 Bonds, \$100,000; due 1928; int., 6 p. c.
 President, Wm. H. Parlin.
 Secretary, E. H. Negley.
 Treasurer, C. D. Ingersoll.
 General manager, E. H. Negley.
 Pur. agent, W. B. Ingersoll.
 Superintendent, E. H. Negley.
 New bus. mgr., C. D. Ingersoll.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.12.
 Candle-power, 18; calorific value, 565 B. t. u.
 Annual production, 40,000,000 c. f.
 By-products made: Coke, 2,800 tons; tar, 48,000 gals.; ammonia, 16,000 lbs.
 Total gas holders capacity, 90,000 c. f.
 Holder pressure, max., 9 in.
 Max. day's send out, 167,000 c. f.
 Miles of mains, approx., 26.
 Street main pressures, max., 7 in.; min., 3 in.
 Annual sales, approx., 35,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 By-products sold: Coke, 1,800 tons; tar, 48,000 gals.

Pop. city, 10,453 (1910); dist. supplied, 12,000.
 No. consumers, 2,100.
 No. meters, reg., 1,775; prepay., 325.
 Price gas: Light and Fuel, gross, \$1.20; net, \$1.10.
 Ranges in use, 1,900; heaters, 60; water heaters, 160.
 No. commercial gas arc lamps, 50.
 Supplies Canton. ———

ELECTRICAL DEPARTMENT.

Capital appor. to electric plant, \$200,000.
 System operated: A. C. single, 2 and 3 phase, 7,200 alt.
 Generating capacity, 2,350.
 Voltage: Trans. line, 2,500; incand., 110; power, 110-220.
 City lighting contract: Hours lighted, 2,200.
 No. public arc, 212—250 c. p. S. S. M. Price per year, \$38.
 Commercial lighting: No. incand., 25,000.
 Price current per kw. hr., gross, 10c. Discounts, 10 p. c. up to \$3; 15 p. c. \$3 to \$6; 20 p. c., over \$6.
 Power circuits: Motors, h. p. 600; price per hr., 6c. to 2c. net.
 Output of station, kw. per year, 5,500,000.
 Generating power used, Steam; rated h. p., 2,000.
 Cost of station boiler coal, per ton, \$2.83.
 500 kw. in rotary converters for railway, and 1,100 h. p. in drainage motors; 1,000 h. p. in coal mine applications and 200 in other wholesale installations.
 Supplies current for lighting and power to Norris, Glasford, St. David, Dunfermline, Monterey, Bryant, Canton, Banner and Lewistown; furnish Illinois Central Elec. Ry. Co. and Spring Lake and Banner special drainage districts; also several coal mines.

Madison County Light and Power Co., Carlinville.

RRs.: C. & A.; Ill. Trac. Ex.: Nat.

Controlled by Illinois Traction Company.
 Capital stock, pref., auth., \$165,000; issued, \$38,000; com., auth., \$335,000; issued, \$335,000.
 Annual div., pref., 6 p. c.
 Bonds, \$636,000; due 1936; interest, 5 p. c.
 President, W. B. McKinley.
 Secretary, E. A. Macnutt.
 Treasurer, Geo. M. Mattis.
 Purchasing agent, H. J. Vance.
 General manager, H. E. Chubbuck.
 Engineer, F. W. Bedard.
 Local mgr., E. D. Bell.
 Superintendent, C. T. Wheat.
 Process manufacture, Coal.
 Annual production, 10,728,500 c. f.
 By-products made: Coke, 758 tons; tar, 12,683 gals.
 Price of coal per ton, delivered, \$4.17.
 Gas holder capacity, 16,000 c. f.; pressure, max., 3.6 in.
 Max. day's send out, 35,100 c. f.
 Street mains, approximate, 6.86 miles; pressures, max., 3.6 in.; min., 3 in.

HUNT COAL AND COKE VALVES—simplex, duplex, Seaton or "S," Briggs, etc., especially designed for controlling coal and coke, movement in gas works are described in detail in Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Annual sales, approx., 10,728,500 c. f.
 Gas unaccounted for, 15.8 p. c.
 By-products sold: Coke, 344 tons; tar, 54 gals.
 Population of city, est. 4,000.
 No. consumers, 556.
 No. meters, reg., 545; prepay., 28.
 Price gas: Light, gross, \$1.40; net, \$1.30.
 Power, gross, \$1; net, 90c.
 No. gas ranges in use, 445.
 Supplies Carlinville.

ELECTRICAL DEPARTMENT.

System operated, Arc D. C.; incand. A. C.
 Generating capacity, Lighting, 190 kw.
 Voltage, Arcs, 75; incand., 113; power, 220.
 Miles of overhead wires, 26.
 City lighting contract, Hours lighted per year, Arc and incand., 4,000.
 No. public arcs, 66; 5 amp. Price per year, \$70.
 No. public incand., 13; 25 c. p. Price per year \$15.
 Com. lighting, No. incand., 2,000.
 Price per kw. hr., gross, 12c. Disc., 10 p. c.
 Stoves and heating, 4c. net.
 Output of station, kw. hrs. for year, 139,867.
 Power circuits: No. of motors, 16.
 Generating power used: Steam, rated, 190 h. p.
 Station boiler fuel, coal, cost per ton, \$2.43.

Centralia Gas and Electric Co., Centralia.

RRs.: Ill. Cen.; So.; C. B. & Q.; Ill. So. Ex.: Am.; Ad.; So.

Capital stock, pref., \$125,000; com., \$125,000.
 Ann. div., 5 p. c.
 Bonds, \$250,000; due 1926; interest, 5 p. c.
 President, H. C. Higgins.
 Secretary and treas., F. J. Higgins.
 General manager, H. C. Higgins.
 Superintendent, A. L. Gillette.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.60.
 Price coke per ton, delivered, \$4.50 and \$5.
 Candle-power, 18.
 Total gas holders capacity, 150,000 c. f.
 Max. day's send out, 100,000 c. f.
 Miles of mains, approximate, 24.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 25,000,000 c. f.
 Gas unaccounted for 9 p. c.
 Pop. dist. supplied, 14,000; of city, 9,680.
 No. consumers, 1,800.
 No. meters, reg., 1,800; prepay., 200.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.
 Ranges, 1,200; heaters, 200; water heaters, 78.
 No. commercial gas arc lamps, 180.
 Supplies Centralia and Central City.

ELECTRICAL DEPARTMENT.

System operated: A. C., single and 3 phase, 60 cycle, and D. C.
 Generating capacity, kw. hrs., lighting, 1,450; power included in lighting.
 Voltage, incand., 110; power, 110-500.
 City lighting contract: Hours lighted, all night.

No. public arcs, 185; price per year, \$73.
 Commercial lighting: No. arcs, 34; incand., 7,000.
 Price current per kw. hr., gross, 10c.
 Other lamps, 1 Excello Flaming.
 Power circuits: No. motors, 120; price per kw. hr., 6c.; discount, 10 p. c.
 Power also used for moving picture shows.
 Output of station, kw. hrs., for year, 890,000.
 Generating power used, Steam; rated h. p., 1,400.
 Cost slack per ton, \$1.50.

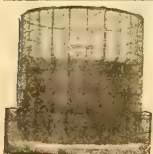
Urbana and Champaign Railway, Gas and Electric Co., Champaign.

RRs.: C., C., C., & St. L.; Ill. Cen.; Ill. Trac.: Wabash. Ex.: Am.; W. F.; Ad.

Controlled by Illinois Traction Co.
 Capital stock, \$700,000.
 Bonds, \$1,345,000; due 1917-1929-1938; int., 5 p. c.
 President, W. B. McKinley.
 Secretary, T. B. Macaulay.
 Treasurer, Geo. M. Mattis.
 Purchasing agent, H. J. Vance.
 General manager, H. E. Chubbuck.
 General supt., H. J. Pepper.
 Engineer, E. S. Hight.
 New bus. mgr., E. K. Demlow.
 Auditor, C. E. Cox.
 Process manufacture, Coal and Lowe.
 Annual production: Coal gas, 30,232,500 c. f.; oil gas, 100,687,000 c. f.
 By-products made: Coke, 2,073,563 tons; tar, 34,864 gallons.
 Price coal per ton, delivered, \$2.95.
 Price oil per gallon, delivered, 4.23c.
 Candle-power, 18. Calorific value, 620 B.t.u.
 Gas holders capacity, 500,000 c. f.
 Holder pressure, 6 in.
 Max. day's send out, 502,000 c. f.
 Miles of mains, approx., 61.5.
 Street main pressures, max., 6 in.; min., 4 in.
 Annual sales, approx., 107,787,300 c. f.
 Gas unaccounted for, 10.5 p. c.
 By-products sold: Coke, 2,073,563 tons; tar, 34,864 gallons.
 Pop. dist. supplied, 24,800; of cities, Champaign, 12,421; Urbana, 8,245.
 No. consumers, 5,252.
 No. meters, reg., 4,563; prepay., 689.
 Price gas: Light and Fuel, gross, \$1.125; net, \$1.00.
 Ranges in use, 4,416; heaters, 216; water heaters, 1,267.
 Supplies Champaign and Urbana.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated, A. C., 60 cycles, three phase.
 Power, A. C., and D. C.; incand., 1 phase.
 Generating capacity: Lighting, 1,500 kw.; power, 1,000 kw.
 Voltage: At arc, 72; incand., 110; power, 600 D. C.; 220-440 A. C.
 Commercial lighting: No. arcs, 4; No. incand., 60,000. 40 watt equiv.



1803

1918

R. D. WOOD & CO., PHILA., PA.

HOLDERS, CAST IRON PIPE,
 SCRUBBERS, CONDENSERS, ETC.

1803

1918



Price commercial per kw. hr., 10c.; disc., 1c. to 2.5c. per kw. hr.

Rates for domestic use, 12.5c. to 10c. net.

Power circuits: No. motors, 253.

Price current: Power rate, 5c. to 2.1c.

Output of station, kw. hrs., total for year, 6,335,800.

Power used: Steam; rated, 3,337 h. p.

Cost boiler coal per ton, \$1.50.

Central Illinois Public Service Co., Charleston.

RRs.: C., C., C. & St. L.; Tol., St. L. & W.

Ex.: Am.; Natl.

(For detailed information regarding capitalization, companies controlled and officers, see Appendix.)

General manager, B. F. Tucker.

Engineer (gas), C. L. Paullin.

Superintendent, F. J. Miller.

Pur. agent, D. R. Truax.

New bus. mgr., C. O. Duntón.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.35.

Candle-power, 16.

Calorific value, 580 B. t. u.

Annual production, 10,021,000 c. f.

Gas holder capacity, 50,000 c. f.

Holder pressure, 3.5 in.

Max day's send out, 40,000 c. f.

Miles of mains, approx., 9.

Street main pressures, max., 4.5 in.; min., 2.5 in.

Annual sales, approx., 7,982,000 c. f.

Gas unaccounted for, 19 p. c.

By-products sold: coke, 291 tons; ammonia, 8,490 gals.

Pop. city, 5,884; of dist. supplied, 4,000.

No. consumers, 647.

No. meters, reg., 504; prepay., 143.

Price gas: Light, gross \$1.35; net \$1.25.

Ranges in use, 491; heaters, 56; water heaters, 100.

No. commercial gas arc lamps, 4.

Supplies Charleston.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System: Arcs, D. C.; incand. and power, A. C., 60 cycles, three-phase.

Generating capacity: Lighting and power, 250 kw.

Voltage: Line, 2,300; incand., 110; power, 220.

City lighting contract: Hours lighted per year, 4,000.

No. public arcs, 102; 4 amp. Price per year, \$60.

Price per kw. hr., 13.5c., 8c. and 5c.; disc., 1c. per kw. hr. max. demand rate.

Rates for domestic use, 13.5c. and 8c.; disc., 1c.

Price power current, 11c., 6c. and 4c.; disc., 1c.

Off peak power, 9c., 6c., 4c. Disc., 1c.

Output of station, kw. hrs., total for year, 420,666.

Power used, Steam; rated 300 h. p.

Cost boiler coal per ton, \$1.47.

Plant operated during winter months only.

Exhaust steam used in the commercial heating system. Town supplied from transmission line balance of year.

Peoples Gas Light and Coke Co., Chicago.

RRs.: A., T. & S. F.; B. & O.; C. & A.; C. & E. Ill.; C. & Ill. W.; C. & No. W.; C. Term. Tr.; C., B. & Q.; C. & W. Indiana; C., C. & L.; C. I. & So.; C. Gt. W.; C. I. & L.; C., M. & St. P.; C., R. I. & P.; C., C., C. & St. L.; Erie; L. S. & M. So.; Ill. Cen.; Mich. Cen.; N. Y., C. & St. L.; Pere Marq.; Penna.; So. Ind.; Wabash; Wis. Cen.; Gr. Trunk. S. Bs.; Rutl'd Transit; Lack. Trans.; L. V. Trans.; W. Trans.; Graham & M. Trans.; C. S. B.; Goodrich Trans.; Pere Marq. L.; Pac. Desp.; C. So. H. Line; Bos. Trans.; Indiana Trans.; Can. At. Trans.; Lake S. Line; C. & D. Trans.; No. Mich. Trans.; U. S. B. Ex.: Ad.; Am.; Nat'l; U. S.; Pac.; No.; W. F.

(For detailed financial information see Appendix.)

Chmn. of Bd., Samuel Insull.

President, E. G. Cowdery.

Vice-presidents, John Williamson and Edw. J. E. Ward.

Secretary, T. V. Purcell.

Treasurer, J. E. Dougherty.

Asst. secretary, Robert Blair.

Asst. treasurer, A. L. Tossell.

New bus. mgr., O. T. Knight.

Pur. agent, H. T. Hirst.

Indus. sales mgr., F. F. Cauley.

Engrs., John Williamson and J. H. Eustace.

Process manuf., Lowe (Williamson).

Coal gas plant under construction.

Price of oil per gal., 6.6c.

Annual production, 19,660,810,000 c. f.

Gas purchased: Artificial, 1,395,112,000 c. f.; coke-oven and natural gas, 4,480,027,000 c. f.

Candle-power, 9 (required).

Calorific value, 565 B. t. u.

Gas holder capacity, 53,350,000 c. f.

Holder pressure, max., 16.39 in.

Max. day's send out, 92,485,000 c. f.

Miles of mains, approx., 3,069.

Street main pressures, max., 6 in.; min., 6 in.

Annual sales, approx., 23,876,927,364 c. f.

Pop. city supplied, 2,185,283.

No. meters, 704,669.

Price gas: Light and Fuel, from Aug. 1, 1917, 350 c. f. or less, 30c.; next 9,650 c. f., 70c.; next 40,000 c. f., 65c.; all over 50,000 c. f., 40c.

No. public lamps, 7,658.

No. hours lamp is lighted per year, 3,786.

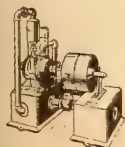
Gas stoves in use, 492,113.

No. commercial arc lamps, 106,421.

Supplies Chicago.

Public Service Co. of No. Ill., Chicago.

(For general information, see Parent Cos. and Appendix. Electrical department reported under Blue Island.)



SERVE YOUR COUNTRY by eliminating gas wastes by inefficient combustion. Install the **NEEDHAM HIGH PRESSURE GAS SYSTEM** for industrial economy.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Chicago Heights Gas Co., Chicago Heights.

RRs.: C. & E. Ill.; C., Term. Tr.; Mich.
Cen.; El., Jol. & E.; So. Ind.; Ex.:
Am.; Nat'l.; W. F.

Capital stock, pref., \$100,000; com., \$400,000.
Bonds, \$200,000; due, 1934; int, 5 p. c.
President, Chas. H. Wacker.
Sec'y and treas., Francis Lackner.
Mgr. and new bus. mgr., J. F. Small.
Purchasing agent, J. F. Small.
Engineer and supt., J. F. Small.
Process manufacture, Coal and Lowe
(Springer).
Price of coal per ton, del'd. \$6.90.
Price of oil per gal., 5.85c.
Candle-power, 16. Calorific value, 600 B. t. u.
Annual production, coal gas, 28,540,000 c. f.;
water gas, 64,425,000 c. f.
By-products made: Coke, 1,695 tons; tar,
55,000 gals.
Total gas holders capacity, 150,000 c. f.
Holder pressure, 18 lbs.
Max. day's send out, 375,000 c. f.
High pressure mains, miles, 43.65; pressure,
max., 20 lbs.; min., 10 lbs.
Annual sales, approx., 80,000,000 c. f.
Gas unaccounted for, 10.7 p. c.
By-products sold: Tar, 55,000 gals.
Pop. dist. supplied, 32,000; of cities, 24,000.
No. consumers, 3,150.
No. meters, reg., 2,227; prepay., 923.
Price gas: Light and Fuel, gross, \$1.40; net,
\$1.30 (initial); \$1.10-\$1 (secondary);
80c.-70c. all additional.
No. public gas lamps, Welsbach incand., 38.
Ranges in use, 3,257; water heaters and other
appliances, 1,793.
No. commercial gas arc lamps, 1,386.
Supplies Chicago Heights, So. Chicago
Heights, Steger and Crete.

Clinton Gas and Electric Co., Clinton.

RRs.: Ill. Cen.; Ill. Trac. Ex.: Am.; W. F.

Controlled by Illinois Traction Co.
Capital stock, 175,000.
Bonds, \$175,000; due 1937; int., 6 p. c.
President, W. B. McKinley.
Secretary, E. A. Macnutt.
Treasurer, Geo. M. Mattis.
Pur. agent, H. J. Vance.
Manager and supt., Charles A. Cline.
Engineer, L. C. Smith.
Process manufacture, Coal.
Price coal per ton, delivered, \$6.
Candle-power, 17; cal. value, 640 B. t. u.
Annual prod., 19,968,000 c. f.
By-products made: coke, 1,299 tons; tar,
22,047 gals.
Total gas holders capacity, 60,000 c. f.
Holder pressure, max., 4 in.
Max. day's send out, 71,200 c. f.
Miles of mains, approx., 11.
Street main pres., max., 4 in.; min., 2 in.
Annual sales, approx., 14,892,000 c. f.
Gas unaccounted for, 25.35 p. c.
By-products sold: coke, 757 tons; tar, 23,960
gals.

Pop. dist. supplied, 6,000; of city, 5,165 (1910).
No. consumers, 913.
No. meters, reg., 683; prepay., 230.
Price gas: Light and Fuel, gross, \$1.50; net
\$1.25.
No. ranges, 800; heaters, 125; water heaters,
210.
No. commercial gas arc lamps, 70.
Supplies Clinton.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
System: Arcs; D. C.; incand., 60 cycle, single
phase; power, 60 cycle, single phase.
Generating capacity: Lighting and power, 400.
Voltage; Incand., 110; power, 110-2,300.
City lighting contract: Hours lighted: arcs,
moonlight schedule; incand., 4,000 hrs.
No public arcs, 100; 400 c. p. 6.6 amp. Type
C. Mazda. Price per year, \$40.
No. pub. incand., 620 40 and 60 watt. 4,000 hrs.
Price per year, \$17.40 per post.
Commercial lighting: No. incand., est. 20,000.
Price incand., Com'l., per kw., gross, 10c. first
60 w.; 8c. for next 90 w.; 6c. all after;
disc. 10 p. c.; Domestic, 12.5c. for 15 kw.;
10c. next 25 kw.; afterwards, 8c.; 10 p. c.
discount.
Power circuits: No. motors, 53, price per kw.
hr., 7.5c. to 3.3 c.; disc., 10 p. c.
Heating or cooking, 5.5c. Disc., 10 p. c.
Output of station, kw. hrs., for year, 898,730.
Generating power used: Steam; rated, 900 h. p.
Cost of station boiler coal, per ton, \$3.50.

Danville Street Railway and Light Co., Danville.

RRs.: C., C., C. & St. L.; C. & E. Ill.; C.,
I. & So.; Wabash.; Ill. Trac. Ex.: Am.;
W. F.; U. S.; Pac.

Controlled by Illinois Traction Co.
Capital stock, \$1,438,000.
Bonds, \$2,046,000; due 1925-1938; int., 5 p. c.
President, W. B. McKinley.
General vice-pres., executive, H. E. Chubbuck.
Secretary, T. B. Macaulay.
Treasurer, Geo. M. Mattis.
Purchasing agent, H. J. Vance.
Engineer, F. W. Bedard.
Gen. superintendent, J. E. Johnson.
Supt. gas department, W. A. Mires.
New bus. mgr., V. M. Kenedy.
Process manufacture, Coal and Lowe.
Annual prod., coal-gas, 64,165,700 c. f.; water-
gas, 65,202,220 c. f.
Candle-power, 18.
Calorific value, 600 B. t. u.
By-products made: coke, 4,036 tons; tar, 62,-
641 gals.; ammonia, 16,760 lbs.
Gas holder capacity, 170,000 c. f.
Holder pressure, max., 6 in.
Max. day's send out, 414,000 c. f.
Miles of mains, approximate, 56.9.
Street main pres., max., 6 in.; min., 3 in.
Annual sales, approx., 117,546,700 c. f.
Gas unaccounted for, 8.42 p. c.
By-products sold: Coke, 2,879 tons; tar, 62,641
gals.; ammonia, 17,061 lbs.
Pop. city, 27,871; of dist. supplied, the same.

GAS EXHAUSTERS

*Constant Pressure or
Volume*

**GAS BOOSTERS**

*Pressures From Two to
Ten Pounds*

No. consumers and meters, 5,361.
 Price gas: Light and Fuel, 1st 5,000 c. f., \$1.05; excess, \$1. Discount 10c. per 1,000 c. f.
 Ranges, 4,500; heaters, 367; water heaters, 676.
 No. commercial gas arc lamps in use, 48.
 Supplies Danville.

ELECTRICAL DEPARTMENT.

System operated: Arcs, Mag. and series A. C., 60 cycle; incand., A. C., 60 cycle, single phase; power, A. C., 3 phase.
 Generating capacity: Lighting, 5,800 kw.; power, 2,300 kw.
 Voltage: Incand., 115; power, 110-220 A. C.
 City lighting contract: Hours lighted per year, 4,000.
 No. public incand., 651; 250 c. p. Type C Mazda: price per year, \$36.
 Commercial lighting: No. arcs, 12; No. incand., 80,000.
 Price current per kw. hr., gross, 9c. first 100 kw. hr.; next 150 kw. hr. 7c.; next 750 kw. hr. 6c. Excess 3c. Disc., 1c. per kw. hr. on 1st 1,000 kw. hr.
 Power circuits: No. motors, 397; price per kw. hr., 5c. Disc., 60 p. c. max.
 Output of station, kw. hrs., 22,847,540.
 Generating power used, Steam; rated h.p., 5,800.
 Cost of station boiler coal, per ton, \$1.95.

Decatur Railway and Light Co., Decatur.

RRs.: Ill. Cen.; Wabash; C., H. & D.; Vand.; Ill. Trac. Ex.: Am.; Ad.; W. F.

Controlled by Illinois Traction Co., Champaign and Peoria, Ill.
 Capital stock, auth., \$1,600,000; issued, \$1,555,000.
 Bonds, total, \$2,679,000; due various; interest, 5 p. c.
 President, W. B. McKinley, Champaign.
 Vice-president, H. E. Chubbuck, Peoria.
 Secretary, T. B. Macaulay, Montreal.
 Treasurer, Geo. M. Mattis, Champaign.
 Purchasing agent, H. J. Vance, Peoria.
 Engineer, F. W. Bedard, Peoria.
 General manager, H. E. Chubbuck, Peoria.
 General supt., M. L. Harry, Decatur.
 Process manufacture, Coal and Lowe.
 Annual production, coal gas, 153,547,000 c. f.; water gas, 55,858,000 c. f.
 Price coal per ton, delivered, \$4.32; oil per gallon, 6c.
 Candle-power, 16; calorific value, 579 B. t. u.
 By-products made: Coke, 11,245 tons; tar, 211,042 gals.; ammonia, 42,615 gals.
 Gas holder capacity, 500,000 c. f.
 Holder pressure, 11.75 in.
 Max. day's send out, 677,000 c. f.
 Miles of mains, approx., 70; street main pressures, max., 6 in.; min., 4 in.
 Annual sales, approx., 182,515,900 c. f.
 Gas unaccounted for, 12.8 p. c.
 By-products sold: Coke, 12,143 tons; tar, 210,956 gals.; ammonia, 42,890 gals.
 Pop. of city, 32,140; pop. dist. supplied, 30,000.
 No. consumers, 6,953.
 No. meters, reg., 7,012; prepay., 115.

Price gas: Light and Fuel, \$1 per 1,000 c. f. for 1st 5,000; 95c. for all in excess of 5,000 c. f. per mo. Disc., 5c. min. bill 25c. per meter.
 Gas appliances in use: Ranges, 5,342; heaters, 573; water heaters, 1,277.
 No. commercial gas arc lamps, 184.
 Supplies Decatur.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 60 cycle, single and 3-phase; power, 3-phase, 60 cycle A. C. and 500 v. D. C.
 Generating capacity: Lighting and power, 4,300 kw.
 Voltage: Incand., 110; power, 220 A. C., and 500 D. C.
 (Municipal plant lights city.)
 Miles of overhead wires, 66.
 Commercial lighting: No. incand., 60,000.
 Price current per kw. hr., gross, 10c. to 4c. Discounts, 10 p. c.
 Rates for domestic use, 10c. per kw.; discount, 1c. per kw.
 Power circuits: No. motors, 575, price per kw. hr., 7c. to 3.1c. Disc., 1c. per kw. hr.
 Output of station, kw. per year, 10,435,616.
 Generating power used, Steam; rated h. p., 4,700.
 Cost of station boiler coal, per ton, \$2.39.

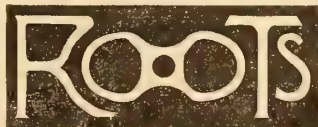
Illinois Northern Utilities Co., DeKalb.

RRs.: C. & No. W.; C., Gt. W.; C., M. & Gary; Auro. & DeK. Ex.: Am.; W. F.

(For capitalization and officers see Parent Cos. and Appendix.)
 Superintendent, Geo. S. Nelson.
 Process manufacture, Coal and Lowe.
 Annual prod., coal-gas, 57,820,800 c. f.; water-gas, 10,371,100 c. f.
 By-products made: Coke, 3,580.9 tons; tar, 65,650 gals.
 Price coal per ton, delivered, \$6.87.
 Price oil per gallon, 5.3c.
 Candle-power, 15.
 Calorific value, 590 B. t. u.
 Total gas holders capacity, 150,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 243,700 c. f.
 Miles of mains, approximate, 32.
 Street main pressures, max., 5.8 in.; min., 3.4 in.
 High pressure mains, miles, 7; pressure, 25 lbs.
 Annual sales, 50,560,300 c. f.
 Gas unaccounted for, 25.9 p. c.
 By-products sold: coke, 1,533.5 tons; tar, 53,036 gals.
 Pop. dist. supplied, 12,000; of cities, DeKalb, 8,102; Sycamore, 3,926.
 Consumers and meters, 2,393.
 Price gas: Light and Fuel, gross, \$1.30.
 Ranges in use, 2,140; heaters, 134; water heaters, 107.
 No. commercial gas arc lamps, 341.
 Supplies DeKalb and Sycamore.

WASH OIL PUMPS

*Blowers for Industrial
 Appliances*



P.H. & F.M. ROOTS CO.

Connersville
 Indiana

New York

Chicago

Illinois Northern Utilities Co., Dixon.

RRs.; C. & No. W.; Ill. Cen. Ex.: Am.

(For capitalization and officers see Parent Cos. and Appendix.)

Process manufacture, Coal.

Price coal per ton, delivered, \$6.53.

Candle-power, 16; calorific value, 600 B. t. u.

Annual production, 38,439,700 c. f.

By-products made: Coke, 2,353.6 tons; tar, 43,095 gals.

Total gas holders capacity 100,000 c. f.

Holder pressure, max., 5.9 in.

Max. day's send out, 130,100 c. f.

Miles of mains, approx., 25.

Street main pressures, max., 3.5 in.; min., 2 in.

Annual sales, approx., 33,480,817 c. f.

Gas unaccounted for, 12.9 p. c.

By-products sold: coke, 1,545.2 tons; tar, 36,527 gals.

Pop. city supplied, 7,216.

No. consumers, 1,673.

Price of gas: Light and Fuel, gross, \$1.25; net, \$1.15. (To increase 15c. gross in 1918.)

Ranges in use, 1,202; heaters, 95; water heaters, 61.

No. commercial gas arc lamps, 130.

Supplies Dixon.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C. series; incand., A. C., 3 phase, 60 cycle; power, D. C..

Generating capacity: Lighting and power, 640 kw.

Voltage: 2,300 primary, 110 and 220; transmission, 33,000.

City lighting contract.

No. public arcs, 10; 4 amp. mag. (all night), \$70 per year; 7-4 amp. lum. (all night), \$70 per year; 33-4 amp. lum. (dusk till 11 p. m., 6 nights; dusk till 12 p. m., 1 night per week), \$47 per year.

No. public incand., 389-60 c. p. all night. Price per year \$16.

Commercial lighting: No. incand., 20,000 to 30,000.

Price per kw. hr., gross, 12 to 6c; discounts, 10 p. c.

Power circuits: No. motors, 100; price per kw. hr., 8c. to 3c.; disc., 10 p. c.

Power used also for fans, irons, etc.

Generating power used, Water; rated h. p. 800.

Output of station, kw. hrs. for year, 1,777,880.

Cost of station boiler coal, per ton, \$3.90.

Du Quoin Light, Heat and Power Co., Du Quoin.

RR.: Ill. Cen. Ex.: Am.

Capital stock, \$50,000.

Bonds, \$24,000; due 1927; interest, 6 p. c.

President, I. C. Copley.

Secretary, B. P. Achuler.

General mgr., ————

District mgr., H. L. Farrar.

Process manufacture, Coal.

Candle-power, 16. Calorific val., 550 B. t. u.

Annual production, 10,000,000 c. f.

Total gas holders capacity, 20,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 30,000 c. f.

Miles of mains, approx., 10.

Street main pressure, max., 4 in.; min., 2.5 in.

Annual sales, approx., 8,500,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. dist. supplied, 8,000; of city, 5,454.

No. consumers, 375.

No. meters, reg., 350; prepay., 25.

Price gas: Light and Fuel, 1st 2 M. c. f., \$1.50-

\$1.40; next 1 M., \$1.35-\$1.25; next 1 M.,

\$1.10-\$1; next 1 M., 95c.-85c.; next 2 M.,

85c.-75c.; next 2 M., 75c.-65c.; next 3 M.,

70c.-60c.; next 6 M., 65c.-55c.; all above

20 M., 60c.-50c.

No. public lamps, 75 Welsbachs

Contract includes repairs, care, lighting and extinguishing

Hours lighted per year, 3,650 (moonlight schedule).

No. gas ranges, 350; heaters, 15; water heaters, 35.

No. commercial arc gas lamps, 40.

Supplies Du Quoin.

St. Clair County Gas and Electric Co., East St. Louis.

RRs.: B. & O.; So. W.; C. C., C. & St. L.;

C. & A.; C. & B. & Q.; C. & E. Ill.; L. &

N.; So. M. & O.; Ill. Cen.; Mo. Pac.;

St. L., T. & East.; Tol., St. L. & W.;

Vand.; Wabash; Litch. & Mad.; C., P. &

St. L.; Ill. Trac.; St. L. Mer. Br. Term.

Ex.: Ad.; Am.; Natl.; So.; Pac.; W. F.

(A consolidation of the East St. Louis Gas Lt. Co., Belleville Gas & Electric Co. and Edwardsville Gas Co.)

(Operated by American Gas Co., Philadelphia. For capitalization and bonds, see Appendix.)

President, Morris W. Stroud.

Vice-pres., S. P. Curtis.

Secretary, W. L. Fox.

Treasurer, J. B. Townsend, 3d.

Pur. agent, F. D. Wharton.

General mgr., S. P. Curtis.

Local mgr., C. H. Quackenbush.

Engineer, R. C. Cornish.

El. engineer, H. M. Blake.

Process manufacture, Lowe.

Calorific value, 565 B. t. u.

Annual production, 260,862,000 c. f.

Natural gas purchased, approx., 181,621,300 c. f.

By-products made: Tar, 144,890 gals.

Total gas holders capacity, 2,050,000 c. f.

Max. day's send out, 968,000 c. f.

Miles of mains, approx., 181.

Street main pressures, max., 4 in.; min., 2.5 in.

High pressure mains, miles, 21; pressure, 5 lbs.

Annual sales, approx., 364,000,000 c. f.

Gas unaccounted for, 8.1 p. c.

By-products sold, tar, 121,763 gals.

Pop. dist. supplied, 110,000; of Belleville,

21,122; of East St. Louis, 58,547.

No. consumers, 15,326.

No. meters, reg., 13,858; prepay., 1,468.

COMPLETE SYSTEMS for the handling of oil or gas. Consult us in regard to gas and oil lines, pumping stations and gasoline plants.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Price of gas to consumers: Sliding schedule. Belleville, Caseyville, Edwardsville and Collinsville: 1st 2,000 c. f., gross 85c.; net 75c.; next 1,000 c. f. gross, 65c.; net, 55c.; next 2,000 c. f., gross, 60c.; net 50c.; next 5,000 c. f., gross, 55c.; net, 45c.; next 10,000 c. f., 40c.; over 20,000 c. f., 35c.

East St. Louis: 1st 10,000 c. f., \$1; next 20,000, 90c.; next 20,000 c. f., 80c.; next 50,000, 70c.; next 100,000, 65c.; over 200,000, 60c. Min. bill, 50c. Prepayment meters, \$1.05 per 1,000 c. f. net.

Ranges in use, 11,005; water heaters, 1,239. No. commercial gas arc lamps, 1,676.

Supplies East St. Louis, Belleville and Collinsville, Caseyville and Edwardsville.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. enclosed; incand. and power, A. C., 3 phase, 60 cycles.

Voltage: Arcs, 70; incand., 110; power, 440.

City lighting contract: Hours lighted per year: Arcs and incand., 4,000.

No. public arcs, 385; 320 watt. Price per year, \$67.50.

Commercial lighting: No. arcs, 12; No. incand., 22,000.

Price current per kw. hr., gross, 12c. Disc., sliding scale to 6c. Discounts, 5 p. c.

Power circuits: No. motors, 387; price per kw. hr., 6c. to 2.1c. Disc., 5 p. c.; 50c. min. per h. p. connected.

Output of station, kw. per year, 4,632,600.

Power purchased from Keokuk. Reserve steam power, rated 1,500 h. p.

Supplies electric current in Belleville only.

Public Service Co. of Northern Illinois, Evanston.

RRs.: C. & No. W.; C. M. & St. P.; C. & M. El. Ex.: Am.

(Successor to Northwestern Gas Light & Coke Co. For officers, capitalization and companies consolidated, see Appendix.)

Local mgr. (Niles), J. S. Reesman.

Process manufacture, Lowe (Williamson).

Price of oil per gal. del'd, 5.1c.

Annual production, 1,272,614,000 c. f.

Gas holder capacity, 5,000,000 c. f.

Holder pressure, max., 13.5 in.; min., 3.5 in.

Max. day's send out, 6,372,610 c. f.

Miles of mains, approximate, 198.

St. main pressures, max., 6 in.; min., 5 in.

Annual sales, approx., 1,217,067,608 c. f.

Gas unaccounted for, 8 p. c. Pop. dist. supplied, 56,500; of Evanston, 28,982 (estimated).

No. consumers and meters, 15,890.

Price gas: Light and Fuel, gross \$1.10; net, \$1 1st 1,000 c. f.; next 2,000, 90c. net; over 3,000 c. f., 80c. Min. bill, 75c.

No. public lamps, 571.

Price, \$1.10 for 1st 1,000 c. f.; \$1 next 2,000 c. f.; 90c. all over. Price includes repairs, care, lighting and extinguishing.

Ranges in use, 11,800.

Supplies Wilmette, Gross Point, Shermerville, Kenilworth, Evanston, Franklin Park, River Grove, Schiller Park, Des Plaines,

Park Ridge, Palatine, Morton Grove, Barrington, Glen View, Arlington Heights, Niles Center, Niles, Feehanville, Golf, New Trier, Riverview, Techny, Kolze and Mt. Prospect and Barrington.

ELECTRIAL DEPARTMENT.

(See Blue Island.)

City lighting contract: Hours lighted, 3,950.

No. public arcs (310-watt) 361 (overhead wiring); price per year, \$62.50; 165 (underground wiring); price per year, \$72.50.

No. public incand., 9-60 c. p.; price per year, \$30; 3-2 lt., 32 c. p.; piece per year, \$18.

Price commercial per kw. hr. gross 18c. Disc., 34 p. c. and 10 p. c.

Price power per kw. hr., 11c., 6c. and 4c. Disc., 1c. per kw. hr.

Freeport Gas Co., Freeport.

RRs.: C. & No. W.; Ill. Cen. Ex.: Am.; W. F.

Controlled and operated by The C. H. Geist Co., of Philadelphia.

For capitalization and bonds, see Appendix.

President, C. H. Geist.

Vice-president, H. A. Lang.

Secretary, C. H. Weak.

Treasurer, H. A. Lang.

Genl. mgr., H. S. Schutt, Philadelphia, Pa.

Supt., E. J. Menery.

Process manufacture, Coal and Lowe.

Candle-power, 16; calorific value, 600 B. t. u.

Annual prod., coal-gas, 98,600,000 c. f.; water-gas, 52,000,000 c. f.

Max. day's send out, 520,100 c. f.

Total gas holder capacity, 320,000 c. f.

Miles of mains, approximate, 46.

Street main pressure, max., 5 in.; min., 2 in.

Annual sales, approx., 127,000,000 c. f.

Gas unaccounted for, 13 p. c.

Pop. dist. supplied, 20,000; of city, 17,567.

No. consumers, 4,741.

No. meters, reg., 3,096; prepay, 1,648.

Price gas: Light and Fuel, gross, \$1.10; net, \$1.

Ranges in use, 4,358; water heaters, 800.

No. commercial gas arc lamps, 400.

Supplies Freeport and West Freeport.

Gas Light Co. of Galena, Galena.

RRs.: Ill. Cen.; C., B. & Q.; C. & No. W. Ex.: Ad.; Am.

Controlled by W. N. Coler & Co., New York City.

Capital stock, auth., \$70,000; issued, \$63,000.

Bonds, \$20,000; due, 1921; interest, 5 p. c.

President, Bird S. Coler.

Vice-president, E. C. Deal.

Secretary and treasurer, E. B. Coler.

General manager, E. C. Deale.

Engineer, Geo. Beil.

Superintendent, Geo. Beil.

New bus. mgr. and pur. agent, Geo. Beil.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.63.

Candle-power, 18.

Calorific value, 630 B. t. u.

Annual production, 12,000,000 c. f.



Tycos Temperature Instruments for Gas Works

INDICATING-CONTROLLING-RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Gas holder capacity, 30,000 c. f.
 Holder pressure, max., 4.5 in.
 Max. day's send out, 40,000 c. f.
 Miles of mains, approx., 7; street main pres., max., 4 in.; min., 2.5 in.
 Annual sales, approx., 8,000,000 c. f.
 Gas unaccounted for, 20 p. c.
 Pop. city supplied, 4,835 (1910).
 No. consumers and meters, 550.
 Price gas: Light and Fuel, 1st 1,000 c. f., \$1.50 gross; \$1.40 net; next 4,000 c. f., \$1.40-\$1.30; all over 5,000 c. f., \$1.30-\$1.20.
 Gas appliances in use: Ranges, 400; water heaters, 50.
 No. commercial gas arc lamps in use, 225.
 Supplies Galena.

Galesburg Railway, Lighting and Power Co., Galesburg.

RRs.: A., T. & S. F.; C., B. & Q. Ex.: Ad.; W. F.

Controlled by Illinois Traction System.

Capital stock, pref. auth., \$500,000; issued, \$289,000. Common, auth. and issued, \$3,500,000. Annual div., pref., 6 p. c.

President, Wm. B. McKinley.

Vice-pres., Geo. F. Duncan.

Secretary, E. A. Macnutt.

Treasurer, Geo. M. Mattis.

Gen. mgr., H. E. Chubbuck.

Gen. supt., Ralph F. Carley.

Pur. agt., H. J. Vance.

Engineer, F. W. Bedard.

Process manufacture, Coal and Lowe (Springer).

Price coal per ton, delivered, \$6.14.

Price of oil per gal., 6.5c.

Candle-power, 16.11.

Calorific value, 591.41 B. t. u.

Annual production: coal gas, 92,929,000 c. f.; water gas, 62,097,000 c. f.

By-products made: coke, 637,537 tons; tar, 112,740 gals.; ammonia, 28,677 lbs.

Total gas holders capacity, 570,000 c. f.

Holder pressure, 7 in.

Max. day's send out, 531,000 c. f.

Miles of mains, approx., 71.5.

Street main pressures, max., 7 in.; min., 4.6.

Annual sales, approx., 136,165,800 c. f.

Gas unaccounted for, 8.13 p. c.

By-products sold: coke, 314,850 tons; tar, 106,861 gals.; ammonia, 29,124 lbs.

Pop. dist. supplied, 30,000; of city, 22,089.

No. consumers, 5,818.

No. meters, reg., 2,909; prepay., 2,909.

Price gas: Light and Fuel, gross, \$1.10; net, \$1.00, 1st 1,000 c. f.; 95c. net, next 1,000 c. f.; 9c. next 1,000 c. f.; 85c. next 4,000 c. f.; all over 7,000 c. f. per mo., 80c. per 1,000 c. f.

Ranges in use, 5,000; heaters, 450; water heaters, 756.

No. commercial gas arc lamps, 63.

Supplies Galesburg.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System operated: Incand.; A. C., 7,200 alt. single phase; power, A. C., 3 phase, 7,200 alt. and D. C.

Generating capacity, 3,500 kw. A. C.; 800 D. C.

Voltage: Incand., 110; power, 110-220-440, and 500 D. C.

Miles of over-head wires, 801,548.

No. public arcs, 137; 6.6 amp. Price per year, \$50.

No. public incand., 82. Price per year, \$15.

No. commercial arcs, 65; incand., 35,869.

Commercial lighting: Price per kw. hr., 11c.; Disc., 1c. per kw. hr. Excess use, 5c. Domestic rates, 10c. Disc., 10 p. c.

Power circuits: Price current per kw. hr., net 7c. to 3c. Disc., 1c. per kw. hr. Min. charge, 50c. per mo. per h. p.

No. motors, 275.

Output of station, kw. hrs., total for year, 8,375,170.

Power used: Steam; rated 4,400 h. p.

Cost boiler coal per ton, \$2.17.

Illinois Northern Utilities Co., Geneseo.

RR.: C., R. I. & P. Ex.: Am.

(For capitalization and officers see Parent Cos. and Appendix.)

Local supt., L. R. Kallman.

Process manufacture, Lowe.

Price coke per ton, delivered, \$9.61.

Price oil per gallon, 3.4c.

Annual production, 11,631,200 c. f.

Calorific value, 610 B. t. u.

Candle-power, 20.

Miles of mains, approx., 9.

Street main pressure, max., 8 in.; min., 6 in.

Gas holder capacity, 20,000 c. f.

Holder pressure, 11 in.

Max. day's send out, 54,000 c. f.

Annual sales, approx., 6,032,200 c. f.

Gas unaccounted for, 36.4 p. c.

Pop. city supplied, 3,199.

No. consumers and meters, 542.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.

Ranges in use, 383; heaters, 23; water heaters, 22.

No. commercial gas arc lamps, 25.

Supplies Geneseo.

ELECTRICAL DEPARTMENT.

System operated: Incand., D. C.; power, D. C. Generating capacity: Lighting and power, 250 kw.

Voltage: incand., 220.

City lighting contract.

No. public incand., 163-75 watt (Phila. moonlight), \$19.50 per lamp, per year, 34-60 watt (all night) \$18.20 per year. 70-60 watt (dusk, 10 p. m.), \$8.84 per year. 6-40 watt (all night) and 24-25 watt (dusk till 10 p. m.) \$16.90 per mo. for all. 4-60 watt (Phila. moonlight), and 16-40 watt (Phila. moonlight), \$12 per mo. for all.

Commercial lighting: No. incand., 10,268.

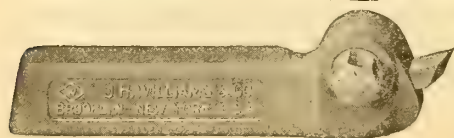
Price current per kw. hr., gross, 13.5c. and 7c. Disc., 10 to 50 p. c.

Power price per kw. hr., 10, 5 and 3c.

Output of station, kw. for year, 371,281.

Generating power used, Steam, rated 200 h. p.

Cost of station boiler coal, per ton, 4.21.



Williams' "Agrippa" Turning-Tool Holder

CAM LOCK, Rapid and Positive

J. H. WILLIAMS & CO., 74 Richards St., Brooklyn, N. Y.

Granite City Gas Light and Fuel Co., Granite City.

RRs.: C. & A.; C., P. & St. L.; C., C., C. & St. L.; St. L. Mer. Br. Term.; Wabash;
Ill. Trac. Ex.: Ad.; Am.; Pac.; Nat.

Capital stock, \$200,000.
Bonds, \$175,000; due, 1925; interest, 5 p. c.
President, Geo. W. Niedringhaus.
Vice-president, A. W. Niedringhaus.
Secretary, C. H. West.
Treasurer, L. I. Niedringhaus.
Purchasing agent, C. H. West.
General manager, C. H. West.
Supt. and engineer, A. Finnegan.
New bus. solicitor, Jos. E. McGraw.
Process manufacture, Coal and Lowe (Oil).
Price coal per ton, delivered, \$5.20.
Price oil per gallon, 48c.
Candle-power, 20; calorific value, 584 B. t. u.
Annual prod., coal-gas, 46,000,000 c. f.; water-gas, 38,000,000 c. f.
By-products made: Coke, 3,475 tons; tar, \$9,950 gals.; ammonia, 10,400 gals.
Total gas holders capacity, 150,000 c. f.
Holder pressure, 5.5 in.
Max. day's send out, 295,000 c. f.
Miles of mains, approx., 24.
Street main pressures, max., 5.5 in.; min., 4 in.
Booster mains, 1 mile; press., 1 lb.
Annual sales, approx., 77,000,000 c. f.
Gas unaccounted for, 9.5 p. c.
Pop. dist. supplied (est.), 20,000; of Granite City, 9,903; Madison, 5,046 (1910).
No. consumers, 2,600.
No. meters, reg., 2,277; prepay., 382.
Price gas: Light, gross, \$1.25; net, \$1.19. Fuel, gross \$1.10, net \$1.
No. public incand. gas lamps, 97. Price per year \$25.
Contract includes repairs, care, lighting and extinguishing.
No. hours each lamp is lighted per year, 5,000.
No. gas appliances in use: Ranges, 1,850; heaters, 200; water heaters, 250.
No. commercial gas arc lamps, 600.
Supplies Granite City, East Granite and Madison.

St. Louis Coke and Chemical Co., Granite City.

Roberts flueless type coke-ovens to be installed.

Southern Illinois Light and Power Co., Hillsboro.

RRs.: C. C. C. & St. L.; C. & E. Ill.; Ill. Trac. Ex.: Am.; W. F.

Gen'l office, Central National Bank Bldg., St. Louis, Mo.

(For capitalization, etc., see Appendix.)

President, J. J. Frey.
Secretary, A. C. Hall.
Treasurer, C. A. Ramsey.
Pur. agent, W. W. Burton.
General manager, J. J. Frey.
Engineer, J. L. Best.
Superintendent, W. F. Corl.
New bus. mgr., F. P. Williams.

Process manufacture, Water (Tenney).

Annual production, 4,905,490 c. f.

Price coke per ton, delivered, \$5.05; oil, per gallon, 3c.

Candle-power, 19.

Calorific value, 601 B. t. u.

Gas holder capacity, 65,000 cu. ft.

Holder pressure, max., 2 in. (mercury).

Max. day's send out, 90,000 c. f.

Street mains, approximate, 10.5 miles; pressures, max., 2 in.; min., 1.5 in.

Annual sales, approx., 3,696,500 c. f.

Population of city, 3,424 (1910), est., including suburbs, 7,500; pop. dist. supplied, 4,000.

No. consumers, 363; No. meters, reg., 360; prepay., 4.

Price gas: gross, \$1.30; net, \$1.17, 1st 5,000 c. f.; over 10,000 c. f., \$1.

Gas appliances in use: Ranges, 260; heaters, 30; water heaters, 39.

Supplies Hillsboro and Schram City.

Hoopeston Gas and Electric Co., Hoopeston.

RRs.: C. & E. Ill.; L. E. & W. Ex.: Am.; W. F.

Controlled by Middle West Utilities Co., and operated by Central Ill. Public Service Co., Mattoon, Ill.

Capital stock, pref., auth., \$50,000; issued, \$24,000; com., \$200,000.

Bonds, \$199,000; due 1936; int., 5 p. c.

President, Marshall E. Sampsell.

Vice-president, G. W. Hamilton.

Secretary, D. R. Truax.

Treasurer, C. E. Cripe.

Purchasing agent, D. R. Truax.

Superintendent, W. G. Austin.

Engineer, C. L. Paullin.

New bus. mgr., C. O. Dunton.

Process manufacture, Lowe (U. G. I.).

Price coke per ton, \$7.65; oil per gal., 6.25c.

Candle-power, 18.

Calorific value, 575 B. t. u.

Annual production, 15,000,000 c. f.

Gas holder capacity, 50,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 85,000 c. f.

Miles of mains, 9.

Street main pressures, max., 3 in.; min., 2.

Annual sales, approx., 13,000,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. of city, 4,698; pop. dist. supplied, 4,300.

No. consumers, 550.

No. meters, reg., 500; prepay., 50.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.

No. commercial gas arc lamps in use, 250.

Supplies Hoopeston.

ELECTRICAL DEPARTMENT.

Capital, electric plant, two-thirds.

System operated, A. C., 3 phase, 60 cycles.

Generating capacity: Lighting, 600 k. w.

Voltage: incand., 115; power, 440.

City lighting contract: Hours lighted per year: Arc and incand., 3,000.

No. public arcs, 25; 312 watt. Price per year, \$50.

RELIABLE

“ANGLIRON”

RANGES

The heavy, unbreakable angle iron cooking top, main front and base, and improved construction involving elimination of parts liable to breakage or disarrangement insure **self-maintaining durability**. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

No. public incand., 135; 60 c. p. Price per year, \$18.

Commercial lighting: No. incand., 18,000.

Price current per kw. hr., 12c. to 4c. Disc., 10 p. c.

Power circuits: No. motors, 90-1,000 h. p.; price per kw. hr., 9c. to 2c. Disc., 10 p. c.

Output of station, kw. per year, 1,100,000.

Generating power used, Steam, rated 1,000 h. p.

Cost of station boiler coal per ton, (screenings), \$1.875.

Supplies Hoopeston and Rossville.

Jacksonville Railway and Light Co., Jacksonville.

RRs.: C. & A.; C., P. & St. L.; C., B. & Q.; Wabash. Ex.: Ad.; Nat.; W. F.

Controlled by Illinois Traction Co.

Capital stock, \$100,000.

Bonds, \$699,000, due 1931; int., 5 p. c.

President, W. B. McKinley, Champaign, Ill.

Secretary, E. A. Macnutt, Montreal, Can.

Treasurer, George M. Mattis, Champaign, Ill.

General manager, H. E. Chubbuck, Peoria, Ill.

General superintendent, E. H. Gray.

Engineer, F. W. Bedard.

Pur. agent, H. J. Vance, Peoria, Ill.

New-business manager, H. C. Bradish.

Process manufacture, Coal and Lowe.

Price coke per ton, delivered, \$8.

Candle-power, 17.

Calorific value, 628 B. t. u.

Annual production: Coal gas, 50,717,000 c. f.;

water gas, 12,651,000 c. f.

By-products made: Coke, 3,560 tons; tar, 66,455 gals.; ammonia, 9,397 lbs.

Total gas holder capacity, 150,000 c. f.

Holder pressure, 7 in.

Max. day's send out, 229,000 c. f.

Miles of mains, 37.

Street main pressures: max., 9 in.; min., 4.5 in.

Annual sales, approx., 54,000,000 c. f.

Gas unaccounted for, 15 p. c.

By-products sold: Coke, 3,560 tons; tar, 66,455 gals.; ammonia, 9,397 lbs.

Pop. dist. supplied, 16,000; of city, 15,326.

No. consumers, 2,549.

No. meters, reg., 2,320; prepay., 229.

Price gas: Light and Fuel, gross, first 2,000 c. f., \$1.10; next 4,000 c. f., \$1.05 gross;

all over 6,000 c. f., \$1. Disc., 5c. per M.

Ranges in use, 2,474; heaters, 52; water heaters, 1,137.

No. commercial gas arc lamps, 175.

Supplies Jacksonville and So. Jacksonville.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., alt. 60 cycle; power, 500 volt D. C.

Generating capacity: Lighting, 900; power, 450 kw.

Voltage: Incand., 110.; power, 500 D. C.

Miles over-head wires, 25.

Municipal electric light plant lights city.

Commercial lighting: No. incand., 30,000.

Price current per kw. hr.: 10c. first 150 kw.; 7c. next 300 kw.; 5c. all over 450 kw.

Alternate rate, 10c. for first 60 hrs. of 5,000 w.; all over 5,000 w., 4c. for all in excess. Disc., 10 p. c.

Rates for domestic use, 12c. per kw. hr., first 50 hr.; all over, 9c. Disc., 10 p. c.

Power circuits: No. motors, 210; price per kw. hr., 8c. to 2c.; min., \$1; 50c. per h. p. to 5 h. p.; 30c. per h. p. over 5 h. p. Off peak, 2c. net.

Output of station, kw. hrs. for year, 2,969,051.

Generating power used, Steam; rated h. p., 1,600.

Cost of station boiler coal per ton, \$2.30.

Coal Products Manufacturing Co., Joliet.

RRs.: A. T. & S. F.; C. & A.; C., R. I. & P., El. Jol. & E.; Mich. Cen.; C. M. & Gary. Ex.: Nat.; W. F.; Am.

Capital stock, \$600,000. Bonds, \$543,000; due serially, 1916—1927; int., 6 p. c.

President, I. C. Copley.

Vice-pres. and treas., R. N. Strohn.

Secretary, Fred Bennitt.

General manager, ————

Superintendent, A. H. Harris, Jr.

Process manufacture: 35 coke-ovens (Koppers). and 18 Wilputte ovens.

Length (Koppers), 35 ft., width 18 in., height 9 ft.

Annual sales, gas, approx., 1,650,000,000 c. f.

Pop. of city, 34,670.

Sells gas to Western United G. & E. Co.

Illinois Steel Co., Joliet.

Gen'l superintendent, D. R. Mathias.

Asst. gen'l supt., J. I. Larimer.

280 Koppers ovens.

Metallurgical coke made.

All gas produced is used in their own works.

Public Service Co. of Northern Illinois, Kankakee.

RRs.: C., C., C. & St. L.; Ill. Cen.; C. I. & So. Ex.: Am.

(For financial, see Appendix.)

Local mgr., B. G. Smith.

Process manufacture, Coal.

Total gas holder capacity, 618,000 c. f.

Holder pressure, max. 9 in.

Max. day's send out, 276,345 c. f.

Miles of mains, approximate, 31.

Street main pressures, max., 6 in.; min., 3 in.

Annual sales, approx., 73,000,000 c. f.

Gas unaccounted for, 5 p. c.

Pop. city, est. 14,500.

No. consumers and meters, 3,254.

Price gas: Light and Fuel, gross, \$1.10; net, \$1.

Ranges in use, 2,251; heaters, 915.

No. commercial gas arc lamps, 237.

Supplies Kankakee.

ELECTRICAL DEPARTMENT.

(See Blue Island.)

City lighting contract: hours lighted, 3,950.

No. public incand., 50-400 c. p.; price per year, \$66.24, 64; 250 c. p.; price \$50.92.

40-250 c. p.; price, \$52.92; 179-100 c. p.; price \$27.50.

Price current per kw. hr. 10c., 7c., and 5c. Disc., 5 p. c.

Price power per kw. hr. 11c., 6c. and 4c. Disc., 1c. per kw. hr.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Consolidated Light and Power Co., Kewanee.

RRs.: C., B. & Q.; Gales. & Kew. El. Ex.:
Ad.

Operated by American Gas Co., Philadelphia.
Capital stock, \$325,000.

Bonds, \$700,000 (incl. underlying Cos.); int.,
5 p. c.

President, S. P. Curtis.

Vice-pres., Morris W. Stroud.

Secretary, W. L. Fox.

Treasurer, Jos. B. Townsend, 3d.

General manager, S. P. Curtis.

Engineer, R. C. Cornish.

El. engineer, H. M. Blake.

Pur. agent, F. D. Wharton.

Manager, H. M. Smith.

Process manufacture, Coal.

Calorific value, 565 B. t. u.

Annual production, coal gas, 81,362,000 c. f.

By-products made: coke, 5,480 tons; coal-gas
tar, 82,583 gals.

Total gas holders capacity, 365,000 c. f.

Max. day's send out, 356,000 c. f.

Miles of mains, approx., 52.

Street main pres., max., 3.5 in.; min., 2 in.

High pressure mains, 11 miles.

Pressure carried, 15 lbs.

Annual sales, approx., 66,712,000 c. f.

Gas unaccounted for, 17.3 p. c.

By-products sold: coke, 2,895 tons; tar 73,222
gals.

Pop. dist. supplied, 18,000; of cities, Kewa-
nee, 9,307; Wethersfield, 1,593; Galva,
2,498.

No. consumers, 3,287.

No. meters, reg., 2,443; prepay., 844.

Price gas: Light and Fuel, 1st 1,000 c. f.,
\$1.40 net; next 4,000 c. f., \$1.30; next
10,000 c. f., \$1.25; next 15,000 c. f., \$1.10;
over 30,000 c. f., 90c. Prepay meters set
at \$1.50 per 1,000 c. f.

Ranges in use, 2,205; water heaters, 231.

No. commercial gas arc lamps, 284.

Supplies Kewanee, Wethersfield and Galva.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycle, 3 phase;
power, A. C. and D. C.

Generating capacity: Lighting and power,
1,425 kw.

Voltage: Arcs, 70; incand., 110; power, 220.

City lighting contract: Hours lighted per year,
arcs and incand., moonlight schedule.

No. public arcs, 124; 440 watt.

No. public incand., 185-40 watt; 244-100 watt.

Commercial lighting: No. arcs, 5; No. incand.,
25,000.

Price current per kw. hr., gross, 10c.; sliding
scale to 3.5c. Domestic, yearly contract
demand rate, 10c., 7.5c., 5c. and 3.5c.

Power circuits: No. motors, 176; price per
kw. hr., demand rate.

Output of station, kw. for year, 2,732,900.

Generating power used, Steam; rated h. p.,
1,750.

Supplies Kewanee, Wethersfield, Sheffield and
Neponset.

Citizens Lighting Co., La Salle.

RRs.: C., R. I. & P.; C. B. & Q.; Ill. Cen.
S. B.: La. S. & Peor. Packet. Ex.: Ad.;
Am.

Controlled by Illinois Traction Co.

Capital stock, \$250,000.

Bonds, \$250,000; due 1922; int., 5 p. c.

President, W. B. McKinley.

Vice-pres., Geo. F. Duncan.

Treasurer, Geo. M. Mattis.

Secretary, E. A. Macnutt.

General manager, H. E. Chubbuck.

Pur. agent, H. J. Vance.

Engineer, F. W. Bedard.

Superintendent, L. W. Hess.

New-business manager, W. Schreiner.

Process manufacture, Coal and Lowe.

Price of coal per ton, delivered, \$4.81.

Price of oil per gal., 6.5c.

Candle-power, 16.

Calorific value, 580 B. t. u.

Annual production: Coal-gas, 28,369,500 c. f.;
water-gas, 20,291,400 c. f.

By-products made: coke, 2,045 tons; tar, 40,-
374 gals.

Gas holder capacity, 175,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 200,000 c. f.

Miles of mains, approx., 30.

Street main pressures, max., 6 in.; min., 2 in.

Annual sales, approx., 42,688,300 c. f.

Gas unaccounted for, 12.17 p. c.

By-products sold: coke, 1,920 tons; tar, 38,000
gals.

Pop. dist. supplied, 20,000; of cities, LaSalle,
11,537; Peru, 7,984.

No. consumers, 1,838.

No. meters, reg., 1,926; prepay., 14.

Price gas: Light and Fuel, first 5,000 c. f.,
\$1.25; next 50,000 c. f., \$1.15; all over
55,000 c. f., 95c. Minimum charge, 25c.
Disc., 10c., 10 days.

Ranges in use, est. 1,500.

No. commercial gas arc lamps, 40.

Supplies La Salle and Peru.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System: Incand., A. C., single phase; power,
A. C. 3-phase, 60 cycles.

Generating capacity: Lighting 2,000 kw.

Voltage: Incand., 110; power, 220-440.

Miles of over-head wires, 84.82.

Miles of underground cables, 2.

City lighting contract: No. hours lighted per
year, 3,000.

No. public incand., 1,010 50 watt.

Commercial lighting: No. incand., 20,000.

Price incand., Com'l. per kw., 12c.; disc., 10
p. c.

Domestic rates, 12c. for 1st 30 kw. hr.; 8c.
for 2d; 5c. for excess.

Power circuits: No. motors, 173.

Price per kw. hr., 5c. for 1st 100 kw.; 4c. for
next 150 kw.; 2.5c. over 250 kw. Disc.,
10 p. c.

Power purchased, kw. hrs. for year, 2,695,000.

Twenty years ago some of the largest gas companies experimented
with the GOODMAN STOPPER. Today these same companies think
it a necessity. SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Illinois Gas Co., Lawrenceville.

RRs.: B. & O. S. W.; C. C. C. & St. L. Ex.:
Am.

Capital stock issued, \$300,000.
Bonds, \$350,000, 1936; interest, 6 p. c.
President, W. J. Hartnett.
Vice-president, A. E. Lloyd.
Secretary and treasurer, J. A. Sloan.
Gas purchased from the Central States Gas Co.
Avg. day's send out, 200,000 c. f.
Street mains, approx., 132 miles; pressures, max., 8 in.; min., 6 in.
Annual sales, approximate 40,000,000 c. f.
Population dist. supplied, 20,000.
No. consumers, 3,500.
Price gas: Light, gross, \$1.20; net, \$1.10, plus readiness to serve charge of 25c.
Gas appliances in use: Ranges, 3,000; heaters, 12,000; water heaters, 200.
Supplies Lawrenceville, Bridgeport, Sumner and Olney.

Logan County Gas Co., Lincoln.

RRs.: C. & A.; Ill. Cen.; Ill. Trac. Ex.:
Am.; Nat.

(Successor to City of Lincoln Gas Co.)
Capital stock, \$200,000.
Bonds, \$100,000; interest, 6 p. c.; and \$60,000; interest, 5 p. c.
President, A. B. Beadle.
Secretary, W. W. Levering.
Treasurer, C. Snyder.
Gen. mgr. and pur. agent, Chas. S. Morgan.
Process manufacture, Coal.
Price coal per ton, delivered, \$3.70.
Candle-power, 18.
Calorific value, 640 B. t. u.
Annual prod., 25,000,000 c. f.
Total gas holders capacity, 70,000 c. f.
Holder pressure, 4 in.
Max. day's send out, 102,000 c. f.
Miles of mains, approximate, 23.5.
Street main pressures, max., 4 in.; min., 2.5 in.
Annual sales, approx., 23,000,000 c. f.
Gas unaccounted for, 7 p. c.
Pop. city, 10,892 (1910); dist. supplied, approx., 9,000.
No. consumers, 1,339.
No. meters, reg., 1,327; prepay, 12.
Price gas: Gross, \$1.40; net, \$1.25.
No. public lamps, 4.
No. ranges, 1,000; heaters, 60; water heaters, 180.
No. commercial gas arc lamps, 270.
Supplies Lincoln.

Southern Illinois Light and Power Co., Litchfield.

RRs.: C., B. & Q.; C., C., C. & St. L.; Ill. Cen.; Litch. & Mad.; Wabash; Ill. Trac. Ex.: Ad.; Am.; W. F.

(Successor to United Gas & Electric Co.)
(For capitalization, etc., see Appendix.)
Gen'l office, Central Nat'l Bank Bldg., St. Louis, Mo.
President, Jacob J. Frey.

Secretary, A. C. Hall.

Treasurer, C. A. Ramsey.

Gen'l manager, Jacob J. Frey.

Superintendent and engineer, L. Scherer.

New bus. mgr., F. P. Williams.

Industrial fuel engineer, Wiley F. Corl.

Process manufacture, Oil (Kendall).

Price oil per gal., del., 3c.

Candle-power, 22.

Annual production, oil-gas, 5,000,000 c. f.

Total gas holders capacity, 60,000 c. f.

Holder pressure, max., 3.8 in.

Miles of mains, approximate, 10.

Street main pressures, max., 3.8; min., 3.4 in.

Annual sales, approx., 5,000,000 c. f.

Pop. dist. supplied, 3,000; of city, 5,971.

No. consumers, 400.

No. meters, reg., 375; prepay., 25.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

Ranges in use, 200; heaters, 10; water heaters, 15.

No. commercial gas arc lamps, 40.

Supplies Litchfield.

ELECTRICAL DEPARTMENT.

System operated: A. C., single phase, 60 cycles.

Generating capacity: Lighting and power, 150.

Voltage: Arcs and incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, arc, 2,200.

No. public arcs, 86; 500 watt. Price per year, \$70.

Price current per kw. hr., gross 15c. Discounts, 10 p. c.

Rates for domestic use, 15c. less 10 p. c. for prompt payment.

Power circuits: No. motors, 50; price per kw. hr., 15 to 3c.; discount, 10 p. c.

Generating power used, Steam; rated h. p., 300.

Cost of station boiler coal, per ton, \$2.50.

Central Illinois Public Service Co., Macomb.

RRs.: C., B. & Q.; Mac. & W. Ex.: Ad.

(Successor to Macomb Electric Light and Gas Co.)

(For capitalization and officers see Parent Cos. and Appendix.)

Gen'l mgr., B. F. Tucker.

Engineer (gas), C. L. Paullin.

Superintendent, A. H. Perrier.

Pur. agent, D. R. Truax.

New bus. mgr., C. O. Dunton.

Process manufacture, Lowe (Western Gas).

Annual production, 17,678,500 c. f.

Price coke per ton, delivered, \$4.21; oil per gal., 2.93c.

Candle-power, 20.

Calorific value, 580 B. t. u.

Total gas holders capacity, 80,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 60,000 c. f.

Miles of mains, 18.2.

Street main pressures, max., 4 in.; min., 2 in.

Annual sales, approx., 15,107,200 c. f.

"U" Tube Gauges of all sizes and ranges of pressure for every gas works service. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Gas unaccounted for, 15 p. c.
 Pop. of city, 5,774; dist. supplied, 4,500.
 No. consumers, 1,055.
 No. meters, reg., 755; prepay., 300.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.20.
 Ranges, 819; heaters, 62; water heaters, 86.
 Supplies Macomb.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand. and power, A. C., 60 cycle, 3 phase.
 Generating capacity: Lighting and power, 525.
 Voltage: Arcs, 70; incand., 110-220; power, 220.
 City lighting contract: Hours lighted per year, arcs and incand., 3,000.
 No. public arcs, 100, 2,000 c. p. Price per year, \$62.
 No. public incand., 62; 49-40 watt; 13-60 watt.
 Price, meter rates, 5.5c. per kw. hr.
 Price current per kw. hr., gross, 10c., 8c., 6c.
 Optional rate, 14c., 8c. 5c.-1c. per kw. hr.
 Rates for domestic use, 12½c.
 Other lamps used, Mazda.
 Power circuits: Price per kw. hr., 11c., 6c., 4c.
 Disc, 1c. per kw. hr.
 Other uses, irons and toasters.
 Output of station, kw. hrs., year, 173,529.
 Generating power used, Steam; rated h. p., 620.
 Cost of station boiler coal per ton, \$1.84.
 Current supplied from transmission line.

Southern Illinois Gas Co., Marion.

Gas supplied from Murphysboro.
 No. meters, approx., 1,900.
 Supplies Marion, Carterville, Carbondale, Johnson City and W. Frankfort.
 No report 1918.

Mattoon Gas Light and Coke Co., Mattoon.

RRs.: C., C., C. & St. L.; Ill. Cen. Ex.: Am.

(Controlled by Central Illinois Public Service Co. For capitalization and officers see Parent Cos. and Appendix.)

General manager, B. F. Tucker.
 Engineer (gas), C. L. Paullin.
 Pur. agent, D. R. Truax.
 Superintendent, R. L. Ficks.
 Process manufacture, Coal.
 Annual production, 33,000,000 c. f.
 Price coal per ton, delivered, \$3.38.
 Candle-power, 16. Calorific value, 580 B. t. u.
 By-products made; coke, 1,922 tons; tar, 38,065 gals.

Total gas holders capacity, 80,000 c. f.
 Holder pressure, max., 4.2 in.
 Max. day's send out, 115,000 c. f.
 Miles of mains, approx., 26.
 Street main pressures, max., 4.2 in.; min., 2 in.
 Annual sales, approx., 28,714,900 c. f.
 Gas unaccounted for, 13 p. c.
 By-products sold: coke, 1,223 tons; tar, 33,755 gals.
 Pop. dist. supplied, 10,000; of city, 11,456.
 No. consumers, 2,023.
 No. meters, reg., 1,373; prepay., 650.
 Price gas: Light and Fuel, \$1.35—\$1.25.

Ranges in use, 1,754; heaters, 425; water heaters, 334.
 No. commercial gas arc lamps, 250.
 Supplies Mattoon.

Illinois Northern Utilities Co., Mendota.

RRs.: C., B. & Q.; Ill. Cen.; C., M. & St. P.
 Ex.: Am.; Ad.

(For capitalization and officers, see Parent Cos. and Appendix.)

Superintendent, E. W. Galloway.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.38.
 Annual production, 13,859,600 c. f.
 By-products made: coke, 785 tons; tar, 14,389 gals.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Total gas holders capacity, 28,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 42,300 c. f.
 Miles of mains, approximate, 15.
 Street main pressures, max., 6 in.; min., 1.5 in.
 Annual sales, approx., 9,982,600 c. f.
 Gas unaccounted for, 28 p. c.
 Pop. dist. supplied, 4,000; of city, 3,806.
 No. consumers and meters, 649.
 Price gas: Light and Fuel, gross \$1.40; net \$1.25. (To increase 15c. in 1918.)
 Ranges, 382; heaters, 32; water heaters, 72.
 No. commercial gas arc lamps, 50.
 Supplies Mendota.

ELECTRICAL DEPARTMENT.

System operated: arcs, D. C.; incand., A. C.; power, 60 cycles.
 Generating capacity: Lighting and power, 325.
 Voltage: arc lamps, series; incand., 110; power, 110-220.

City lighting contract.
 No. public incand., 249-40 c. p. (dusk-midnight), price per year, \$18; 99-60 watt (dusk-midnight), \$18 per year; 42-60 watt (dusk-dawn), \$30; 4-50 watt (dusk to dawn), price \$30; 4-60 watt (dusk to dawn); 16-100 watt (dusk to dawn); 3-150 watt (dusk to dawn), \$648 per year.
 Price commercial per kw. hr., 13.5c. and 7c.
 Disc., 1c. per kw. hr.
 Output of station, kw. hrs., total for year, 15,162.

Generating power used, Steam; rated 450 h. p.
 Cost of station boiler coal per ton, \$3.48.
 Connected to 33,000-volt system supplying other towns. See Dixon, Ill.

Peoples Power Co., Moline.

RRs.: C., M. & St. P.; C., R. I. & P.; C., B. & Q.; Diamond Jo. L. Ex.: Ad.; Am.; W. F.

Controlled by Tri City Railway & Light Co.
 Capital stock, \$3,250,000.
 President, B. J. Denman.
 Secretary, H. E. Weeks.
 Treasurer, H. E. Weeks.
 General manager, R. B. MacDonald.
 Purchasing agent, Geo. G. Kuhn.
 Engineer, C. N. Chubb.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
 and 29th Street

PHILADELPHIA, PA.

Supt. plant, O. A. Negaard.
 Supt. dis., C. E. Cornell.
 New bus. mgr., W. F. Hansgens.
 Indus. fuel engineer, E. E. Schaffer.
 Process manufacture, Lowe (crude oil).
 Price oil, per gal., delivered, 65c.
 Candle-power, 15; cal. value, 600 B. t. u.
 Annual production, 452,855,200 c. f.
 By-products made: tar, 133,220 gals.
 Total gas holders capacity, 650,000 c. f.
 Holder pressure, 6.8 in.
 Max. day's send out, 1,530,800 c. f.
 Miles of mains, approximate, 205.
 Street main pressures, max., 6.8 in.; min., 3.5 in.
 High pressure mains, miles, 12; pressure, 15 lbs.
 Annual sales, approx., 402,765,200 c. f.
 Gas unaccounted for, 7 p. c.
 By-products sold: tar, 131,005 gals.
 Pop. dist. supplied, 58,000; of cities, 49,864.
 No. consumers, approx., 14,000.
 No. meters, reg., 11,765; prepay., 2,471.
 Price gas: Light and Fuel, 1st, 50,000 c. f. gross, 95c.; net, 85c.; next 50,000 c. f., 85c.-75c.; next 50,000 c. f., 80c.-70c.; next 100,000 c. f., 70c.-60c.; all over 250,000 c. f., 65c.-55c. Min. mo. charge, 40c.-25c. Prepayment meters, set at 90c. Min. charge, 25c.
 Ranges in use, 13,672; water heaters, 1,916.
 No. commercial gas arc lamps, 329.
 Supplies Rock Island, Moline, East Moline and Silvis.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C., single phase, 60 cycles; power, 60 cycle, 2 and 3 phase.
 Generating capacity: Power purchased from Moline-Rock Island Mfg. Co.
 Voltage: Arcs, 4,500; incand., 2,200; power, 4,400-2,200-440.
 City lighting contract: Hours lighted per year, arc and incand., 3,800.
 No. public arcs, 498, 310 watt. Price per year, \$60 and \$55.
 Public incand., 1,173, 100 c. p.; 65 200 c. p. Price per year, \$21 and \$40.
 Price current per kw. hr., gross 8.5c. Discounts, 0.5c. for prompt payment. Sliding scale for larger consumption.
 Power used also by manufacturing plants.
 Power circuits: No. motors, 1,451; price per kw. hr., 6c. Sliding scale for larger consumption.
 Output of station, kw. for year, 31,129,377.
 Generating power used: Steam, rated 21,500 h. p.
 Cost of station boiler coal per ton, \$3.

Monmouth Public Service Co., Monmouth.

RRs.: C, B. & Q.; Iowa Cen. Ex.: Ad.

Capital stock, pref., \$100,000; com., \$900,000.
 Bonds, \$650,000; due 1939; int., 5 p. c.
 President, Hugo Wurdack.
 Secretary, J. W. Clendenin.
 Treasurer, Horace W. Beck.
 Manager, J. R. Stevenson.

Pur. agent, P. Ziegenfuss, 750 Ry. Ex. Bldg., St. Louis, Mo.
 Superintendent, Hans Christofferson.
 Process manufacture, Lowe.
 Total gas holders capacity, 45,000 c. f.
 Max. day's send out, 120,000 c. f.
 Miles of mains, approx., 25.
 High pressure mains, miles, 12; pressure, 15 lbs.
 Street main pres., max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 32,210,000 c. f.
 Gas unaccounted for, 14 p. c.
 Pop. dist. supplied, 10,000; of city, 9,128.
 No. meters reg., 1,000; prepay., 800.
 No. consumers, 1,800.
 Price gas: Gross, \$1.25; net, \$1.20.
 Ranges in use, 1,500; heaters, 100; water heaters, 400.
 Supplies Monmouth.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, one-half.
 System operated: Arc, D. C. series; incand., A. C., 60 cycle; power, A. C. 3 phase, 60 cycle.
 Generating capacity: Lighting and power, 700 kw.
 Voltage: Arcs, 110; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: arcs, 3,200.
 No. public arcs, 151; 320 watt. Price per year, \$60.
 84-5 ft. standards; 1, 60-watt lamp (all night); 4, 25-watt (midnight). Price, \$36 per standard.
 Commercial lighting: No. arcs, 70; No. incand., 19,000.
 Price current per kw. hr., gross, 11c to 4c. Disc., 1c.
 Power circuits: No. of motors, 90; price per kw. hr. 9c to 3.5c.
 Output of station, kw. for year, 1,500,000.
 Generating power used, Steam, rated 1,200 h. p.
 Cost of station boiler coal per ton, \$1.87.
 (Operates also central exhaust heating system and artificial ice plant.)
 Also furnishes elec. current to Kincaid, Ill., and Roseville, Ill.

Public Service Co. of Northern Illinois, Morris.

RR.: C, R. I. & P. Ex.: Am.

(See report under Ottawa, Ill.)

Illinois Northern Utilities Co., Morrison.

RR: C. & No. W. Ex.: Am.

(For capitalization and officers, see Parent Cos. and Appendix.)

Local manager, D. Gallagher.
 Process manufacture, Lowe (Springer).
 Price coke per ton, delivered, \$8.77.
 Price oil per gal., delivered, 3.6c.
 Candle-power, 18; calorific value, 610 B. t. u.
 Annual production, 15,892,300 c. f.
 Total gas holders' capacity, 30,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 53,100 c. f.
 Miles of mains, approx., 9.

COST METERS

American Meter Company

561 W. 47th St., New York, N. Y.

AND LARGE DIAL DEMONSTRATION DRY METERS

Both these meters should be in the gas sales and demonstration rooms of every gas company in the country. The Cost Meter shows the hourly cost in cents and tenths of a cent to operate gas appliances. The Large Dial Demonstration Dry Meter is used to show the comparative consumption between flat flame and mantle burners.

Street main pressures, max., 3.5 in.; min., 2.5 in.

High pressure mains, 3,200 ft.; pressure, 30 lbs.

Annual sales, 13,835,300 c. f.

Gas unaccounted for, 13 p. c.

Pop. dist. supplied, 2,500; city, 2,410.

No. consumers, 644.

Price gas: Light and Fuel, gross, \$1.50.

Ranges in use, 530; heaters, 100; water heaters, 50.

No. commercial gas arc lamps, 12.

Supplies Morrison.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60-cycle, 3-phase, from 33,000-volt transmission system. See Dixon, Ill.

City lighting contract: Hours lighted per year, incand., 2,300.

No. public incand., 136; 75 watt. Price per year, \$19.50. Also 52-5 lt. clusters of 4; 25 watt; and 1-40 watt—operated by City of Morrison. Regular 11-6-4c. power rate.

Commercial lighting: No. arcs, 10; No. incand., 4,500.

Price current per kw. hr., 13.5c. and 7c. net.

Power circuits: Price current per kw. hr. 10c., 5c. and 3c. Power used also for fans, irons and motion pictures.

Mt. Carmel Public Utility and Service Co., Mt. Carmel

RRs.: C., C., C. & St. L.; So. Ex.: Am.; So.

Capital stock, \$300,000.

President and gen'l manager, P. Barnhard.

Secretary, A. D. Hill.

Treasurer, F. Hertenstein.

Engineer, Oscar Knight.

Superintendent, A. D. Hill.

Pur. agent, A. D. Hill.

Process manufacture, Lowe.

Price coke per ton, delivered, \$6.40.

Price oil per gal., delivered, 4.7c.

Annual production, 10,000,000 c. f.

Candle-power, 16; calorific value, 600 B. t. u.

Gas holder capacity, 50,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 65,000 c. f.

Miles of mains, approx., 10.

Street main pressure, max., 4 in.; min., 2 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 5 p. c.

Population city, est. 8,500; dist. supplied, 4,125.

No. consumers, 550.

No. meters, reg., 525; prepay., 25.

Price gas: Light and Fuel, gross, \$1.10; net \$1.

Ranges in use, 375; heaters, 100; water heaters, 100.

Supplies Mt. Carmel.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$175,000.

System operated: A. C., 60 cycles, single and 2 phase.

Generating capacity: Lighting and power, 500 kw.

Voltage: Primary, 2,300; incand., 110-220; power, 110-220.

City lighting contract: Hours lighted per year, arc, 4,500.

No. public arcs, 75, 250 watt. Price per year, \$65.

Commercial lighting: No. incand., 12,000.

Price per kw. hr., gross, 8c. Discounts, 5 p. c.

Price domestic use: 8c. first 50 kw.; 7c. next 50 kw.; 5c. min.

Power circuits: Price per kw. hr., 3c. Disc., 5 p. c. (Motors, 150 h. p.)

Other uses, irons and appliances.

Output of station, kw. hrs. for year, 1,032,652.

Generating power used, Steam; rated h. p., 1,000.

Cost of station boiler coal, per ton, \$1.25.

(Also operate water-works and central station heating.)

Citizens Gas, Electric and Heating Co., Mt. Vernon.

RRs.: L. & N.; So.; C. & E. Ill.; Wab.; Ch. & W. Ex.: Ad.; Am.; So.; W. F.

(Controlled by Southern Illinois Light & Power Co.)

Capital stock, \$200,000.

Bonds, \$192,000; int., 5 and 6 p. c.

President, J. J. Frey.

Secretary, M. J. Musser.

Treasurer, A. C. Hall.

Manager, F. M. Stone.

Pur. agent, W. W. Burton.

Engineer, Sherman Allen.

Superintendent, W. F. Corl.

New bus. mgr., F. P. Williams.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.08.

Candle-power, 18.

Annual production, 11,000,000 c. f.

By-products made: Coke, 820 tons; tar, 14,020 gals.

Total gas heater capacity, 50,000 c. f.

Holder press., 4 in.

Max. day's send out, 65,000 c. f.

Miles of mains, approx., 17.5.

Street main pressures, max., 4 in.; min., 3.5 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 14 p. c.

By-products sold: Coke, 820 tons; tar, 14,020 gals.

Pop. city, est. 12,500; dist. supplied, 10,000.

No. consumers, 900.

No. meters, reg., 700; prepay., 200.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25 1st 5,000 c. f.; 5,000 to 10,000 c. f., \$1.20 gross; 10,000 to 20,000 c. f., \$1.15 gross; 20,000 c. f. and over, \$1.10. Disc., 10c., 10 days.

Ranges in use, 700; heaters, 130; water-heaters, 400.

No. commercial gas arc lamps, 80.

Supplies Mt. Vernon.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, 60 cycle, 3-phase and 1-phase, A. C.

Generating capacity: Lighting and power, 700 kw.

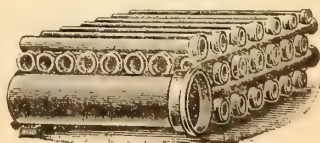
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



Voltage: Arcs, 72; incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, 4,000.

No. public incand., 10-400 c. p.; price per year, \$72 and \$88-80 c. p.; price per year, \$36.

Commercial lighting: No. incand. (res. and com.), 166; 164 kw. equiv.

No. consumers (electric), 1,501.

Price current per kw. hr., gross, com., max., 12.5c.; sliding scale to 9c.; residence ltg., 12.5c. to 9c.

Power circuits: No. motors, 86; price per kw. hr., 10c. to 2c. Discounts, 10 p. c.

Output of station, kw. hrs. total for year, 1,279,777.

Generating power used, Steam; rated h. p., 1,000.

Cost of station boiler coal, per ton, \$3.35.

(The company also operates the city water plant and city heating, the latter being hot water.)

Murphysboro Water Works and Electric and Gas Light Co., Murphysboro.

RRs.: Ill. Cen.; M. & O.; Mo. Pac. Ex.: Am.; So.; Pac.

Capital stock, \$160,000.

Bonds, \$124,000, due 1922; interest, 5 p. c.

President, Ira C. Copley.

Secretary, Benjamin P. Alschuler.

Treasurer, R. N. Strohn.

General manager, _____

Assistant general manager, W. M. Willett.

District manager, H. L. Farrar.

Process manufacture, Lowe.

Calorific value, 575 B.t.u.

Gas holder capacity, 100,000 c. f.

High pressure mains, 15 miles; pressure 6 in. to 4 in.

Miles of mains, approx., 20.

Annual sales, approx., 12,000,000 c. f.

Sales to Southern Illinois Gas Co., approx., 30,000,000 c. f.

Pop. city supplied, 7,485.

Consumers and meters, 800.

Price gas: Light and Fuel, \$1.10.

Supplies Murphysboro.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

Generating capacity: Lighting, 600 kw.; Power, 600 kw.

Voltage: At arc, 70; incand., 110; power, 110-220-550.

City lighting contract: Hours lighted, 4,000.

No. public incand., 125; 200 c. p. Price per year, \$45.

Price commercial, per kw. hr., 10c. to 6c.; domestic, 12.5c. to 8c.

Meters, 1,600.

Power circuits: No. motors, 40.

Power used also for street car service.

Output of station, kw. hrs. per year, 850,000.

Power used: Steam, rated 800 h. p.

Public Service Co. of Northern Illinois, Niles.

(See report under Evanston.)

Public Service Co. of Northern Illinois, Oak Park.

RRs.: C. & No. W.; Wis. Cen.; B. & O.; C. Term. Tr.; Ex. Am.; Nat.

(Successor to Northwestern Gas, Light & Coke Co. For officers, capitalization and companies consolidated, see Appendix.)

Local mgr., H. L. Judd.

Process manufacture, Lowe.

Annual production, 1,147,070,000 c. f.

Gas holder capacity, 400,000 c. f.

Holder pressure: Max., 6.5 in.; min., 3.5 in.

Max. day's send out, 3,797,000 c. f.

Annual sales, approx., 1,127,096,000 c. f.

Gas unaccounted for, 5 p. c.

Street mains, approx., 272 miles.

Street main pressures: Max., 7 in.; min., 5 in.

Pop. of Oak Park, est., 24,000; population dist. supplied, 88,608.

No. consumers and meters, 29,544.

Price gas: Light and Fuel, for Oak Park,

gross, \$1.10; \$1.00 net 1st 1,000 c. f.;

90c. net next 2,000 c. f.; over 3,000 c. f.,

80c. net. Min. bill, 75c. Same rates for

Forest Park and Riverside. For other towns listed below, net, \$1.

No. public lamps, 160.

Price public lamps: \$1.10 first 1,000 c. f.,

\$1 next 2,000 c. f., 90c. all over. Price in-

cludes repairs, care, lighting and extinguishing.

Ranges in use, 16,300.

Supplies Oak Park, River Forest, Berwyn,

Riverside, Forest Park, Morton Park,

Clyde, Maywood, Melrose Park, Lyons,

Bellwood, Grant, Hawthorne, Cicero,

Summit.

ELECTRICAL DEPARTMENT.

(See Blue Island.)

City lighting contract: Hours lighted, 3,950.

No. public incand.: 495, 250 c. p., price per

year \$43; 45 100 c. p., price per year \$27.50.

Price current per kw. hr.: 10c. net.

Price power per kw. hr.: Gross, 11c., 6c., 4c.; disc., 1c. per kw. hr.

Public Service Co. of Northern Illinois, Ottawa.

RRs.: C., B. & Q.; C., R. I. & P. Ex.: Ad.; U. S.

(Successor to Illinois Valley Gas & Electric Co. For officers, capitalization and companies consolidated, see Appendix.)

Manager, H. K. Mitchell.

Process manufacture, Lowe.

Annual production, 96,155,000 c. f.

Total gas holder capacity, 140,000 c. f.

Holder pressure: Max., 3.5 in.

Max. day's send out, 335,000 c. f.

Street mains, approx., 76 miles.

Street main pressures, max., 3.8 in.

High pressure mains, 36 miles: pressure, 30 lbs.

Annual sales, approx., 78,995,000 c. f.

Gas unaccounted for, 17 p. c.

Pop. district supplied, 20,485. Of cities, esti-

imated: Ottawa, 10,600; Morris, 4,766;

Marseilles, 3,802.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

**UNITED LEAD COMPANY
111 BROADWAY, NEW YORK**

No. consumers and meters, 3,370.
 Price gas: Light and Fuel, gross, \$1.10; net \$1.00.
 Ranges in use, 1,325; water heaters, 450.
 No. commercial gas arc lamps, 165.
 Supplies Ottawa, Morris, Marseilles and Seneca.

Peoples Gas Co. of Pana, Pana.

RRs.: B. & O.; So. W.; C. & E. Ill.; C. C. C. & St. L.; Ill. Cen. Ex.: Am.; W. F.

Capital stock, auth., \$100,000; issued, \$70,000.
 Bonds, \$25,000; due 1922; int., 6 p. c.
 President, T. J. Vidler.
 Secretary and treasurer, F. A. Cutler.
 Purchasing agent, T. J. Vidler.
 General manager, T. J. Vidler.
 Superintendent, T. J. Vidler.
 New business mgr., T. J. Vidler.
 Process manufacture, Tenney Water Gas.
 Candle-power, 19; calorific value, 600 B. t. u.
 Price of oil per gal., delivered, 4c.
 Annual production, 9,000,000 c. f.
 Gas holder capacity, 75,000 c. p.
 Holder pressure, 1.75 lbs.
 Max. day's send out, 40,000 c. f.
 Miles of mains, approximate, 13 (high pressure); pressure, 1.75 lbs.
 Annual sales, approx., 9,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 6,055; of dist. supplied, 5,000.
 No. consumers, 537; no. meters, reg., 509; prepay., 28.
 Price gas: Light and Fuel, gross \$1.50, net \$1.33½.
 No. public gas lamps, 5; lighted 10 hours per night.
 Gas appliances in use: Ranges, 382; heaters, 40; water heaters, 135.
 No. commercial gas arc lamps in use, 214.

Central Illinois Public Service Co., Paris.

RRs.: Vand.; C., C., C. & St. L. Ex.: Ad; Am.

(For capitalization and officers see Parent Cos. and Appendix.)
 General manager, B. F. Tucker.
 Engineer (gas), C. L. Paullin.
 Superintendent, A. P. Inlow.
 Purchasing agent, D. R. Truax.
 New business manager, C. O. Dunton.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.35.
 Candle-power, 16; calorific value, 580 B. t. u.
 Annual production, 13,995,000 c. f.
 Total gas holders capacity, 75,000 c. f.
 Holder pressure, max., 5 in.
 Max. day's send out, 50,000 c. f.
 Miles of mains, approx., 10.5.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 10,492,000 c. f.
 Gas unaccounted for, 25 p. c.
 By-products sold: Coke, 482 tons; tar, 14,723 gallons.
 Pop. of city, 7,664; of district supplied, 3,880.
 No. of consumers, 705.
 No. meters, reg., 623; prepay., 82.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 No. ranges, 670; heaters, 86; water heaters, 173.
 No. commercial gas arc lamps, 30.
 Supplies Paris.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C.
 3 phase, 60 cycle.
 Generating capacity: Lighting and power, 650 kw.
 Voltage: Incand., 110; power, 220.
 Municipal plant lights city.
 Current sold to city on a meter basis.
 Commercial lighting: No. incand., approx., 10,000; No. arcs, 25.
 Price current per kw. hr.: Gross, 13.5c., 8c. and 5c.; dom., 13.5. and 8c.; with 1c. per kw. hr. disc.; max. demand rate.
 Power price: 11c., 6c and 4c., dis. 1c.; off peak power, 9c., 6c., 4c., with 1c. disc.
 Output of station, kw. hrs., total for year, 1,029,945.
 Generating power, Steam: rated h. p., 760.
 Cost of station boiler coal, per ton, \$1.55.
 Operate a central heating plant (hot water).
 Plan operated during winter monthly only.
 Power supplied from transmission line in summer.

Paxton Gas Co., Paxton.

RRs.: Ill. Cen.; L. E. & W.; Ex.: Am.

Capital stock, author. and issued, \$55,200.
 President, M. H. Cloud.
 Secretary, Frank M. Thompson.
 Treasurer, J. B. Shaw.
 Gen'l mgr. and pur. agent, E. R. King.
 Supt. and new business mgr., E. R. King.
 Engineer, J. E. Larson.
 Process manufacture, Water (Tenney).
 Price coke per ton, delivered, \$6.20.
 Price oil per gal., 4.5c.
 Candle-power, 19.
 Calorific value, 609 B.t.u.
 Annual production, 7,826,980 c. f.
 Gas holder capacity, 40,000 c. f.
 Max. day's send out, 21,443 c. f.
 Miles of mains, approx., 7.5; pressure, 2 lbs.
 Annual sales, approx., 6,739,750 c. f.
 Gas unaccounted for, 7.6 p. c.
 Pop. of city, estimated, 3,100 (1914).
 No. consumers and meters, 386.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35. Sliding scale to \$1 for 13,000 c. f. per mo.
 No public incand. gas lamps, 6; price per year, on meter, approx., \$60. Contract includes repairs only. No. hours each lamp is lighted per year, 3,160.
 Appliances in use: Ranges, 371; heaters, 4; water heaters, 29.
 No. commercial gas arc lamps in use, 51.
 Supplies Paxton.

FOR GAS HOLDERS IN EXPOSED POSITIONS

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for
 Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York



Central Illinois Light Co., Pekin.

RRs.: A., T. & S. F.; C., C., C. & St. L.; C., P. & St. L.; Peo. & Pek. U.; Ill. Cen.; C. & A.; Peo. Ry. Term. S. B.; Commerce Line. Ex.: Am.; Nat.; W. F.

(Successor to Pekin Light, Heat & Power Co. For capitalization and officers, see parent companies.)

Process manufacture, Coal.
Miles of mains, approximate, 25.
Street main pressures, max., 4 in.; min., 2 in.
Candle-power, 16.
Total gas holder capacity, 56,000 c. f.
Max. day's send out, 110,100 c. f.
Annual sales, approx., 24,224,200 c. f.
Gas unaccounted for, 10 p. c.
Pop. of city supplied, 9,897.
No. consumers and meters, 1,628.
Price gas: Light and Fuel, gross, \$1.35; net, \$1.25 (sliding scale).
No. commercial gas arc lamps, 158.
Supplies Pekin.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C., incand. and power, A. C.
Generating capacity: Lighting and power, 650 h. p.
Voltage: Arcs, 80; incand., 110; power, 110-220-2,300.
City lighting contract: Hours lighted per year: Arc, 4,000; incand, 4,000.
No. public arcs, 182; 230 watt. Price per year, \$60.
Commercial lighting: No. arcs, 6.
Price current per kw. hr., gross, 11c.; discount, 1 to 5c.
Domestic, 11c., gross; discount, 1 to 3c.
Generating power used, Steam; rated h. p., boilers, 1,440.

Central Illinois Light Co., Peoria.

RRs.: C. & No. W.; C., B. & Q.; C., R. I. & P.; C. & A.; C. P. & St. L.; C., C., C. & St. L.; Iowa Cen.; L. E. & W.; Peo. & Pek. U.; Ill. Cen.; Peo. Ry. Term.; Vand.; Tol., Peo. & W.; Ill. Trac. S. Bs.; Commerce Line; La. S. & Peo. Packet. Ex.: Ad.; Am.; W. F.; Nat.

For capitalization and officers, see Parent Cos. Superintendent, S. B. Sherman.
Process manufacture, Coal and Lowe.
Mixture supplied, 95 p. c. coal, 5 p. c. water.
Candle-power, 16.
Gas holder capacity, 910,000 c. f.
Max. day's send out, 1,856,000 c. f.
Miles of mains, approx., 162.
Street main pressures, max., 5 in.; min., 2.5 in.
Annual sales, approx., 450,732,400 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 77,000; of city, 72,193.
No. consumers and meters, 15,844.
Price gas: Light and Fuel, net, 85c.
No. commercial gas arc lamps, 1,603.
Supplies Peoria and Averyville.

ELECTRICAL DEPARTMENT.

System operated: 60 cycle, 3 phase.
Generating capacity: Lighting and power, 24,500 h. p.
Voltage: Line, 2,300 and 13,200; arcs and incand., 105; power, 220-440. 60 cycle, 3 phase and 500 D. C.
City lighting contract: Hours lighted per year: Arcs, 4,000.
No. public arcs, 1,448; 300 watt. Price per year, \$45.
No. commercial arcs, 65.
Commercial lighting: Price current per kw. hr., gross, 10c. max., 4c. min. Disc., 1c.
Rates for domestic use, same as commercial.
Power current price per kw. hr., 2c. to 9c.
Output of station, kw. hr. per yr., 36,000,000.
Generating power used, Steam; rated h. p., boilers, 7,100.

Public Service Co. of Northern Illinois, Pontiac.

RRs.: C. & A.; Ill. Cen.; Wabash. Ex.: Am.; Nat.; Pac.

(Successor to Pontiac Light & Water Co. For officers, capitalization and companies consolidated, see Appendix.)

Local manager, V. V. Parshall.
Process manufacture, Coal.
Annual production, 23,639,000 c. f.
Calorific value, 600 B. t. u.
Total gas holder capacity, 150,000 c. f.
Holder pressure, max., 3.5 in.
Max. day's send out, 70,400 c. f.
Miles of mains, approx., 17.
Street main pressures, max., 3.2 in.; min., 2.8 in.
Annual sales, approx., 20,355,200 c. f.
Gas unaccounted for, 8 p. c.
Pop. dist. supplied, 7,150; of city, est., 7,150.
No. consumers and meters, 1,064.
Price gas: Light and Fuel, gross, \$1.25; net \$1.19.
Ranges, 800; heaters, 41; water heaters, 134.
Supplies Pontiac.

ELECTRICAL DEPARTMENT.

(See Blue Island.)

City lighting contract: Hours lighted, 3,950.
No. public incand.: 4, 200 c. p., price per year \$48; 2, 60 c. p., price \$24; 281, 32 c. p., price \$15.
Price current per kw. hr., 10c. net.
Price power per kw. hr.: 11c., 6c., 4c.; disc., 1c. per kw. hr.

Princeton Gas Company, Princeton.

RRs.: C., B. & Q. Ex.: Ad.

Capital stock, \$75,000.
Bonds, \$60,000; due, 1934; int., 5 p. c.
President, J. H. McLellan.
Vice-pres. and treas., F. C. Duncan.
Secretary, Kate B. Duncan.
Manager and purchasing agt., F. C. Duncan.
Superintendent, A. P. Smyth.
Process manufacture, Coal.
Price coal per ton, delivered, \$7.60.
Candle-power, 16.
Calorific value, 610 B.t.u.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Annual production, 16,000,000 c. f.
 By-products made: Coke, 867 tons; tar, 16,700 gallons.
 Total gas holders capacity, 32,000 c. f.
 Max. day's send out, 58,000 c. f.
 Miles of mains, approximate, 14.5.
 Street main pressures, max., 3.6 in.; min., 2.5 in.
 Annual sales, approx., 13,500,000 c. f.
 Gas unaccounted for, 11.3 p. c.
 By-products sold: Coke, 370 tons; tar, 17,200 gallons.
 Pop. of city, 4,118; of dist. supplied, 3,700.
 No. of consumers, 889.
 No. meters, reg., 741; prepay., 148.
 Price gas: Light and Fuel, gross, \$2; net, \$1.75; industrial, gross, \$1.75; net, \$1.50.
 Ranges in use, 677; heaters, 178; water heaters, 88.
 No. commercial gas arc lamps, 170.
 Supplies Princeton.

Quincy Gas, Electric and Heating Co., Quincy.

RRs.: C., B. & Q.; Wabash; Q., O. & K. C.
 S. Bs.: Diamond Jo. L.; K. & Q. Packet.
 Ex.: Ad.; Pac.

Controlled by United National Utilities Co.
 Capital stock, \$2,000,000.
 Bonds, \$2,000,000; due 1935; int., 5 p. c.
 Manager, H. O. Channon.
 New-business manager, R. A. Field.
 Superintendent, H. O. Channon.
 Process manufacture, Coal and Lowe.
 Mixture supplied, 98 p. c. coal; 2 p. c. water.
 Annual production, 159,860,000 c. f.
 Candle-power, 18.
 Max. day's send out, 553,000 c. f.
 Total gas holders capacity, 750,000 c. f.
 Miles of mains, approx., 72.13.
 Street main pressures, max., 4 in.; min., 2 in.
 Annual sales, approx., 149,637,000 c. f.
 Gas unaccounted for, 6.46 p. c.
 Pop. dist. supplied, 36,587; of city, the same.
 No. meters, 7,332.
 No. consumers, 7,002.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.1st 10,000 c. f.; next 10,000 c. f., 90c.; next 10,000 c. f., 80c.; all over 30,000 c. f., 70c. net.
 Supplies Quincy.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 3-phase, 60 cycle; power, D. C.
 Generating capacity: Lighting, 1,700; power, 650.
 Voltage: Incand., 115; power, 500.
 City lighting contract: Hours lighted per year: Arc, 2,500.
 No. public arcs, 502, 600 watt. Price per year, \$52.88.
 Commercial lighting: No. arcs, 300.
 Price current per kw. hr., gross 5 to 13.5c.; discounts, 5 p. c.
 Power circuits: Price current per kw. hr., 2.25 to 10c.
 Output of station, kw. for year, 8,800,400.

Generating power used, Steam; rated h. p., 2,350.
 Cost of station boiler coal, per ton, \$1.38 for screenings.

Rochelle Gas Co., Rochelle.

RRs.: C. & No. W.; C., B. & Q.; C., M. & St. P. Ex. Am.; Ad.; W. F.

Capital stock, com., auth., \$60,000; issued, \$45,000. Annual dividend, 6 p. c.
 President, D. W. Baxter.
 Vice-pres., G. N. Grieve.
 Secretary, A. M. Peck.
 Treasurer, M. D. Hathaway.
 General mgr. and pur. agent, A. M. Peck.
 Engineer, John O'Neill.
 Process manufacture, Water (Tenney).
 Price of oil per gal., delivered, 7c. to 9c.
 Candle-power, 22; calorific value, 600 B. t. u.
 Annual production, 14,000,000 c. f.
 Total gas holders capacity, 82,000 c. f.
 Holder pressure, 1.5 lbs.
 High pressure mains, miles, 11; pressure, 1.5 lbs.
 Max. day's send out, 70,000 c. f.
 Annual sales, approx., 14,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city supplied, estimated, 4,000.
 No. consumers, 700.
 No. meters, reg., 300; prepay., 400.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Ranges in use, 600; heaters, 12; water heaters, automatic, 40; tank, 200.
 No. commercial gas arc lamps, 60.
 Supplies Rochelle.

Illinois Northern Utilities Co., Rock Falls.

(See report under Sterling.)

Rockford Gas Light and Coke Co., Rockford.

RRs.: C. & No. W.; C., B. & Q.; C., M. & St. P.; Ill. Cen.; C., M. & Gary. Ex.: Ad.; Am.

Operated by American Gas Co., Philadelphia.
 (For capitalization and bonds, see Appendix.)
 President, Morris W. Stroud.
 Vice-pres. and gen. mgr., S. P. Curtis.
 Vice-president, J. C. Lowry.
 Secretary, W. L. Fox.
 Treasurer, J. B. Townsend, 3d.
 Pur. agent, F. D. Wharton.
 Engineer, R. C. Cornish.
 Manager, Henry S. Whipple.
 New bus. mgr., H. L. Wolfe.
 Process manufacture, Coal and Lowe.
 Calorific value, 565 B. t. u.
 By-products made: Coke, 27,875 tons; ammonia, 244,000 gals.
 Total gas holders capacity, 1,400,000 c. f.
 Max. day's send out, 1,678,000 c. f.
 Miles of mains, approx., 142.
 Street main pressures, max., 4.5 in.; min., 2 in.
 High pressure mains, 9 miles; pressure, 1 lb.
 Annual sales, approx., 430,000,000 c. f.
 Gas unaccounted for, 5.6 p. c.
 By-products sold: Coke, 19,418 tons; ammonia, 247,372 gals.

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Pop. city, 45,401; dist. supplied, 60,000.
 No. consumers, 14,566.
 No. meters, reg., 6,807; prepay, 7,759.
 Price gas: Light and Fuel, sliding schedule.
 1st 5,000 c. f., 95c. net; 2d 5,000 c. f.,
 90c.; next 20,000 c. f., 80c.; next 20,000
 c. f., 75c.; next 50,000 c. f., 70c.; next
 200,000 c. f., 60c.; next 200,000 c. f., 50c.;
 next 500,000 c. f., 45c.; over 1,000,000 c. f.,
 40c. Prepayment meters set to deliver
 260 c. f. of gas at 25c. Min. chg., 50c.
 Ranges in use, 14,208; water heaters, 702.
 No. commercial gas arc lamps, 1,247.
 Supplies Rockford.

Peoples' Power Co., Rock Island.
 (See report under Moline, Ill.)

Peoples Gas and Electric Co., Savanna.

RRs.: C., B. & Q.; C., M. & St. P. S. Bs.: Dia-
 mond Jo. L. (Bridge to Sabula, Ia.). Ex.:
 Ad.: W. F. ———

Capital stock, auth., \$160,000; issued, \$100,000.
 Annual dividend, 6 p. c.
 Bonds, \$80,000; due 1927; int., 6 p. c.
 President, A. P. Woodruff.
 Secretary, P. M. Ferguson.
 Treasurer, W. S. Wallace.
 Pur. agt. and gen. mgr., F. P. Bowen.
 Process manufacture, Lowe.
 Annual production, 15,000,000 c. f.
 Pressure: Max., 3 in.; min., 2.5 in.
 High pressure mains, 12 miles; press., 3 lbs.
 Max. day's send out, 60,000 c. f.
 Pop. of city, 3,691; dist. supplied, est., 6,000.
 No. consumers, 885. No. meters, 880.
 Price gas: Light, gross, \$1.35; net, \$1.25.
 Gas appliances in use: Ranges, 800; water
 heaters, 400.

ELECTRICAL DEPARTMENT

Capital apportioned to electric plant, \$90,000.
 System operated: A. C., 2 phase, 60 cycles.
 Voltage: Incand., 112; power, 220.
 City lighting contract: Hours lighted per
 year, arc and incand., 2,000.
 No. public arcs, 50; price per year, \$70.
 No. public incand., 40; price per year, \$18.
 Boulevard incand., 300.
 Output of station, kw. for year, 850,000.
 Generating power used: Steam; rated, 600 h.p.

Shelbyville Gas Co., Shelbyville.

RRs.: C. C. C. & St. L.; C. & E. Ill. Ex.:
 Am.; W. F. ———
 Capital stock, \$30,000.
 Bonds, \$10,000; due 1921; int., 6 p. c.
 President, W. J. Eddey.
 Vice-pres., B. P. Dearing.
 Secretary, Wm. H. Craig.
 Treasurer, W. S. Middlesworth.
 Gen'l mgr. and pur. agt., H. D. Twiss.
 New bus. mgr., H. D. Twiss.
 Engineer and supt., A. Cox.
 Process manufacture, Water-gas (Tenney).
 Candle-power, 18.
 Max. day's send out, 15,000 c. f.

High pressure mains, 9 miles; pressure car-
 ried, 2.5 lbs.

Miles of mains, approx., 7.

Pop. of city, 3,590; dist. supplied, 700.

No. consumers, 362.

No. meters, reg., 362.

Price of gas: Light, gross, \$1.50; net, \$1.35.

No. ranges, 324; heaters, 30; water heaters,
 33.

No. commercial gas arc lamps, 59.

Supplies Shelbyville.

(No 1918 report.)

Springfield Gas and Electric Co., Springfield.

RRs.: C. & A.; B. & O. So. W., C., P. & St.
 L.; C., H. & D.; Ill. Cen.; Wabash; Ill.
 Trac. Ex.: Am.; Nat.; Ad.; Pac.

Controlled by Union Ry., Gas & Electric Co.
 President, B. C. Cobb.

Vice-president, W. H. Barthold.

Secretary, E. E. Corken.

Asst. sec'y., R. E. Eddy.

Treasurer, E. L. Sturtevant.

Vice-pres. and general mgr., A. D. Mackie.

Superintendent dis., G. H. Dawson.

Superintendent works, C. D. Craig.

Process manufacture, Coal and Lowe.

Mixture supplied: Coal, 39 p. c.; water 61
 p. c.

Candle-power, 18; calorific value, 590 B. t. u.

Annual production: Coal gas, 118,375,700 c. f.;
 water gas, 185,884,700 c. f.

Max. day's send out, 1,051,000 c. f.

Total gas holders capacity, 1,345,000 c. f.

Miles of mains, approx., 99.

Street main pressures, max., 4.5 in.; min., 2 in.

Annual sales, approx., 281,639,500 c. f.

Gas unaccounted for, 7.51 p. c.

Pop. dist. supplied, 60,000.

Consumers and meters, 10,865.

Price gas: Light and Fuel, gross, \$1.20; net,
 \$1.

No. commercial gas arc lamps, 924.

Supplies Springfield.

Illinois Northern Utilities Co., Sterling.

RRs.: C. & No. W.; C., B. & Q. Ex.: Ad.; Am.

(For capitalization and officers, see "Parent
 Cos." and "Appendix.")

Local mgr., G. B. Fluehr.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.07.

Candle-power, 16; calorific value, 590 B.t.u.

Annual production, 53,368,000 c. f.

By-products made: Coke, 3,265 tons; tar,
 59,859 gals.

Gas holder capacity, 100,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 185,000 c. f.

Miles of mains, approx., 30.

Street mains pressures: max., 4 in.; min., 2 in.

High pressure mains, miles, 10; pressure, 18
 lbs.

Annual sales, approx., 43,205,800 c. f.

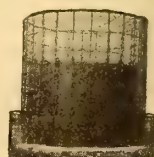
Gas unaccounted for, 19.1 p. c.

By-products sold: Coke, 1,864.6 tons; tar,
 52,921 gals.

Pop. dist. supplied, 12,000; of cities, Sterling,
 7,467; Rock Falls, 2,657.

The cuts at the sides show the first five million cu. ft.
 holder erected in the United States, over twenty years ago.
 This size now is the most general for large gas plants.

R. D. WOOD & CO., PHILA., PA.



No. consumers, 2,221.

Price gas: Light and Fuel, gross, \$1.40; net, \$1.30.

Ranges in use, 1,190; heaters, 363; water heaters, 267.

Commercial gas arc lamps, 240.

Supplies Sterling and Rock Falls.

ELECTRICAL DEPARTMENT.

System operated (3 stations): A. C., 60 cycles, 3-phase.

Generating capacity: Lighting and power, 2,500 kw.

Voltage: Line, 2,300 incand., 110; power, 220; transmission, 33,000.

City lighting contract: No. public incand.: 9 3-lt. clusters, 80 c. p. (all night), \$43 per cluster per year; 3 3-lt. clusters, 80 c. p. (Phila. moonlight), \$39 per cluster; 270 1-lt. clusters, 80 c. p., \$19.50 per year; 84 1-lt. clusters, 600 c. p., operated by City of Sterling. Regular, 11c., 6c., 4c., power rate.

Commercial lighting: No. incand., 8,000.

Price current per kw. hr., 11c. net.

Power circuits: Motors, 220 h. p.; price per kw. hr., 10c. Disc., to 70 p. c.

Other uses: Fans, irons, etc.

Generating power used, Water and Steam; rated h. p., 3,500.

Output of station kw. hrs., total for year, 6,032,712.

Cost of station boiler coal, per ton, \$3.96.

Public Service Co. of Northern Illinois, Streator.

RRs.: A., T. & S. F.; C., B. & Q.; C. & A.; C. I. & So.; Wabash. Ex.: Ad.; Pac.; Am.; Nat.; W. F.

(Successor to Illinois Valley Gas & Electric Co. For officers, capitalization and companies consolidated, see Appendix.)

Local manager, J. M. Willard.

Process manufacture, Lowe.

Annual production, 58,506,000 c. f.

Max. day's send out, 242,000 c. f.

Gas holder capacity, 140,000 c. f.

Holder pressure, max., 6.5 in.

Miles of mains, approx., 33.

Street main pressure, max., 3.6 in.

Annual sales, approx., 52,382,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. city supplied, 14,375 (estimated).

No. consumers and meters, 3,004.

Price gas: Light and Fuel, gross \$1.10; net \$1.

Ranges in use, 1,780; water heaters, 125.

Supplies Streator.

ELECTRICAL DEPARTMENT.

(See Blue Island.)

City lighting contract: Hours lighted, 3,950.

No. public arcs, 178; 310 watts; price per year, \$62.50.

No. public incand., 18; 50 watt; price per year, \$22.

Price current per kw. hr., 10c. net.

Price power per kw. hr., 11c., 6c., 4c.; disc., 1c. per kw. hr.

Illinois Northern Utilities Co., Sycamore.

(See report under DeKalb.)

Central Illinois Public Service Co., Taylorville.

RRs.: B. & O. S. W.; Wabash; C. & Ill. Mid.

Ex.: W. F.; Pac.

(For capitalization and officers see Parent Cos. and Appendix.)

General manager, B. F. Tucker.

Engineer (gas), C. L. Paullin.

Superintendent, J. O. Tucker.

Purchasing agent, D. R. Truax.

New bus. mgr., C. O. Dunton.

Process manufacture, Lowe (Western gas).

(Kendall oil machine for emergency.)

Price of coke per ton, delivered, \$5.

Price of oil per gal., 3.7c.

Candle-power, 20; calorific value, 575 B.t.u.

Annual production: Water gas, 9,300,000 c. f.; oil gas, 100,000 c. f.

Gas holder capacity, 20,000 c. f.

Holder pressure, max., 3 in.

Max. day's send out, 26,000 c. f.

Miles of mains, approx., 13.

Street main pressures, max., 4 in.; min., 2.5 in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. city, 5,446; dist. supplied, 4,500.

No. consumers, 744.

No. meters, reg., 694; prepay., 50.

Price gas, gross, \$1.45; net, \$1.35.

Ranges in use, 547; heaters, 26; water heaters, 70.

No. commercial gas arc lamps, 19.

Supplies Taylorville.

ELECTRICAL DEPARTMENT.

System: arcs, D. C.; incand. and power, A. C., 3 phase, 7,200 alt.

Gen. capacity: Lighting and power from transmission line.

Voltage: At arc, 70; incand., 110; power, 220.

City lighting contract: hours lighted, 4,000.

No. public arcs, 45; 4 amp. Price, \$48.

No. public incand., 232; 40 c. p.; price per year, \$12.

Com'l lighting: No. incand., approx., 2,000.

Price current per kw. hr., 9c. Disc., 10 p. c.

Power circuits: No. motors, 20.

Price current per kw. hr.: 11c., 6c., 4c.; disc., 1c. Off peak power, 9c., 6c., 4c., disc., 1c.

Other uses: Also operates public heating plant.

Power supplied by high tension line from Kincaid, Ill.

Tiskilwa Gas Works, Tiskilwa.

RR.: C., R. I. & P. Ex.: Am.

Investment, \$14,000.

Bonds, \$2,000, due \$1,000 annually; interest, 6 p. c.

Owner, Geo. Kirkpatrick.

Gen'l mgr. and pur. agt., Geo. Kirkpatrick.

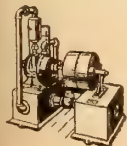
Process manufacture, Lowe.

Price coke per ton, delivered, \$5.

Price oil per gallon, delivered, 4.16c.

Candle-power, 18-20.

Annual production, 3,800,000 c. f.



THE NEEDHAM SYSTEM is a one pipe system and is free from the difficulty of air blast regulation. It is independent of the varying pressures in the gas mains and a full pressure is maintained at each burner regardless of the number of appliances in use.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Max. day's send out, 10,500 c. f.
 Total gas holder capacity, 15,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approximate, 5.25.
 Street main pressure, max., 4 in.; min., 3.5 in.
 Annual sales, approx., 3,650,000 c. f.
 Gas unaccounted for, 4 p. c.
 Pop. dist. supplied, 1,000; of city, 857 (1910).
 No. consumers, 225.
 No. meters: Reg., 210; prepay., 2.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.20.
 No. public Welsbach lamps, 40; price per year, \$12.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 1,000.
 Ranges in use, 75; heaters, 5; water heaters, 10.
 No. commercial gas arc lamps, 8.
 Supplies Tiskilwa.

North Shore Gas Co., Waukegan.

RRs.: C. & No. W.; El., J. & E.; C. & M.
 El. Ex.: Am.

(Controlled through ownership of capital, stock, by Chicago Suburban Gas & Electric Co. For capitalization and bonds, see Appendix.)

President, Everett L. Millard.
 Vice-president, A. Volney Foster.
 Vice-president in charge of operations and consulting engineer, Wm. A. Baehr.
 Secretary, D. S. Boynton.
 Treasurer, W. Irving Osborne.
 Pur. agent, Wm. A. Baehr.
 Works supt., A. J. Lawlor.
 New bus. mgr., H. E. Turner.
 Process manufacture, Lowe and Coke-oven.
 Annual production: Water gas, 203,122,000 c. f.; coke oven, 326,647,200 c. f.
 Price gas coal per ton, delivered, \$5.92.
 Price oil per gallon, delivered, 6.5c.
 Candle-power, 20; calorific value, 600 B. t. u.
 By-products made: Coke, 34,400 tons; tar, 490,800 gals.; ammonia, 147,200 lbs.
 Total gas holders capacity, 2,225,000 c. f.
 Holder pressure, max., 9 in.
 Max. day's send out, 1,744,000 c. f.
 Miles of street mains, 48.
 Street main pressure, max., 6 in.; min., 3 in.
 High pressure mains, 186 miles; press., 35 lbs.
 Booster mains, 1 mile; pressure, 1 lb.
 Annual sales, approx., 405,100,000 c. f.
 Gas unaccounted for, 23 p. c.
 By-products sold: Coke, 33,900 tons; tar, 441,000 gals.; ammonia, 137,800 lbs.
 Pop. district supplied, 50,862 (est.); of city, 16,069.
 No. consumers, 11,295.
 No. meters, reg., 8,945; prepay., 2,350.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15 for first 2,000 c. f.; \$1.20-\$1.10 for next 3,000 c. f.; \$1.15-\$1.05 for next 5,000 c. f.; \$1.10-\$1 for next 10,000 c. f.; \$1.05-95c. for next 10,000 c. f.; over 30,000 c. f., 95c.-85c. Prepay., \$1.20 per 1,000 c. f.

Public incand. lamps, 260 (Welsbach contract).

Lamps lighted per moonlight schedule.
 Contract does not include repairs, care, lighting and extinguishing.
 Ranges in use, 9,699; water heaters, 1,705.
 No. commercial gas arc lamps, 1,564.
 Supplies Waukegan, No. Chicago, Lake Bluff, Lake Forest, Fort Sheridan, Highwood, Highland Park, Libertyville, Ravinia, Glencoe, Deerfield, Area and Winnetka.

COKE-OVEN OPERATIONS.

Semet-Solvay ovens, 13; dimensions: length, 30 ft.; width, 19 in.; height, 9 ft.
 Coal charged per oven, 8.5 net tons. Coke yield, 83 p. c.
 Time required for coking, 22 hours.
 Quality: candle-power, 20; calorific value, 600 B. t. u.
 By-products made per year: Gas, 326,647,200 c. f.; tar, 490,300 gals.; ammonia, 147,200 lbs.; coke, 34,400 tons.
 All gas sold for city use.
 Coke used for domestic purposes—heating and cooking.

West Hammond Gas and Electric Co., West Hammond.

RR.: Ind. Harbor Belt. Ex.: Ad.: Am.

P. O., Hammond, Ind.
 Capital stock, \$15,000.
 President, B. S. Walters.
 Vice-pres., G. W. Curran.
 Sec. and treas., H. C. Miller.
 Manager, B. S. Walters.
 Asst. sec'y and asst. treas., I. W. Morris.
 Gas purchased.
 Miles of mains, 11.14.
 Annual sales, approx., 29,859,404 c. f.
 Pop. of city, 6,000; of dist. supplied, 7,100.
 No. consumers, 1,235.
 No. meters, reg., 208; prepay., 1,054.
 Price gas: Light and Fuel, \$1 to 45c.; 1st 30 M., \$1 net; next 20 M., 90c.; next 25 M., 80c.; next 425,000 c. f., 70c. net; all over 500,000 c. f., 45c.
 Gas ranges, 942.
 No. commercial gas arc lamps in use, 30.
 Supplies West Hammond and Burnham.

ELECTRICAL DEPARTMENT.

System operated: Incand., single and 3 phase, 60 cycle; power A. C.
 Voltage: Incand., 110-220; power, 110-220-440.
 City lighting contract: Hours lighted per year, incand., 4,000.
 No. public incand. lamps, 92; 234 watts.
 Price current per kw. hr., gross, 10c. to 3c.; disc., 10 p. c.
 Power circuits: No. motors, 30; price per kw. hr., 8c. to 1.75c.; disc., 10 p. c.
 Power purchased.

GAS EXHAUSTERS

Self Oiling



GAS BOOSTERS

Adjustable While Running

INDIANA

Total population, 2,826,154.

Central Indiana Gas Co., Anderson.RRs.: Cen. Ind.: C. C. C. & St. L.; Pa.;
Ex.: Ad.: Am.

(Began operation Jan. 1, 1918.)

For capitalization, officers, etc., see report
under Muncie, in Natural Gas Dept.

Process manufacture, Lowe.

Price gas: Light and Fuel, first 1,000 c. f.,
\$1.00-90c.; next 4,000 c. f., 85c.-75c.; over
5,000 c. f., 50c.**Indiana Fuel and Light Co., Auburn.**RRs.: L. S. & M. So.: Vand., Tol. & C. In-
ter. Ex.: Ad.: Am.Operated by Utilities Operating Co., Kalama-
zoo, Mich.

Capital stock, auth., \$400,000; issued, \$150,000.

Bonds, 380,500; due 1939; int., 6 p. c.

Chmn. ex. com., C. A. Runyan.

President, L. F. Ryall.

Secretary, Frank Wheeler.

Treasurer, L. F. Ryall.

Gen. manager, D. F. Burritt.

Manager and pur. agent, W. B. Bailey.

Engineer, W. D. Birbeck.

Process manufacture, Coal.

By-products made: Coke, 4,000 tons; tar,
76,500 gals.

Price coal per ton, delivered, \$5.36.

Candle-power, 18.

Calorific value, 600 B. t. u.

Annual production, 65,600,000 c. f.

Gas holder capacity, 250,000 c. f.

High pressure mains, miles, 51; pressure,
5 to 10 lbs.

Max. day's send out, 181,000 c. f.

Annual sales, approx., 59,000,000 c. f.

Gas unaccounted for, 10 p. c.

By-products sold: Coke, 4,000 tons; tar, 70,000.
gals.Pop. of dist. supplied, 18,000; of Auburn,
3,919; Garrett, 4,149; Kendallville, 4,981;
Avilla, 1,251; Altoona, 1,139.

No. consumers, 3,172.

No. meters, reg., 685; prepay, 2,487.

Price gas: Light and Fuel, gross, \$1.50; net,
\$1.40 for 1st 10,000 c. f.; next 10,000, net
\$1.25; next 10,000, \$1.15; next 10,000 c. f.,
\$1.05; all over 40,000 c. f., 95c. net.Ranges in use, 2,418; heaters, 253; water
heaters, 310.

No. commercial gas arc lamps in use, 400.

Supplies Auburn, Garrett, Kendallville, Avilla
and Altoona.**Indiana Public Service Co., Aurora.**RRs.: B. & O. So. W.; C. C. & St. L.; S.
Bs; Lee L.; O. R. Trans.; L. & C. Packet.
Ex.: Am.

Controlled by The Middle West Utilities Co.

Capital stock, com., \$150,000; pref., \$50,000.

Bonds outstanding, \$100,000; due 1931; int.,
5 p. c.

President, C. B. Hanna.

Secretary, D. J. Niemeier.

Treasurer, Harry Reid.

Gen. mgr. and pur. agt., C. B. Hanna.

Supt. and new bus. mgr., C. B. Hanna.

Engineer, T. C. Monks.

Process manufacture, Coal.

Candle-power, 18.

Annual production, coal gas, 6,553,000 c. f.

By-products made: Coke, 483 tons; tar, 6,084
gals.

Total gas holders capacity, 18,000 c. f.

Max. day's send out, 25,000 c. f.

Miles of mains, approx., 7.

Street main pressures, max., 2.7 in.; min., 1.5
in.

Annual sales, approx., 3,647,400 c. f.

Pop. city supplied, 4,500.

No. consumers and meters, 351.

Price gas, gross, \$1.50; net, \$1.25.

Gas ranges in use, 250; heaters, 25.

Supplies Aurora and West Aurora.

ELECTRICAL DEPARTMENT.System operated: Lighting, D. C.: Power,
A. C., 60 cycles, 3-phase.

Generating capacity: Lighting, 320 kw.

Voltage: Incand., 110; power, 110-220-440.

Miles of over-head wires, 47.

City lighting contract: Moonlight schedule.

No. public arcs, 77; 4 amp. Price per year,
\$51.58.No. pub. incand., 18, 50 watt; price per year,
\$17.20.Price current, Com'l, per kw. hr., gross, 10c.
based on maximum demand.Other lamps, Tungsten, Tantalum and Carbon.
Nitrogen and Mazda.Power circuits: Motors, 300 h. p. Price per
kw. hr., 10c. based on max. demand.Output of station, kw. hrs. total for year,
359,370.

Generating power used, Steam, rated 150 h. p.

Cost of boiler coal, per ton, \$4.75.

Interstate Public Service Co., Bedford.RRs.: B. & O. So. W.; C. I. & L.; C. T. H. &
S. E. Ex.: Am.(Successor to Bedford Light, Heat & Power
Co.)For capitalization and officers, see Parent Cos.
Pur. agt., C. H. Dallow, Indianapolis.**WASH OIL PUMPS***Effective Stuffing**Boxes***P.H. & F.M. ROOTS CO.**

Connersville

Indiana

New York

Chicago

Oper. mgr., E. Van Arsdel.
 New bus. mgr., Chester J. Eaton
 Manager, G. C. Hyde.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$5.
 Candle-power, 20.
 Annual production, 23,815,000 c. f.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 85,000 c. f.
 Holder pressure, max., 5 in.
 Miles of mains, approx., 11.63.
 Street main pressures, max., 5 in.; min., 2.5 in.
 Annual sales, approx., 18,814,000 c. f.
 Gas unaccounted for, 20.8 p. c.
 Pop. city supplied, 10,349 (1916).
 No. consumers and meters, 1,017.
 Price gas: Light and Fuel, net \$1.
 Ranges in use, 984; heaters, 158; water heaters, 279.
 Supplies Bedford.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: A. C., 3-phase, 60-cycles.
 Voltage: Line, 2,300; incand., 110; power, 220.
 Generating capacity, total, 600 kw.
 No. public arcs, 80; lighted all night.
 Price arc, Public, per year, \$80.
 Price arc and incand., Com'l, per kw. hr., 10c.
 No. commercial incand. lamps, 110.
 Price current per kw. hr., gross, 10c.; power, 10c. to 2c.
 Power used, Steam rated 675 h. p.
 Output of station, kw. hrs., total for year, 2,386,770.
 Cost boiler fuel per ton, \$2.85.
 (Company also has central station hot water heating plant, with 3 miles of mains, 95,000 feet of radiation connected, at 15c. per foot.)

Central Indiana Lighting Co., Bloomington.

RRs.: C., I. & L.; Ind. So. Ex.: Am.

Controlled by Interstate Public Service Co.
 (For capitalization and officers, see Parent Cos.)

Manager, G. C. Hyde.
 Oper. mgr., E. Van Arsdel.
 New bus. mgr., Chester J. Eaton.
 Superintendent, R. W. Lamar.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$6.80.
 Price of oil per gal., 6c.
 Candle-power, 20; calorific value, 630 B. t. u.
 Annual production, 30,519,000 c. f.
 Total gas holders capacity, 118,000 c. f.
 Holder pressure, max., 6 in.; min., 3 in.
 Max. day's send out, 90,000 c. f.
 Miles of mains, approx., 13.23.
 Street main pressures, max., 8 in.; min., 2 in.
 Annual sales, approx., 27,986,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. city supplied, 11,383 (1916).
 No. consumers, 1,337.
 Price gas: Light and Fuel, net \$1.
 Ranges, 880; heaters, 265; water heaters, 571.
 Supplies Bloomington.

ELECTRICAL DEPARTMENT.

System operated: 60 cycles, single and 3 phase.
 Generating capacity, total, 475 kw.
 Voltage: Incand., 110; power, 110-220.
 No. public arcs, 80; 250 watt Mazda.
 Price arc, Public, per year, \$80.
 Commercial lighting: No. incand., 10,000.
 Price incand., Com'l, per kw. hr., 10c. net.
 Power used, Steam; rated, 700 h. p.
 Power used also for stone mills.
 Output of station, kw. for year, 2,102,755.
 Cost boiler coal per ton, \$2.41.

Brazil Gas Co., Brazil.

RRs.: C. & E. Ill.; E. & T. H.; Cen. Ind.;
 Vand.; T. H., Ind. & E. Trac. Ex.: W.
 F.: Ad.

Operated by Utilities Operating Co., Kalamazoo, Mich.

Capital stock, \$200,000.
 Bonds, \$158,000; due 1938; int., 6 p. c.
 President, Louis Fox.
 Vice-pres., L. F. Ryall.
 Sec'y and treas., Geo. Waldschmidt.
 Asst. sec'y and asst. treas., E. A. Runyan.
 Purchasing agent, E. W. Smiley.
 General manager, D. F. Burritt.
 Engineer, W. D. Birbeck.
 Local and new bus. mgr., E. W. Smiley.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.86.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Annual production, 21,500,000 c. f.
 By-products made: Coke, 1,500 tons; tar, 28,570 gals.
 Gas holder capacity, 30,000 c. f.
 Max. day's send out, 80,000 c. f.
 High pressure mains, 16 miles; pressure, 5 lbs.
 Annual sales, approximate, 18,000,000 c. f.
 Gas unaccounted for, 17 p. c.
 By-products sold: Coke, 1,500 tons; tar, 25,000 gals.
 Population of city supplied, 12,780.
 No. consumers, 984.
 No. meters, reg., 483; prepay., 501.
 Price gas: Light and Fuel, 1st 5,000 c. f., \$1.50 gross, \$1.40 net; 2d 5,000 c. f., \$1.40-\$1.30; next 10,000 c. f., \$1.20-\$1.10; next 10,000 c. f., \$1.10-\$1; all over 30,000 c. f., \$1-90c.
 Min. mo. charges for 3 and 5 ft. meters, \$1; 10 and 20 ft. meters, \$1.50; 45 ft. meters, \$2.
 No. gas ranges, 895; water heaters, 182.
 No. commercial gas arc lamps in use, 350.
 Supplies Brazil.

Columbia City Gas Works, Columbia City.

Franchise granted Walpole Kaler.

Columbus Gas Light Co., Columbus.

RRs.: C., C. & St. L.; Penna. Ex.: Ad.; Am.

Operated by W. E. Moss & Co., Detroit, Mich.
 Capital stock \$200,000.
 Bonds, \$200,000; due 1931; interest, 5 p. c.
 President, C. M. Keeler.
 Secretary, B. O. Tippy.

NATURAL GAS GASOLINE.

Laboratory and field testing combined enable us to give unbiased reports on the advisability of installing a gasoline plant. We solicit your inquiries. **HOPE ENGINEERING & SUPPLY COMPANY,**
 Pittsburgh, Pa. Mt. Vernon, Ohio. Tulsa, Okla.

Treasurer, W. E. Moss.
 General mgr., B. O. Tippy.
 Auditor and pur. agent, H. M. Eaton.
 Superintendent, J. A. Cox.
 Process manufacture, Coal and Lowe.
 Mixture supplied, coal, 92 p. c.; water, 8 p. c.
 Candle-power, 16. Calorific value, 600 B.t.u.
 Total gas holder capacity, 120,000 c. f.
 Max. day's send out, 155,000 c. f.
 Miles of mains, approx., 23.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 41,084,000 c. f.
 Gas unaccounted for, 11.92 p. c.
 Pop. dist. supplied, 8,813; of city, the same.
 Consumers and meters, 1,839.
 Price gas: Light and Fuel, gross \$1.10; net \$1.
 Ranges in use, 1,600.
 No. commercial gas arc lamps, 150.
 Supplies Columbus.

The Hydro-Electric Light and Power Co., Connersville.

RRs.: C. H. & D.; C., C., C. & St. L.; L. E.
 & W. Ex.: Am.

(Consolidation of the Light, Heat and Power
 Co. and Hydro-Electric Light and Power
 Co.)

Capital stock, auth., pref. \$375,000, common
 \$375,000; issued, pref., \$300,000; common,
 \$120,000.

Annual dividend, pref., 6 p. c.
 President, E. D. Johnston.
 Secretary, J. M. Shade.
 Treasurer, Erle G. Meeks.
 Gen. mgr. and pur. agt., Erle G. Meeks.
 Superintendent, W. E. Lowe.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.60.
 Candle-power, 20; calorific value, 624 B. t. u.
 Gas holders capacity, 30,000 c. f.
 Max. day's send out, 20,000 c. f.
 Miles of mains, approx., 15.
 Street main pressures, max., 3 in.; min., 2.8 in.
 Annual sales, approx., 7,500,000 c. f.
 Pop. dist. supplied, 12,000; of city, 7,738.
 Consumers and meters, 225.
 Price gas: Light and Fuel, \$1; over 5,000 c. f.,
 90c.; over 25,000 c. f., 80c. less 10c. dis-
 count.
 No. ranges, 25.
 Supplies Connersville.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, approx.,
 \$450,000.
 System operated: A. C., 3-phase, 60 cycles.
 Generating capacity: Lighting and power,
 2,300 kw.
 Voltage: Incand., 110; power, 220.
 City lighting contract: Hours lighted, arc and
 incand., 4,000.
 No. public arcs, 128; 6.6 amp: price per year,
 \$73.
 No. public incand., 4; 6.6 amp.
 Commercial lighting: No. incand., 15,000.

Price incand., Com'l and Pub., per kw.: 1st 20
 kw. hr., 10c.; next 80 kw., 8c.; next 100
 kw., 6c.; over 300 kw., 5c. Discounts, 10
 p. c. Cooking rates, 4c.-10 p. c. discount.
 Power circuits: Motors, 1,300 h. p.
 Price current per kw. hr., \$1.10 per h. p. of
 demand and 2c. per kw. hr.; disc., 5 p. c.
 Power used, Steam, rated 1,340 h. p. and
 Water, rated 400 h. p.
 Cost boiler fuel per ton, \$4.60.
 Company also lights East Connersville.

Peoples Service Co., Connersville.

(For RRs. and Ex. Cos. see Light, Heat and
 Power Co. above.)

(Formerly Connersville Natural Gas Co.)
 Capital stock, \$200,000.
 President, J. B. McFarlan.
 Treasurer, C. E. McFarlan.
 Process manufacture, Coal.
 Gas holder capacity, 100,000 c. f.
 Miles of mains, 25.
 Pop. of city, 7,738.
 No. consumers, 1,600.
 Supplies Connersville.
 (No 1918 report.)

Elkhart Gas and Fuel Co., Elkhart.

RRs.: C., C., C. & St. L.; L. S. & M. So.; C.
 So. B. & No. I. Ex.: Am.

Owned by American Public Utilities Co.
 Bonds, \$365,500; due 1929; int., 5 p. c.
 Bonds, \$300,000; due 1924; int., 5 p. c.
 President, J. H. Brewer.
 Vice-pres., C. B. Kelsey.
 Sec'y and pur. agt., Blaine Gavett.
 Treasurer, W. J. Ripley.
 Manager, J. A. Patten.
 Engineer, gas, G. R. Horning.
 Process manufacture, Coal and Lowe.
 Mixture supplied, coal 91.6 p. c., water 8 p. c.
 Annual production, coal gas, 100,000,000 c. f.
 Price coal per ton, delivered, \$3.10.
 Price oil per gal., delivered, 3.63c.
 Candle-power, 18. Calorific value, 600 B. t. u.
 Total gas holder capacity, 372,000 c. f.
 Max. day's send out, 410,000 c. f.
 Miles of mains, approx., 58.
 Street main pressures, max., 4.4 in.; min., 2.8
 in.
 High pressure mains, miles, 33; pressure, 4.4
 lbs.
 Annual sales, approx., 125,000,000 c. f.
 Gas unaccounted for, 7 p. c.
 Pop. dist. supplied, 24,000; of city, 19,282.
 No. consumers, 4,100.
 No. meters, 4,105.
 Price gas: Light and Fuel, gross \$1.15; net
 75c.
 Ranges in use, 4,000; heaters, 320; water
 heaters, 685.
 No. commercial gas arc lamps, 175.
 Supplies Elkhart.
 (No 1918 report.)



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating,
 controlling, and recording problems to secure the results you should have. Over half
 a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Public Utilities Co., Evansville.

RRs.: E. Sub. & W.; Evans. & E.; E. & T. H.;
L. & N.; So.; L. H. & St. L.; Ill. Cen.
S. Bs.: L. & E. Packet; Tenn. & O. R.
Trans.; Ryman Line; E. & B. G. Packets;
Lee Line, Fy. to Henderson. Ex.: Ad.;
Am.; So.; W. F.

Controlled by Union Railway, Gas and Electric Co.

Capital stock, pref., \$2,520,000; common, \$3,000,000.

(For financial data, see report in Appendix.)

President, H. W. Marshall.

Vice-president, W. H. Barthold.

Vice-president and gen'l mgr., F. J. Haas.

Secretary, C. H. Splittorff.

Treasurer, Charles E. Oswald.

Purchasing agent, Walter Alvey.

Superintendent, H. Dannettell.

New bus. mgr., I. C. Shepard.

• Process manufacture, Coal and Lowe.

Mixture supplied, 72 p. c. coal; 28 p. c. water.

Price coal per ton, delivered, \$3.06.

Price oil per gal., delivered, 7c.

Candle-power, 16.

Total gas holders capacity, 675,000 c. f.

Max. day's send out, 1,083,000 c. f.

Miles of mains, approx., 119.

Street main pressures, max., 6 in.; min., 3.6 in.

High pressure mains, miles, 5.6; pressure, 15 lbs.

Annual sales, approx., 273,014,100 c. f.

Gas unaccounted for, 8.97 p. c.

Pop. dist. supplied, 69,000; of city, 69,647.

No. consumers and meters, 11,040.

Price gas: Light and Fuel, net, 85c., with sliding scale.

No. commercial gas arc lamps, 2,004.

Supplies Evansville.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 1-phase, 60 cycle; power, A. C., 3-phase, 60 cycle.

Generating capacity: Lighting and power, 16,100 h. p.

Voltage: Incand., 115; power, 220-440.

City lighting contract: Hours lighted per year, incand., 4,000.

No. public incand., 1,700. Price per year, \$27 to \$45.

No. commercial arcs, 86.

Price: Commercial, 7.5c. per kw. hr. Discount, 10 p. c.

Generating power used, Steam.

Northern Indiana Gas and Electric Co., Fort Wayne.

(See report under Hammond, Ind.)

Franklin Water, Light and Power Co., Franklin.

RRs.: C., C. C. & St. L.; Penna. Ex.: Ad.; Am.

(Controlled by Interstate Public Service Co. For capitalization and officers, see Parent Cos.)

Local manager, Paul Helm.

Oper. mgr., E. Van Arsdell.

New bus. mgr., Chester J. Eaton.

Process of manufacture, Coal.

Price coal per ton, delivered, \$4.28.

Candle-power, 18.

Calorific value, 680 B. t. u.

Annual production, 11,867,000 c. f.

Gas holder capacity, 25,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 28,000 c. f.

Miles of mains, approx., 9.1.

Street main pressures, max., 4 in.; min., 1.5 in.

Annual sales, approx., 8,875,000 c. f.

Gas unaccounted for, 24.2 p. c.

Pop. of city, 4,800 (1916); of dist. supplied, 3,000.

Consumers and meters, 555.

Price gas: Light and Fuel, gross \$1.10; net 99c.

Gas appliances in use: Ranges, 357; heaters, 40; water heaters, 48.

Supplies Franklin.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycle, 1 and 3 phase.

Generating capacity: Lighting, 400 kw.; power, 400 kw.

Voltage: Arcs series (Tungsten): incand., 110; power 110-220.

City lighting contract:

No. public arcs, 93; 250 watt. Price per year, \$55.20; also 36; 100 watt and 8:50 watt

Commercial lighting:

No. incand., 5,000 16 c. p. equiv.

Price current per kw. hr., gross 9.5c. to 4c.; 25 to 400 kw. hr. consumption. Disc., 10 p. c.

Power circuits: No. motors, 34; 165 h. p.

Price per kw. hr., 7c. to 3c. (100 kw. to 2,000 kw.) Disc., 10 p. c.

Output of station, kw. per year, 1,478,800.

Generating power used, Steam; rated, 600 h.p.

Cost of station boiler coal, per ton, \$2.60.

Gary Heat, Light and Water Co., Gary.

RRs.: B. & O.; Ind. Har. Belt; L. S. & M. So.; Mich. Cen.; Penna.; Wabash. Ex.: Am.; Pac.; Ad., W. F. & Co.

(Owned by U. S. Steel Corporation.)

Capital stock, \$1,250,000.

Annual dividend, 6 p. c.

Bonds, \$1,175,000, due annually to March 1, 1933; int., 5 p. c.

President, L. W. McNamee.

Vice-pres. and manager, Leonard Fitzgerald.

Treasurer, L. W. McNamee.

Secretary, W. J. Miodoch.

Purchasing agent, C. H. Rhodes.

Engineer, Leonard Fitzgerald.

Superintendent, E. E. Price.

New business manager, E. E. Price.

Process manufacture, Lowe.

Annual prod., water-gas, 95,000,000 c. f.

By-products made: Tar, 40,000 gals.

Gas purchased, coke-oven, 115,000,000 c. f.

Coke oven gas purchased from Illinois Steel Co.

Williams' "AGRIPPA" Cutting-Off and Side-Tool Holder

a tool that performs both cutting off and side work by the mere substitution of suitable cutters tells its own story of economy.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

Price coke per ton, delivered, \$5; coal, \$2.65.
 Price oil per gallon, 5.5c.
 Candle-power, 18; calorific value, 600 B. t. u.
 Total gas holder capacity, 275,000 c. f.
 Pressure holder, 6.5 in.
 Max. day's send out, 800,000 c. f.
 Miles of mains, approx., 45.
 Street main pressures, max., 7 in.; min., 3 in.
 Annual sales, approx., 205,000,000 c. f.
 Gas unaccounted for, 2.12 p. c.
 By-products sold: Tar, 37,000 gals.
 Pop. city, 16,800; dist. supplied, 45,000.
 No. consumers, 5,500.
 No. meters, reg., 5,480; prepay, 20.
 Price gas: Light, gross, \$1; net, 90c.
 Ranges in use, 5,100; heaters, 500; water-heaters, 460.
 No. commercial gas arc lamps, 1,200.
 Supplies Gary.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., 60 cycle series, and D. C., magnetite; incand., A. C. 25 cycle. Power, 25 cycle, 3-phase.
 Voltage: Arcs, 70; incand., 110; power, 110-220.
 City lighting contract: All night schedule arc; 4,000 hrs.; incand., 1,800 hrs.
 No. public arcs, 410; 320 watt. Price per year, \$75.
 No. public incand., 1,100; 100 watt; 7.5c. per kw.
 Price current per kw. hr., gross, 9c. to 6c. Disc., 10 p. c.
 Power circuits: Motors, 1,150 h. p. Price per kw. hr., 7.5c. to 3.5c. Discount, 10 p. c.
 Other uses, operating water works pumps.
 Output of station, kw. for year, 6,125,000.
 Current bought from Illinois Steel Co.

Illinois Steel Co., Gary.

Controlled by U. S. Steel Corporation.
 President, E. J. Buffington.
 Vice-pres., T. W. Robinson.
 Vice-pres., G. G. Thorp.
 Secretary and treas., T. J. Hyman.
 Pur. agent, C. H. Rhodes.
 By-product coke oven plant.
 560 Koppers ovens.
 All gas produced is used in their own works.

Goshen Gas Co., Goshen.

RRs.: C., C., C. & St. L.; L. S. & M. So.; C., So. B. & No. Ind.; Win. Inter. Ex.: Am.

Controlled by United National Utilities Co.
 Capital stock, \$60,000.
 Bonds outstanding, \$60,000; due 1929; int., 6 p. c.
 Superintendent, Geo. W. Dresser.
 Engineer, D. F. Burritt.
 New bus. mgr., R. A. Field.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$3.
 Candle-power, 16.
 Annual production, coal gas, 49,400,000 c. f.
 Gas holder capacity, 170,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 150,000 c. f.

Miles of mains, approx., 26.59.
 Street main pressures, max., 5 in.; min., 3.2 in.
 Annual sales, approx., 41,736,000 c. f.
 Gas unaccounted for, 8.6 p. c.
 Pop. dist. supplied, 8,000; of city, 8,514.
 No. meters, 2,064.
 Price gas: Light and Fuel, gross, \$1.10; net \$1 and sliding scale.
 No. ranges in use, 1,611; heaters, 542; water heaters, 160.
 Supplies Goshen.

Greencastle Gas and Electric Light Co., Greencastle.

RRs.: C., C., C. & St. L.; C., I. & L.; Vand.; T. H., Ind. & E. Trac. Ex.: Ad.; Am.

Capital stock, auth., \$60,000; issued, \$50,000.
 Annual dividend, 2 p. c.
 President, W. A. Martin.
 Secretary and pur. agent, J. Gordon Martin.
 Treasurer, Charles K. Warren.
 Gen. manager, J. Gordon Martin.
 New bus. mgr., E. E. Clay.
 Engineer, E. E. Clay.
 Superintendent, E. E. Clay.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.
 Candle-power, 16; calorific value, 625 B. t. u.
 Annual production, 11,000,000 c. f.
 By-products made: Coke, 700 tons; tar, 16,000 gals.
 Total gas holder capacity, 25,000 c. f.
 Holder pressure, 3.2 in.
 Max. day's send out, 44,000 c. f.
 Miles of mains, approximate, 7; pressure, max., 3.2 in.; min., 2.7 in.
 Annual sales, approx., 9,900,000 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Coke, 450 tons; tar, 16,000 gals.
 Pop. dist. supplied, 3,000; of city, 3,790.
 No. consumers, 540.
 No. meters, reg., 537; prepay, 3.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.30 to 80c.
 Ranges in use, 350; heaters, 80; water heaters, 120.
 No. commercial gas arc lamps, 200.
 Supplies Greencastle.

Northern Indiana Gas and Electric Co., Hammond.

RRs.: C. I. & L.; Pere Marq.; Mich. Cen.; N. Y. C. & St. L.; Erie; Penna.; Wabash; C. & W. Indiana; C. Term. Tr.; C., C. & St. L.; El. Jol. & E.; Ind. Har. Belt; L. E. & W.; Ft. W. & N. I. Trac. Ex.: Ad.; Am.; Nat.; W. F.; Pac.

(For capitalization and bonds, see Appendix.)
 President, C. H. Geist.
 Vice-pres., Walton Clark, Lewis Lillie and B. S. Walters and S. E. Mulholland.
 Secretary, G. W. Curran.
 Asst. sec'y, H. C. Miller.
 Treasurer, H. C. Miller.
 Asst. treasurers, I. W. Morris, W. N. Porter and B. P. Shearon.
 Pur. agent, J. A. Pearson.

RELIABLE

“ANGLIRON”

RANGES

The adoption, in their construction, of all of the specifications of the National Commercial Gas Association, contributes toward all around efficiency. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Managers: Hammond, B. S. Walters; So. Bend, C. A. Schlegel; Michigan City, H. V. Armstrong Supt.; Fort Wayne, S. E. Mulholland; Logansport, E. L. Donovan; Peru, T. B. Genay; Lafayette, Thos. Donohue; Crawfordsville, H. J. Roach.

Process manufacture, Lowe and Coal.

Miles of mains, approx., 813.06.

Annual sales, approx., 2,086,392,789 c. f.

Population of dist. supplied, 376,592; of Hammond, 35,000; of Michigan City, 20,800; of South Bend, 72,000; East Chicago, 38,000; Mishawaka, 18,000; Whiting, 11,000; Plymouth, 4,200; Fort Wayne, 84,505; Bluffton, 5,395; Decatur, 4,735; Lafayette, 26,772; Crawfordsville, 9,765; Wabash, 9,055; Logansport, 21,388; Frankfort, 9,724; Lebanon, 6,253.

No. consumers, 73,008.

No. meters, reg., 49,648; prepay., 25,234.

Price of gas: Light and Fuel, sliding scale:

Hammond and Michigan City districts: first 20,000, \$1.10 gross, \$1 net; next 20,000, \$1 gross, 90c. net; next 25,000, 90c. gross, 80c. net; next 425,000, 80c. gross, 70c. net; over 500,000, 75c. gross, 65c. net.

South Bend District: first 10,000 c. f., \$1-90c.; next 20,000 c. f., 90c.-80c.; next 20,000 c. f., 80c.-70c.; over 50,000 c. f., 75c.-65c. Min., 50c. per meter per mo.

Plymouth District: \$1.35 gross, \$1.25 net.

No. public Welsbach lamps, 64.

Contract includes repairs, care, lighting and extinguishing.

No. hours each lamp is lighted: So. Bend, 2,160.

Gas appliances in use: Ranges, 36,863; heaters, 7,668; water heaters, 9,939.

No. commercial gas arc lamps in use, 4,559.

Supplies Hammond, East Chicago, Indiana Harbor, Whiting, Michigan City, South Bend, Mishawaka, Plymouth, Fort Wayne, Bluffton, Decatur, Lafayette, Crawfordsville, Wabash, Logansport, Frankfort, Lebanon.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycle, single and 3 phase.

Generating capacity: Lighting and power: Hammond, 18,000 kw.; Michigan City, 1,300 kw.; Lafayette, 3,650 kw.

Voltage: Arcs, series; incand., 110-220; power, 110-220-440.

City lighting contract: Hours lighted per year, 1,640, 1,808, 2,000, 2,500, 4,000.

No. public arcs, 676; 310, 275 and 272 watt.

No. public incand., 2,931.

Commercial lighting: No. arcs, 38.

Price current per kw. hr., gross, 13 to 3c. Discounts, 10 p. c. Electric meters, 14,608.

Power circuits: Motors, 18,262.01 h. p.

Price, power, 8c. to 1.75c. per kw. hr.

Output of station, kw. per year: Generated, 46,716,063; purchased, 11,345,294.

Generating power: Boilers, 8,370 h. p., engines, 31,427.

Huntington Light and Fuel Co., Huntington.

Rts.: Erie; Wabash; Ft. W. & Wab.; Vy. Trac.: Cin., Bluff. & Chi. Ex.: W. F.; Pac.: Adams.

Capital stock, \$250,000.

Bonds, \$250,000; interest, 6 p. c.

President and gen'l mgr., J. F. Bippus.

Secretary and asst gen'l mgr., Frank Martin.

Superintendent gas and steam heat, F. D. Townsend.

Process manufacture, Coal.

Candle-power, 18.

Pop. city supplied, est. 17,000.

Price of gas, \$1 per 1,000 c. f.

Annual sales, approx., 80,000,000 c. f.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

Superintendent, Harry E. Helm.

Price incand., per kw., 9c. and 10c.

Power used, Steam.

Inland Steel Co., Indiana Harbor.

RRs.: B. & O.; C. I. & So.; Ind. Har. Belt; L. S. & M. So.; EL, Jol. & E.; Penna. Ex. Ad.: Am.

General office, Chicago, Ill.

Capital stock: auth., \$30,000,000; issued, \$24,997,000.

Annual dividend, 8 p. c.

Bonds, \$6,020,000; due, \$1,650,000 serial, \$4-380,000 in 1942; int., 6 p. c.

President, Alexis W. Thompson.

Vice-presidents, G. H. Jones, R. J. Beatty.

P. D. Block and L. E. Block.

Secretary, Edward M. Adams.

Vice-pres. and treasurer, L. E. Block.

Purchasing agent, E. J. Block.

Superintendent, John W. Lees.

Engineer, James V. Peterka.

Process manufacture, Coke-oven (Koppers).

No. of ovens, 130; size: length, 37 ft.; width, 18½ to 21 in.; height, 9 ft. 10½ in.

Coal charged per oven, 13¼ tons.

Kind and size of coal: high volatile, 70 p. c.; low volatile, 30 p. c.

Coke yield, 72 p. c. gross.

Time required for coking, 18 hours.

Grade coke made, furnace.

Proportion gas used under boilers, 55 p. c.; used for heating ovens, 45 p. c.

Calorific value, 525 B.t.u.

Gas made per year, 7,187,034,000 c. f.

Tar made per year, 5,528,694 gals.

Ammonia sulphate, 13,864,150 lbs. (sold).

Gas, tar and ammonia used by reporting company.

Other by-products: pure benzol, 931,605 gals.; pure toluol, 227,987 gals.; solvent naphtha, 82,085 gals.; naphthalene, 167,220 lbs. (all sold).

Coke: dom., 43,377 tons made, 3,820 tons sold; 39,557 tons used by company. Blast furnace coke made, 465,640 tons; sold 18,783 tons; used by company, 446,857 tons.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 5 INCH

Coke used for blast furnaces, screenings for fuel.

Tar used for open hearth fuel.

Surplus gas used for heating and annealing furnaces in bar, bolt, nut and sheet mills.

Citizens Gas Co. of Indianapolis, Indianapolis.

RRs.: C., C., C. & St. L.; Ill. Cent.; C., H. & D., L. E. & W.; Vand.; C. I. & L.; Penna.; T. H. Ind. & E. Trac. Ex.: Ad.: Am.

(For capitalization and bonds, see Appendix.)

President, John R. Welch.

Secretary, J. D. Forrest.

Treasurer, G. A. Efroymsen.

Purchasing agent, L. M. Edwards.

General manager, J. D. Forrest.

Supts. of mfr., W. H. Wright and H. M. Chapman.

Supt. of dist., F. W. Sargeant.

New bus. mgr., E. J. Burke.

Indus. fuel engineer, E. J. Burke.

Process manufacture, United Otto By-Product Coke Ovens and Water gas.

Candle-power, 9; calorific value, 598 B. t. u.

Gas holder capacity, 7,500,000 c. f.

Max. day's send out, 9,543,000 c. f.

Miles of mains, 624.

Street main pressures, max., 6 in.; min., 4 in.

Annual sales, 2,939,884,000 c. f.

Gas unaccounted for, 9.71 p. c.

Pop. city, 233,650; of dist. supplied, 250,000.

No. meters, reg. and prepay., 60,183.

Price gas: Light and Fuel, 1st 50 M. c. f., 55c.; 2d 50 M., 45c.; all over 100,000 c. f., 40c. After June 1, 1918, flat rate of 60c.

No. public incand. gas lamps, 768.

No. hours each lamp is lighted per year, 4,000.

No. ranges in use, 49,278; heaters, 14,052; water heaters, 15,101.

No. commercial gas arc lamps, 8,855.

Supplies Indianapolis and Broad Ripple.

COKE OVEN OPERATIONS.

100 United Otto ovens. Dimensions: Length, 34 ft.; width, 17 in. and 18 in.; height, 7 ft., 9 in. 40 Wilputte ovens under construction.

Coal charged per oven, 7.5 tons. Coke yield, 78 p. c.

Time required for coking, 24 hours. Foundry and domestic coke.

Proportion of gas sold for city use, 50 p. c.; used for heating retorts, 50 p. c.

Candle-power, 9; calorific value, 617 B. t. u.

By-products made per year: Gas, 3,841,859,000 c. f.; tar, 2,801,582 gals.; ammonia (N. H₃), 1,600,635 lbs.

Coke used for foundry, domestic and blast furnaces.

Tar refined by contractors. Surplus gas for city supply.

41 Semet-Solvay Regenerative ovens. Dimensions: Length, 36 ft.; width, 19.5 in.; height, 12 ft.

Coal charged per oven, 15 net tons. Coke yield, 80 p. c.

Time required for coking, 24 hours. Furnace and foundry coke made.

Proportion of gas sold for city use, 64 p. c.; used for heating ovens, 36 p. c.

Candle-power, 8; calorific value, 579 B. t. u.

By-products made per year: Gas, 2,482,753,000 c. f.; tar, 1,921,848 gals.; ammonia (N. H₃), 1,339,867 lbs.; water gas tar, 6,285 gals.

Coke used for furnace, foundry and domestic purposes.

Surplus gas, for city supply.

Other by-products: crude benzol made, 700,045 gals. (used by company, 26,091 gals.); pure benzol made, 469,787 gals.; sold 326,332 gals.; used by company, 149,484 gals.; crude toluol made, 164,253 gals.; pure toluol made, 145,199 gals.; sold 153,509 gals.; C. P. Xylol made and sold, 7,713 gals.; C. P. solvent naphtha made, 41,943 gals.; sold 34,980 gals.; heavy naphtha made and sold, 21,389 gals.; crude-naphthalene made and sold, 61,346 lbs.

Indianapolis Gas Co., Indianapolis.

(Plant leased to Citizens Gas Co. of Indianapolis, whose report covers operations of above company.)

Kokomo Gas Co., Kokomo.

(Succeeded by Kokomo Gas & Fuel Co. See report in Natural Gas Dept.)

Northern Indiana Gas and Electric Co., Lafayette.

(See report under Hammond, Ind.)

La Porte Gas and Electric Co., La Porte.

RRs.: Pere Mar.; L. E. & W.; L. S. & M. So.; C., So. B. & No. Ind. Ex.: Am.

Controlled and operated by United Light and Railways Co.

Capital stock, auth., \$1,000,000; issued, \$750,000.

President, W. A. Martin.

Vice-pres., C. M. Hurd.

Secretary and treasurer, C. M. Cook.

Asst. sec'y and treas., L. H. Heinke.

Mgr. and pur. agent, C. M. Cook.

Engineer, P. C. Hardwick.

Supt. and new bus. mgr., C. M. Cook.

Process manufacture, Coal and Lowe.

Candle-power, 16. Calorific value, 600 B. t. u.

Annual production, coal-gas, 50,000,000 c. f.; water-gas, 18,000,000 c. f.

Total gas holders capacity, 150,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 200,000 c. f.

Miles of main, approx., 42.06.

Street main pressures, max., 4.5 in.; min., 2.5 in.

Annual sales, approx., 60,099,200 c. f.

Gas unaccounted for, 11.96 p. c.

Pop. dist. supplied (gas), 10,000; (elec.), 11,028; pop. city, est. 14,000.

No. consumers, 2,402.

No. meters, reg., 2,316; prepay., 86.

The largest gas companies in America regard the GOODMAN STOPPER as an indispensable part of their equipment.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Price of gas to consumers, Sliding schedule.
1st 2,000 c. f., \$1.25; next 2,000, \$1.20;
next 2,000, \$1.15; next 4,000, \$1.10; next
10,000, \$1; all over 20,000 c. f., 90c.
Disc., 10c. if paid before 16th. Min. bill,
54c. for 400 c. f. or less.

Ranges in use, 1,656; heaters, 250; water
heaters, 317.

Supplies La Porte, with gas; La Porte and
Westville, with electricity.

ELECTRIC LIGHT DEPARTMENT.

System operated: A. C., 60 cycles, 3 phase.

Generating capacity: Lighting and Power,
3,000 kw.

Voltage: Arcs, 72; incand., 110; power, 220.

City lighting contract: Hours lighted per year,
incand., 4,000.

No. public incand., 238-400 c. p. nit. filled.

Price per year, \$57.50; 22-100 c. p. nit.
filled. Price per year, \$24.

Commercial lighting: No. incand., 35,000.

Price current per kw. hr., gross, 10½c. 1st
40 hrs.' use per mo. of active load; 7.5c.
2d 40 hrs.' use; 4½c. all excess. Min., \$1.

Power circuits: No. motors, 298; price per
kw. hr., gross, 3.5c. for 1st 20 kw. hr.;
next 15 kw. hr., 2.5c.; all over 35 kw. hr.,
1.5c. plus \$1 per h. p. for 1st 25 h. p.
connected and 50c. per h. p. all over.

Output of station, kw. for year, 3,993,842.

Generating power, Steam; rated 2,450 h. p.

Cost of station boiler coal per ton, \$3.15.

Transmission line to Westville, Ind., supplying
street lighting and house lighting circuits.

Lawrenceburg Gas Co., Lawrenceburg.

RRs.: B. & O. So. W.; C., C., C. & St. L.
S. Bs.: L. & C. Packet; O. R. Trans.; Lee
Line. Ex.: Am.

Capital stock, \$28,000.

Bonds, \$7,000; due 1924; interest, 5 p. c.

President, H. A. Sebald.

Sec'y and treas., G. C. Rewwer.

Supt. and new bus. mgr., H. A. Sebald.

Purchasing agent, H. A. Sebald.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.15.

Candle-power, 18.

Calorific value, 640 B. t. u.

Annual production, 7,500,000 c. f.

By-products made: coke, 400 tons; tar, 9,000
gals.

Total gas holders capacity, 21,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 27,000 c. f.

Miles of mains, approximate, 4.

Pressure carried, max., 3 in.; min., 2 in.

Annual sales, approx., 6,750,000 c. f.

Gas unaccounted for, 12 p. c.

By-products sold: coke, 250 tons; tar, 9,000
gals.

Pop. city supplied, 3,930.

No. consumers, 400.

No. meters, reg., 400.

Price gas: Light and Fuel, \$1.50 and sliding
scale; all over 5,000 c. f., \$1.

Ranges in use, 300; heaters, 35; water heat-
ers, 35.

No. commercial gas arc lamps, 50.

Supplies Lawrenceburg; extending to Green-
dale.

Liberty Gas Light and Fuel Co., Liberty.

RRs.: C. H. & D. Ex.: W. F.

Capital stock, \$15,000; ann. div., 6 p. c.

Bonds, \$2,500; due 1911; interest, 6 p. c.

President, George E. Coughlin.

Secretary, J. D. Coughlin.

Treasurer and pur. agt., J. D. Coughlin.

Superintendent, J. D. Coughlin.

Process manufacture, Lowe.

Price coal per ton, delivered, \$3.60.

Price oil per gal., 3.15c.

Candle-power, 22.

Gas holder capacity, 10,000 c. f.

Max. day's send out, 15,000 c. f.

Miles of mains, approximate, 5.

Street main pressures, max., 3 in.; min., 1.5 in.

Annual sales, approx., 5,309,200 c. f.

Pop. dist. supplied, 900; of city, 1,338.

No. consumers, 256.

No. meters, reg., 221; prepay., 35.

Price gas: Light, net \$1.25; Fuel, \$1.00.

Ranges in use, 150; heaters, 8; water heaters,
5.

No. commercial gas arc lamps, 25.

(No 1918 report.)

Linton Gas Co., Linton.

RRs.: I. C. & C. T. H. & S. E.; Vand.; Monon.
Ex.: Am.

(Controlled by Burroughs Land Co., 5126
Blackstone Ave., Chicago, Ill.)

Capital stock, \$200,000.

Bonds, \$100,000; due 1932; int., 5 p. c.

President, N. A. Phipps.

Secretary, Ruth Hunter.

Treasurer, N. T. Burroughs.

Pur. agt., Charles Halbach.

Gen'l mgr., N. A. Phipps.

Engineer, Bert Hester.

Superintendent, Charles Halbach.

New bus. mgr., Charles Halbach.

Process manufacture, Coal gas, inclined ovens
(Gas. Mach. Co.).

Candle-power, 16. Calorific value, 700 B.t.u.

Price coal, per ton, delivered, \$2.80.

No. of ovens, 3; length, 21 ft.; width, 21 in.;
height, 18 ft. Coal charged per oven,
30,000 lbs. Coke yield, 3 tons per day,
domestic. Time required for coking, 24
hrs.; 97 p. c. gas sold for city use; 3
p. c. for industrial.

Annual production, gas, 15,000,000 c. f.

By-products made: tar, 13,841 gals.; coke,
1,045 tons.

Gas holder capacity, 50,000 c. f.

Holder press., max., 5 in.

Max. day's send out, 70,000 c. f.

Miles of high pressure, mains, approx., 13;
pressure, 10 lbs.

Street main pressure, max., 5 in.; min., 4 in.

Annual sales, approx., 15,000,000 c. f.

Gas unaccounted for, 4 p. c.

By-products sold: coke, 1,045 tons; tar, 13,
841 gals.

Recording Calorgraph automatically and constantly records the calorific
power of any gas in gross or net heat units, with 60-day or 24-hour
charts. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Pop. of city, est., 10,000; of dist. supplied, 12,000.

No. consumers, 645.

No. meters, reg., 423; prepay., 222.

Price gas: Light and Fuel, gross, \$1.10; net, \$1.

Ranges in use, 318; heaters, 268; water heaters, 80.

No. commercial gas arc lamps, 229.

Supplies Linton and part of Linton Township.

Loogootee Light and Fuel Co., Loogootee.

RRs.: B. & O. So. W. Ex.: W. F.

Capital stock, \$60,000.

Bonds, \$12,500; due 1927; int., 6 p. c.

President, Thos. H. Adams.

Secretary and treas., Chester W. Adams.

Process manufacture, Oil.

Annual sales, approx., 3,600,000 c. f.

Pop. city, 2,154.

No. consumers, 350.

No. meters, reg., 250; prepay., 100.

Price gas: Light and Fuel, gross, \$1.25.

Supplies Loogootee.

Madison Light and Fuel Co., Madison.

RRs.: C. & No. W.; C. M. & St. P.; Ill. Cen.;

Penna. Ex.: Am.; W. F.

Capital, \$150,000.

Bonds, \$90,000; due 1936; int., 6 p. c.

President, E. F. Potter.

Secretary, H. L. Hanley.

Treasurer and pur. agent, E. A. Potter.

Manager, R. H. Cunningham.

Process manufacture, Coal and Lowe.

Mixture, 75 p. c. coal; 25 p. c. water.

Price coal per ton, delivered, \$3.25.

Price of oil per gal., delivered, 4.2c.

Candle-power, 16; calorific value, 600 B. t. u.

Max. day's send out, 65,000 c. f.

Total gas holders capacity, 105,000 c. f.

Miles of mains, approximate, 10.

Street main pressure, max., 4 in.

Annual sales, approx., 18,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 7,000; of city, 6,934.

Consumers and meters, 850.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.

Ranges in use, 650; heaters, 175.

No. commercial gas arc lamps, 300.

Supplies Madison.

Central Indiana Gas Co., Marion.

RRs.: C. & O.; C. C. C. & St. L.; Pa.; Tol.,

St. L. & W. Ex.: Ad; Am.

(Artificial plant began operations Jan., 1918.)

For capitalization, officers, etc., see this company under Muncie, in Natural Gas Dept.

Process of manufacture, Lowe and Natural gas.

Price gas: Light and Fuel, 1st 1,000 c. f., \$1.90c.; next 4,000 c. f., 85c.-75c.; over 5,000 c. f., 50c.

Martinsville Gas and Electric Co., Martinsville.

RRs.: C. C., C. & St. L.; Vand. Ex.: Ad; Am.

Controlled by Reliance Engineering Co., Cincinnati, O.

Capital stock, pref., auth., and issued \$25,000; com., auth. and issued, \$100,000.

Annual div., pref., 7 p. c.; common, 3 p. c.

Bonds, \$40,000; due serially; int., 6 p. c.

President, D. E. Watson.

Secretary and treasurer, L. Lowenberg.

Gen. manager, W. H. Payne.

Engineer, B. H. Gentry.

Superintendent, C. W. Haley.

Pur. agts., Reliance Engineering Co.

Process manufacture, Lowe.

Price coke per ton, delivered, \$5.50.

Price oil per gallon, delivered, 5.5c.

Candlepower, 25; calorific value, 600 B. t. u.

Annual prod., 11,000,000 c. f.

Total gas holders capacity, 40,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 40,000 c. f.

Miles of mains, approximate, 11.5.

Street main pressures, max., 3.75 in.; min., 3.25 in.

Annual sales, approx., 11,000,000 c. f.

Gas unaccounted for, 9.5 p. c.

Pop. dist. supplied, 4,529; of city, the same.

No. consumers and meters, 750.

Price gas: Light, gross, \$1.35; net, less 5 p. c.; Fuel, gross, \$1; net, 95c.

Ranges in use, 350; heaters, 15; water heaters, 210.

Supplies Martinsville.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, about \$80,000.

System operated: Arc, D. C.; incand., D. C. and A. C.; power, D. C. and A. C., 3 phase.

Generating capacity: Lighting and power, 1,000 kw.

Voltage: Arcs, incand., 110; power, 220.

Commercial lighting: No. arcs, 33; No. incand., 8,200.

Price current per kw. hr., gross, 10c.; sliding scale to 3c.

Other lamps, 300 Mazda.

Rates for domestic use, 10c. per kw.

Power circuits: Motors, 780 h. p.; price per kw. hr., 3c. to 6c.

Output of station for year, 1,560,000 kw. hrs. total for year.

Generating power used, Steam; rated h. p., 600.

Steam heating plant supplies 13,200 sq. ft. at 35c. sq. ft. per yr. Exhaust steam, 1/2 mi., 7 in. main and branches.

Cost of station boiler coal, per ton, \$1.50.

Company supplies Morgantown, Ind.

Central Indiana Gas Co., Muncie.

(See report in Natural Gas Dept. Coke-ovens under construction.)

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

Northern Indiana Gas and Electric Co., Michigan City.

RRs.: C., I. & L.; L. E. & W.; C., So. B. & No. Ind.; Mich. Cen.; Pere Marq.; Indiana Trans. Ex.: U. S.; Am.

(See company's report under Hammond.)

United Gas and Electric Co., New Albany.

RRs.: B. & O. So. W.; Ky. & Ind. Br. Co.; C., I. & L.; Penna.; S. Bs.: L. & E. Packet; Lee Line. Ex.: Ad.; Am.; So.

Controlled by Middle West Utilities Co.

Capital stock, \$1,000,000.

Annual dividend, 2 p. c.

Bonds, \$1,660,000; serial; interest, 5 p. c.

President, Chester P. Wilson.

Asst. to pres., James W. Dunbar.

Secretary, Ira E. Guthrie.

Treasurer, J. F. Stratton.

Purchasing agent, C. R. Bohannon.

Superintendent, gas, Jas. W. Dunbar.

Supt., electric, J. M. Merker.

New business mgr., L. W. McLellan.

Process manufacture, Coal.

Price coal per ton, delivered, \$2.95.

Candle-power, 14; calorific value, 590 B. t. u.

Annual production, 102,778,000 c. f.

By-products made: coke, 6,606 tons; tar, 130,000 gals.; ammonia, 30,000 lbs.

Total gas holders capacity, 450,000 c. f.

Max. day's send out, 500,000 c. f.

Miles of mains, approx., 59.

Street main pressures, max., 4 in.; min., 1.5

Annual sales, approx., 100,000,000 c. f.

Gas unaccounted for, 6 p. c.

By-products sold: coke, 6,606 tons; tar, 130,000 gals.; ammonia, 30,000 lbs.

Pop. dist. supplied, 35,000; of cities, New Albany, 20,629; Jeffersonville, 10,412.

No. consumers, 6,222.

No. meters reg., 4,866; prepay., 1,356.

Price gas: Light and Fuel, gross \$1.10; net \$1. (Increased 15 p. c. for period of war.)

Ranges in use, 5,787; heaters, 616; water heaters, 716.

No. commercial gas arcs, 436.

Supplies New Albany, Silver Grove, Jeffersonville, Port Fulton, Clarksville and Claysburg.

ELECTRICAL DEPARTMENT.

Superintendent, J. M. Merker.

System operated: Arc, A. C. and D. C. mag.; incand., A. C.; power, A. C., 1 and 3-phase, 60 cycles.

Generating capacity: Lighting, 1,000 kw.; power, 560 kw.

Voltage: Arcs, 79; incand., 108; power, 110-220-440.

City lighting contract: Hours lighted per year: Arcs and incand., 4,000.

No. public arcs, 309, 320 watt, at \$55.44.

No. public incand., 411, 400, 250, 80, and 60 c. p. Price, \$52.50, \$37.50, \$22.50, \$25, and \$20.50.

Rates for domestic use, 10c., 1st 50 kw.; 6c., next 100 kw.; 5.5c. all over 150 kw.; min. bill, 55c. Disc., 10 p. c.

Power circuits: Motors, 1,552 h. p.

Price current per kw. hr., 8c. 1st 100 kw.; 5c. next 200 kw.; 3c. all over 300 kw. hr. Disc., 10 p. c.

Output of station, kw. hrs. for year, 8,000,000.

Generating power used, Steam.

Power used also for city and interurban railways, and commercial.

Service furnished to New Albany and Jeffersonville, Ind.

Practically all power requirements purchased.

Indiana Gas Light Co., Noblesville.

RRs.: Cen. Ind.; L. E. & W. Ex.: Am.

Capital stock, \$1,000,000.

Bonds, \$388,000; due 1932; int., 5 p. c.

President, Col. I. C. Elston.

Vice-pres., C. R. Heath.

Secy and treas., Frank Anderson.

Manager and pur. agent, C. R. Heath.

Gas purchased from Central Indiana Gas Co.

Street mains, approximate, 36.32 miles.

High pressure mains, 61.39 miles.

Pop. of city, 12,000.

No. consumers, 2,103.

Price gas: Light and Fuel, 1st 5,000 c. f., \$1.10; next 50,000 c. f., 85c.; over 55,000 c. f., 75c. Discount, 10c.

Supplies Noblesville, Tipton, Atlanta and Cicero.

Peru Gas Co., Peru.

RRs.: C., C. & L.; L. E. & W.; Wabash; Ft. W. & Wab. Vy. Trac. Ex.: Am.; Pac.

Capital stock, \$300,000.

Bonds, \$142,000; due, 1959; interest, 6 p. c.

President, S. E. Mulholland.

Vice-president, R. C. Cornish.

Secretary, G. W. Curran.

Treasurer, H. C. Miller.

Asst. treas., J. B. Townsend, 3d.

Engineer, R. C. Cornish.

Manager, T. B. Genay.

Gas bought from the Northern Indiana Gas & Electric Co.

Candle-power, 22.

Gas purchased, est. 75,538,000 c. f.

Miles of mains, approx., 26.54.

Annual sales, approx., 72,543,400 c. f.

Pop. dist. supplied, 15,000; cities, Peru, 14,100; So. Peru, 900.

No. consumers and meters, approx., 2,934.

Price gas: Light and Fuel, sliding schedule: 1st 10,000 c. f., \$1 net; next 20,000 c. f., 90c.; next 20,000 c. f., 80c.; over 50,000 c. f., 70c., net.

Ranges in use, 1,457; water heaters, 268.

No. commercial gas arc lamps, 349.

Supplies Peru and South Peru.

Northern Indiana Gas and Electric Co., Plymouth.

RRs.: L. E. & W.; Penna.; Vand. Ex.: Ad.; Am.

(See company's report under Hammond.)

PROVERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our provers are the most modern and up-to-date now on

CUBIC FOOT BOTTLES

the market. Our new type bottle, moving tank form

has been approved of by the U. S. Bureau of Standards.

Consumers Gas Co. of Princeton, Princeton.
RRs.: E. & T. H.; So. Ex.: So.; W. F.

Owned by Citizens National Bank, Evansville, Ind.

Manager and agent, Marsh T. Lewis.
Process manufacture, Lowe.
Price coke per ton, delivered, \$10.15.
Price oil per gal., 9c.
Annual production, 15,000,000 c. f.
Candle-power, 20.
Calorific value, 600 B. t. u.
Total gas holder capacity, 60,000 c. f.
Holder pressure, 4 in.
Max. day's send out, 50,000 c. f.
Miles of mains, approx., 12 (high pressure).
Pressures, max., 1 lb. (individual regulators to 4 in.)
Annual sales, approx., 15,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. of city supplied, 6,448 (1910); now est. 9,000; dist. supplied, 7,000.
No. consumers, 700.
No. meters, reg., 676; prepay., 24.
Price gas: Light and Fuel, \$1.25, \$1.15 and \$1.
Ranges, 600; heaters, 200; water heaters, 300.
No. commercial gas arc lamps, 75.
Supplies Princeton.

Richmond Light, Heat and Power Co., Richmond.
(See report in Natural Gas Dept.)

Rochester Gas and Fuel Co., Rochester.
RRs.: L., E. & W.; Erie. Ex.: Am.; W. F.

Capital stock, com., auth., \$60,000; issued, \$50,000; annual dividend, 4 p. c.
Bonds, \$60,000; due 1926; interest, 5 p. c.
President, W. A. Martin.
Vice-president, Edward F. Michael.
Secretary and pur. agent, J. G. Martin.
Treasurer, Emmet Scott.
Gen'l mgr. and engr., J. G. Martin.
New business manager, J. G. Martin.
Superintendent, Albert Knichelbine.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.
Candle-power, 16; calorific value, 625 B. t. u.
Annual prod., 14,800,000 c. f.
By-products made: coke, 968 tons; tar, 19,000 gals.
Total gas holders capacity, 25,000 c. f.
Holder pressure, 3.2 in.
Max. day's send out, 58,000 c. f.
Miles of mains, approx., 9.
Street main pressures, max., 3.2 in.; min., 2.8 in.
Annual sales, approx., 13,800,000 c. f.
Gas unaccounted for, 7 p. c.
By-products sold: coke, 650 tons; tar, 19,000 gals.
Pop city, 3,364; dist. supplied, 4,000.
No. consumers, 860.
No. meters, reg., 560; prepay., 300.
Price gas: Light and Fuel, 1 to 4 M. c. f., \$1.35; 4 to 8 M., \$1.30; 8 to 12 M., \$1.20; 12 M. and over, \$1.10. Disc. 10 p. c. if paid before 15th.

Ranges in use, 570; heaters, 40; water heaters, 281.
No. commercial gas arc lamps, 100.
Supplies Rochester.

Interstate Public Service Co., Seymour.

RRs.: B. & O. So. W.; C., T. H. & S. E.; Penna. Ex.: Ad; U. S.; Am.

(Successor to Seymour Public Service Co.)
Controlled by Middle West Utilities Co.
For capitalization and officers, see Parent Cos.)

Local manager, H. M. Owens.
Oper. mgr., E. Van Arsdell.
New bus. mgr., Chester J. Eaton.
Process manufacture, Coal.
Price coke per ton, delivered, \$5.50 (lump); \$6 crushed.
Candle-power, 18; calorific value, 600 B. t. u.
Annual production, 24,183,000 c. f.
Gas holder capacity, 50,000 c. f.
Holder pressure, max., 5 in.
Max. day's send out, 50,000 c. f.
Miles of mains, approx., 4; street main pressures, max., 3.2 in.
Annual sales, approx., 20,281,000 c. f.
Gas unaccounted for, 16.2 p. c.
Pop. city, 6,500; of dist. supplied, same.
No. consumers and meters, 1,255.
Price gas: Light and Fuel, 1st 5,000 c. f., \$1 net; over 5,000 c. f., 95c.
Gas appliances in use: Ranges, 1,134; heaters, 233; water heaters, 615.
No. commercial gas arc lamps, 100.

ELECTRICAL DEPARTMENT.

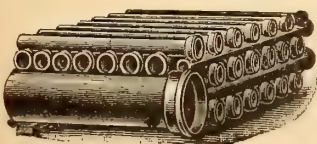
System operated: Arcs, incand. and power;
A. C., 3-phase, 60 cycle and single phase.
Generating capacity: Total, 350 kw.
Voltage: Line, 2,300; incand., 110; power, 220.
City lighting contract: Hrs. lighted per year:
Arc and incand., 4,380 hrs.
No. public arcs, 19; 280 watt. Price per year, \$58.
No. public incand., 385; 60 watt. Price per year, \$19.
Price current, domestic, per kw. hr., gross, com., 9c. Disc., 10 p. c.
Price power, per kw. hr., 5c. Disc., 10 p. c. to 40 p. c. H. p. of motors, 431.
Output of station, kw. hr., for year, 926,300.
Generating power used, Steam; rated h. p. 550.
Cost of station boiler coal, per ton, \$2.28.

Interstate Public Service Co., Shelbyville.

RRs.: C. C., C. & St. L.; Penna. Ex.: Ad; Am.

(Successors to Indiana Service Co. For capitalization and officers, see Parent Companies.)

Manager, G. J. Oglebay.
Process manufacture, Lowe.
Price coke per ton, delivered, \$5.50.
Price oil per gallon, delivered, 5.2c.
Candle-power, 18.
Calorific value, 600 B. t. u.



CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

Annual production, 22,000,000 c. f.
 Max. day's send out, 108,000 c. f.
 Total gas holders capacity, 90,000 c. f.
 Holder pressure, max., 5 in.
 Miles of mains, approximate, 11.
 Street main pressure, max., 3 in.
 Annual sales, approx., 18,700,000 c. f.
 Gas unaccounted for, 14.7 p. c.
 Pop. dist. supplied, 8,000, of city, 10,965 (1916).
 No. consumers and meters, 1,103.
 Price gas: Light and Fuel, gross, \$1.10; net, \$1.
 Ranges in use, 428; heaters, 138; water heaters, 393.
 No. commercial gas arc lamps, 165.
 Supplies Shelbyville.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C.
 Generating capacity: Lighting, 1,125 kw.
 Voltage: Line, 2,300; incand., 110; power, 110-220.
 City lighting contract: Hrs. lighted per year: Arc and incand., 4,000.
 No. public arcs, 110; price per year, \$60.
 No. public incand., 118; price per year, \$18.
 No. ornamental posts: 5-1,000 c. p.; price per year, \$96; 89-600 c. p. price, \$60; 13-60 c. p., price, \$18.
 Price commercial per kw. hr., gross, 10c. Discounts, 5 p. c.
 Generating power used, Steam; rated h. p., 1,100.
 Output of station kw. hrs. for year, 2,100,000.
 Cost of station boiler coal, per ton, \$2.60.
 (Water for city furnished from electrical department.)

Northern Indiana Gas and Electric Co., South Bend.

RRs.: C., I. & So.; L. S. & M. So.; Mich. Cen.; Vand.; Gr. Trunk; N. J., Ind. & Ill.; So. Mich. Ex.: Am.; Ad.; Nat.

(See company's report under Hammond.)

Citizens Gas and Fuel Co., Terre Haute.

RRs.: C. & E. Ill.; C., C., C. & St. L.; E. & T. H.; So. Ind.; T. H., Ind. & E. Trac.; Vand. Ex.: Ad.; Am.; W. F.; U. S.

Controlled by The United Gas & Electric Co. of N. J.
 (For capitalization and bonds, see Appendix.)
 President, John T. Beasley.
 Vice-pres., Demas Deming.
 Sec. and treas., J. G. Terhorst.
 Asst. sec'y. and asst. treas., J. A. McKenna.
 General manager, C. D. Shaul.
 Pur. agts. and engineers, United Gas & El. Engineering Corp.
 Process manufacture, Coal and Lowe.
 Annual prod., coal gas, 44,483,000 c. f.; water gas, 92,048,000 c. f.
 Gas purchased, 297,180,000 c. f.
 Candle-power, 20; cal. value, 619 B. t. u.
 Total gas holder capacity, 800,000 c. f.
 Miles of mains, approx., 128.40.

Street main pressures, max., 5 in.; min., 2 in.
 Annual sales, approx., 390,140,000 c. f.
 Gas unaccounted for, 7.3 p. c.
 By-products sold: Coke, 4,354 tons; tar, 83,500 gals.; ammonia, 25,300 gals.
 Pop. dist. supplied, 66,400; of cities, Terre Haute, 58,157; West Terre Haute, 3,083.
 No. meters, reg., 11,015; prepay., 50.
 Price gas: Light and Fuel, gross, 80c.; net, 72c. to 45c.
 Ranges in use, 10,340; water heaters, 1,684.
 No. commercial gas arc lamps, 1,776.
 Supplies Terre Haute and West Terre Haute.

Indiana Coke and Gas Co., Terre Haute.

RRs.: C. T. H. & S. E.; C. & E. I.; Penna. N. Y. C. Ex.: Ad., Am., W. F.

Capital stock, 1st pref. auth., \$1,000,000; issued, \$400,000; 2d pref. auth., \$500,000; issued, \$500,000. Common stock, \$1,000,000.

Annual div., 1st pref., 7 p. c.; 2d pref., 6 p. c.; com., 5 p. c.

President, P. N. Bogart.

Vice-president, T. D. Sheerin.

Secretary, M. E. Bradley.

Treasurer, Leon Stern.

Gen'l manager, A. M. Ogile.

Superintendent, Thos. L. Kemp.

Pur. agent, J. G. Van Winkle.

30 Gas Machinery Co. By-Product Coke Ovens
 Length, 37 ft.; width, 15-17 in.; height, 11 ft., 9 in.

Coal charged per oven, 13 net tons; coke yield, 68 p. c. 100 p. c. high volatile coal used.

Time required for coking, 18 hrs.

Foundry, furnace and egg coke made.

Gas sold for city use, 30 p. c.; used for heating ovens, 50 p. c.; under boilers, 20 p. c.

Calorific value, surplus gas, 600 B. t. u.; heating gas, 450 B. t. u.

By-products made per year: Tar, 1,144,911 gals.; ammonia (N.H₃), 769,074 lbs.; pure benzol, 260,000 gals.; pure toluol, 50,000 gals.; xylol, 11,000 gals.; solvent naphtha, 4,000 gals.; naphthalene, 40,000 lbs.; coke, dom., 83,059 tons; foundry, 3,487 tons; blast furnace, 22,295 tons.

By-products sold: Tar, ammonia, benzol, toluol, and naphthalene.

Valparaiso Lighting Co., Valparaiso.

RRs.: Gr. Trunk; N. Y. C. & St. L.; Penna. Ex.: Ad.; Nat.

(Owned by American Public Utilities Co.)

Bonds, \$175,000; due 1925; interest, 5 p. c.

Bonds, \$75,000; due 1922; int., 5 p. c.

President, Jos. H. Brewer.

Vice-pres., C. B. Kelsey.

Secretary, Blaine Gavett.

Treasurer, W. J. Ripley.

Manager, R. J. Corey.

Pur. agent, Blaine Gavett.

Chief Engineer, L. B. Andrus.

Engineer, gas, G. R. Horning.

Process manufacture, Coal and Lowe.

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

Annual production, coal-gas, 32,000,000 c. f.
Candle-power, 18. Calorific value, 600 B. t. u.
Price coal per ton, delivered, \$3.35.
Price of oil per gal., delivered, 3.6c.
Miles of mains, approx., 17.
Total gas holders capacity, 160,000 c. f.
Max. day's send out, 120,000 c. f.
Street main pressures, max., 4.5 in.; min., 2.1 in.

Annual sales, approx., 40,000,000 c. f.
Gas unaccounted for, 6.6 p. c.
Pop. dist. supplied, 7,500; of city, 6,987.
No. consumers and meters, 1,495.
Price gas: Light and Fuel, gross \$1.25; net \$1.15 to 75c.
Ranges in use, 1,633; heaters, 76; water heaters, 109.
No. commercial gas arc lamps, 39.
Supplies Valparaiso.

ELECTRICAL DEPARTMENT.

Generating capacity: Lighting and power, 250 kw.
Voltage: Incand., 110; power, 220.
City lighting contract: Hours lighted per year: Arc, moonlight schedule.
No. public arcs, 106; 6.6 amp.; price per year, \$65.
No. commercial incand., 1,800.
Price current per kw. hr., com'l, 5c. to 10c.; discount, 10 p. c.
Power circuits: No. motors, 57; price per kw. hr., 3 to 8c.; discount, 10 p. c.
Output of station, kw. hrs. for year, 620,000.
Cost of station boiler coal, per ton, \$2.20.
(No report.)

Indiana Gas Light Co., Tipton.

(See Natural Gas Dept.)

The Central States Gas Co., Vincennes.

RRs.: B. & O. So. W.; C. C. C. & St. L.; E. & T. H.; Vand. Ex.: Ad.: Am.; W. F.
Capital stock, authorized \$1,000,000. issued \$350,000.
Bonds, \$350,000; due 1937; int., 6 p. c.
President, W. J. Hartnett.
Vice-pres., H. J. Sloan.
Sec. and treas., J. A. Sloan.
General manager, J. A. Sloan.
Process manufacture, Coke-ovens.
By-products made: Coke, 12,000 tons; tar, 230,000 gals.; ammonia, 140,000 gals.
Price coal per ton, delivered, \$1.60.
Candle-power, 16; calorific value, 600 B. t. u.
Gas holder capacity, 500,000 c. f.; pressure, max., 3.8 in.
Street mains, approximate, 80 miles; pressure, avg. 3.8 in.
Max. day's send out, 600,000 c. f.
Gas unaccounted for, 5 p. c.
Annual sales, approximate, 180,000,000 c. f.
By-products sold: Coke, 10,000 tons; tar, 230,000 gals.; ammonia, 140,000 gals.
Population of city 20,000; of dist. supplied, 140,000.
No. consumers and meters, 3,500.

Price gas: Light, gross, \$1.05; net, 95c. first 2,000 c. f.; next 1,000 c. f., 90c. net; next 1,000 c. f., 85c.; next 1,000 c. f., 70c.; all over 5,000 c. f., 50c.; 10c. penalty.
Gas appliances in use: Ranges, 3,400; heaters, 1,800; water heaters, 350.
No. commercial gas arc lamps in use, 1,200.
Supplies Vincennes, Ind., and Lawrenceville, Sumner, Bridgeport and Olney, Ill., through the Illinois Gas Co.

Warsaw Gaslight Co., Warsaw.

RRs.: C., C., C. & St. L.; Penna.; Win. Inter.
Ex.: Ad.: Am.

Controlled by United National Utilities Co.
Capital stock, \$150,000.
Bonds, \$95,000; due 1935; int., 5 p. c.
Superintendent, E. G. Jones.
Engineer, D. F. Burritt.
Process manufacture, Coal.
Annual production, 29,740,000 c. f.
Price coal per ton, delivered, \$3.
Candle-power, 18.
Gas holder capacity, 150,000 c. f.
Max. day's send out, 99,000 c. f.
Holder pressure, 5 in.
Miles of mains, approx., 18.06.
Street main pressures, max., 3.5 in.; min., 3.5 in.
Annual sales, approx., 26,894,000 c. f.
Gas unaccounted for, 11.3 p. c.
Pop. dist. supplied, 3,500; of city, 4,430.
No. meters 1,212.
Price gas: Light and Fuel, \$1.00 net
Supplies Warsaw and Winona Lake.

Washington Water, Light and Power Co., Washington.

RRs.: B. & O. So. W.; E. & T. H. Ex.: W. F.

(Successor to Citizens Light and Fuel Co.)
Capital stock, auth., \$200,000; issued, pref., \$50,000; common, \$50,000.
Bonds, \$27,000; interest, 5 p. c.
President, Jas. P. Goodrich.
Secretary, C. R. Seamans.
Treasurer, E. D. Cates.
Manager, Edward C. Burch.
Pur. agent, Edward C. Burch.
Process manufacture, Coal.
Price coke per ton, delivered, \$6.
Candle-power, 16.5; calorific value, 645 B. t. u.
Annual production, 30,000,000 c. f.
Max. day's send out, 87,000 c. f.
Total gas holders capacity, 50,000 c. f.
Pressure at holder, 3.8 in.
Miles of mains, approx., 16.
Street main pres., max., 3.8 in.; min., 3 in.
Annual sales, approx., 27,000,000 c. f.
Gas unaccounted for, 6 p. c.
Pop. dist. supplied, 7,400; of city, 8,500 (1916).
No. consumers, 1,065.
No. meters, reg., 990; prepay., 75.
Price gas: Light and Fuel, gross \$1.15; net \$1.09.
Ranges, 800; heaters, 356; water heaters, 180.
No. commercial gas arc lamps, 300.
Supplies Washington.

USE SPECIFICATION PAINTS

We manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for
Review of Technical Paints.

Cheesman & Elliot, 100 William St., New York



IOWA

Total population, 2,224,771.

Albia Light and Railway Co., Albia.RRs.: C. B. & Q.; Iowa Cen.: Wabash.
Ex.: Ad.: Pac.

(Successor to Albia Gas Co.)
(Company in process of organization.)
Manager, Ralph W. Boyer.
Process manufacture, Water (Tenny).
Price coke per ton, delivered, \$6; oil per gallon, 3c.
Candle-power, 18.
Calorific value, 590 B. t. u.
Annual production, 8,000,000 c. f.
Max. day's send out, 40,000 c. f.
Gas holder capacity, 40,000 c. f.
Holder pressure, 8 lbs.
Miles of mains, approx., 15. Pressure, 2 lbs.
Annual sales, approx., 12,000,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. of city supplied, 4,969.
No. consumers, 325.
Price gas: Light and Fuel, \$1.40.
No. gas ranges in use, 310; heaters, 70; water heaters, 40.
Supplies Albia.

Iowa Public Service Co., Ames.RRs.: C. & No. W.; N. & No. W. & Ft. D.,
D. M. & So. Ex.: Am.

Capital stock, pref., auth., \$35,000; issued \$35,000; com. auth., \$115,000; issued \$42,900.
Annual div., pref., 6 p. c.
Bonds, \$110,000; due 1934; int., 6 p. c.
President, C. I. Tenney.
Secretary, H. L. Griffin.
Manager and pur. agent, T. M. Hilton.
Treasurer, R. S. Redmon.
Engineer, C. I. Tenney.
New bus. mgr., T. M. Hilton.
Superintendent, W. A. Pike.
Process manufacture, Coal and Water (Tenny).
Price of coal per ton, delivered, \$7; oil, per gal., 7c.
Candle-power, 16; calorific value, 600 B. t. u.
Annual prod., coal gas, 2,250,000 c. f.; water-gas, 7,500,000 c. f.
By-products made: Coke, 2,400 tons; tar, 65,000 gals.
Gas holder capacity, 130,000 c. f.
Max. day's send out, 125,000 c. f.
Street mains, approx., 35 miles; pressure, max., 5 lbs.; min., 2 lbs.
High pressure mains, miles, 10, pressure, 40 lbs.
Annual sales, approx., 27,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city, 4,223 (Ames); 2,138 (Nevada); Ames College, 3,000.
Pop. dist. supplied, est. 11,500.
No. consumers and meters, 1,400.
Price gas, gross, \$1.50; net, \$1.40.
Supplies Ames, Nevada and Ames College.

Peoples Gas Co., Anamosa.

RRs.: C. & N. W.; C., M. & St. P.; C., Anamosa & No. Ex.: Am.

Capital stock, auth., \$35,000; issued, \$18,000.
President, C. L. Niles.
Secretary, James Remley.
Treasurer, Will Helburg.
Purchasing agent, Will Johnston.
Manager and new bus. mgr., Will Johnston.
Engineer and supt., Will Johnston.
Process manufacture, Lowe (Tenny).
Price coal per ton, delivered, \$5.40.
Price coke per ton, delivered, \$12.
Price oil per gallon, delivered, 5.5c.
Candle-power, 22.
Calorific value, 600 B. t. u.
Annual production, 8,700,000 c. f.
Gas holder capacity, 35,000 c. f.
Holder pressure, 3.2 in.
Max. day's send out, 22,000 c. f.
Miles of mains, approx., 7; street main pressures, max., 3.8 in.
Annual sales, approx., 7,200,000 c. f.
Gas unaccounted for, 17 p. c.
Pop. city, 2,983; of dist. supplied, 3,000.
No. consumers, 315.
No. meters, reg., 285; prepay., 30.
Price gas: Light and Fuel, gross, \$1.75.
Gas appliances in use: Ranges, 175; heaters, 13; water heaters, 15.
No. commercial gas arc lamps, 15.
Supplies Anamosa.

Atlantic Gas Co., Atlantic.

RRs.: C., R. I. & P. Ex.: Am.

Capital stock, pref. auth., \$30,000; issued, \$17,000; com., \$20,000; ann. div. pref., 6 p. c.
Bonds, \$20,000; due 1919; interest, 6 p. c.
President, M. F. Goodbody.
Secretary and treasurer, M. F. Goodbody.
Pur. agt. and gen. mgr., M. F. Goodbody.
Engineer, Marion Cook.
Superintendent, J. L. Berg.
Process manufacture, Lowe (West. Gas Cons.)
Price of coke per ton, del'd, \$12.50; oil per gallon, 7c.
Annual production, 5,000,000 c. f.
Gas holder capacity, 30,000 c. f.
Holder pressure, 4 in.
Candle power, 21.
Calorific value, 600 B. t. u.
Max. day's send out, 50,000 c. f.
Miles of mains, approx., 8.
Street main pres., max., 4 in.
High pressure (12 hrs. per day), 6 lbs.
Annual sales, approx., 5,000,000 c. f.
Pop. dist. supplied, 3,000; of city, 6,000.
No. consumers and meters, 400.
Price gas: Light and Fuel, \$1.65.
Ranges in use, 200.
Supplies Atlantic.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Belle Plaine Gas Co., Belle Plaine.

RR.: C. & No. W. Ex.: Am.

Controlled by American Gas Construction Co.
Capital stock auth., \$40,000; issued, \$32,400.
President, C. I. Tenney.

Vice-president, J. A. Meyers.

Secretary and treasurer, J. A. Meyers.

Purchasing agent, J. A. Meyers.

General manager, J. A. Meyers.

Superintendent, J. A. Meyers.

New bus. mgr., J. A. Meyers.

Engineer, J. A. Myers.

Process manufacture, Water (Tenney).

Annual production, 8,000,000 c. f.

Calorific value, 550 B. t. u.

Price oil per gallon, 8.7 c.

Gas holder capacity, 25,000 c. f.

Holder pressure, 2 lbs.

Max. day's send out, 32,000 c. f.

Miles of mains, approx., 8; pressure, 2 lbs.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 10 p. c.

By-products sold: Drip oil, 12 bbls.

Pop. city, 4,000; of dist. supplied, 2,500.

No. consumers, 425.

No. meters, reg., 225; prepay., 200.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.

No. ranges, 400; heaters, 5; water heaters, 70.

No. commercial gas arc lamps, 10.

Boone Gas Co., Boone.RRs.: C. & No. W.; C., M. & St. P.; N. & No.
W. & Ft. D., D. M. & So. Ex.: Am.

Capital stock, \$250,000.

Bonds, \$150,000; due 1923; interest, 5 p. c.

President, E. G. Pratt.

Secretary, E. C. Brown.

Treasurer, E. C. Brown.

Engineer, E. G. Pratt.

Manager and pur. agt., H. G. Stillson.

New bus. mgr., H. G. Stillson.

Superintendent, Glenn Betz.

Process manufacture, Lowe.

Calorific value, 565 B. t. u.

Price coke per ton, delivered, \$10.75.

Price oil per gal., delivered, 6.5c.

Annual production, 47,000,000 c. f.

By-products made: tar, 12,000 gals.

Total gas holders capacity, 180,000 c. f.

Holder pressure, 7 in.

Max. day's send out, 200,000 c. f.

Miles of mains, approximate, 25.

Street main pressures, max., 4.5 in.; min., 3.5 in.

Annual sales, 45,000,000 c. f.

Gas unaccounted for 6 p. c.

By-products sold: tar, 12,000 gals.

Pop. of city, 12,000; of dist. supplied, 10,000.

No. consumers, 2,000.

No. meters, reg., 1,950; prepay., 50.

Price gas: Light and Fuel, gross \$1.50; net \$1.40.

Ranges in use, 2,000; heaters, 550; water heaters, 350.

No. commercial gas arc lamps, 209.

Supplies Boone and Boonesboro.

Burlington Gas Light Co., Burlington.RRs.: C., B. & Q.; C., R. I. & P.; Tol., Peo.
& W.; M., B. & S. S. Bs.: Dav. & Burl.
Packet; St. L. & St. P. Packet. (Bridge to
Carthage Junc., Ill.). Ex.: Ad.; Am.

(For capitalization and bonds, see Appendix.)

President, Walton Clark.

Secretary, E. D. Clary.

Treasurer, James Ball.

Comptroller, G. W. Curran.

Pur. agent, J. A. Pearson.

Superintendent, E. D. Clary.

Process manufacture, Lowe.

Calorific value, 575 B. t. u.

Miles of mains, approx., 61.77.

Annual sales, approx., 138,900,000 c. f.

Pop. dist. supplied, 25,570; of cities, Burling-
ton, 24,475; West Burlington, 1,095 (est.).

No. consumers, 5,940.

No. meters, reg., 5,085; prepay., 855.

Price gas: Light and Fuel, gross \$1.10; net
\$1. West Burlington, \$1.35-\$1.25.Ranges, 4,528; heaters, 1,513; water heaters,
1,287.

No. commercial gas arc lamps, 638.

Supplies Burlington and West Burlington.

Burlington Railway and Light Co., Burlington.

RRs.: (See Burlington Gas Lt. Co., above.)

(A consolidation of Peoples Gas and Electric
Co. of Burlington and Burlington Railway
and Light Co. For capitalization and
bonds, see Appendix.)

President, Col. Geo. H. Higbee.

Secretary and treasurer, C. H. Walsh.

Purchasing agent, C. H. Walsh.

Superintendent, D. D. Bentzinger.

Process manufacture, Lowe (Gas Mach. Co.)

Price oil per gal., delivered, 3c.

Candle-power, 22.

Total gas holders capacity, 60,000 c. f.

Max. day's send out, 80,000 c. f.

Miles of mains, approx., 6.

Street main pres., max., 3.5 in.

Annual sales, approx., 15,000,000 c. f.

Pop. city, 24,324; of dist. supplied, 8,000.

No. consumers, 450.

No. meters, reg., 600; prepay., 80.

Price gas: Light and Fuel, gross \$1.15; net \$1.

Ranges, 200; heaters, 4; water heaters, 20.

No. commercial gas arc lamps, 50.

Supplies Burlington.

ELECTRIC LIGHT DEPARTMENT.System operated: Arc, incand and power, A. C.,
3-phase; incand., 7,200 alt.; power, A. C.
and D. C., 220-500.Generating capacity: Lighting, 1,500 kw.;
power, 800 kw.; (20-year contract for
electric power with owners of Keokuk
Dam Water Power.)Voltage: Arcs., 110; incand., 110; power, 110
and 220 A. C.City lighting contract: Hours lighted per year:
Arc and incand., 2,200.**MacDONALD-MANN COKE QUENCHING CHUTES** quench the
coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with
very little breeze. Write for Catalogue N15-3.**C. W. HUNT CO., INC.,** Main Office and Works, WEST NEW BRIGHTON, N. Y.

No. public ares. 296; 550 watt. Price per year, \$65.
 No. public incand., 134; 30 watt. Price per year, \$18.
 Commercial lighting: No. incand., 45,000.
 Price current per kw. hr., gross 10c. to 4c.
 All over 1,600 kw., 2c.
 Other lamps used, 10,000 Tungsten.
 Power circuits: No. motors, 100; price per kw. hr., 5c. to 2c.
 Generating power used, Steam; rated h. p., 2,500.
 Cost of station boiler coal, per ton, \$1.93 (screenings).

Citizens Gas Co., Carroll.

RRs.: C. & N. W.; C. Gt. W. Ex.: Am.; W. F.

Controlled by Tenney Syndicate.
 Capital stock, auth., \$100,000; issued, \$27,400.
 Bonds, \$20,000; 1927; int., 6 p. c.
 President, J. B. Hungerford, Sr.
 Secretary, J. B. Hungerford, Jr.
 Treasurer, John Roelfsema.
 General manager, H. J. Kane.
 Pur. agent, H. J. Kane.
 Engineer, I. H. Adams.
 Process manufacture, Water (Tenney).
 Price of coke per ton, delivered, \$14; oil per gal., 9.34c.
 Candle-power, 16; calorific value, 600 B. t. u.
 Annual production, 10,950,000 c. f.
 Gas holder capacity, 35,000 c. f.
 Compression tanks, 60 to 90 lbs.
 Max. day's send out, 30,000 c. f.
 Miles of mains, approximate, 6; pressure, 1.5 lbs.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 8 p. c.
 Population dist. supplied, 4,000; of city, 3,546.
 No. consumers, 552.
 No. meters, reg., 500; prepay., 52.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 No. gas ranges in use, 500; heaters, 16; water heaters, 75.
 No. commercial gas arc lamps, 30.
 Supplies Carroll.

Cedar Rapids Gas Co., Cedar Rapids.

RRs.: C., R. I. & P.; C. & No. W.; C., M. & St. P.; Ill. Cen.; C. R. & I. City. Ex.: Am.; W. F.

Controlled and operated by United Light and Railways Co.

Capital stock, auth., \$1,000,000; issued, \$600,000.
 President, Richard Schaddelee.
 Secretary, L. H. Heinke.
 Treasurer, C. M. Hurd.
 Engineer, T. J. Weber.
 Actg. gen'l mgr. and pur. agent, A. T. Pleune.
 Superintendent, Thos. Suchomel.
 New bus. mgr., E. W. Krickard.
 Indus. fuel engineer, H. B. Skellenger.
 Process manufacture, Coal and Lowe.
 Candle-power, 18; calorific value 600 B. t. u.
 Max. day's send out, 991,000 c. f.

Total gas holders capacity, 650,000 c. f.
 Holder pressure, max., 6 in.
 Miles of mains, approx. (3 in. basis), 128.58.
 Street main pressures, max., 6 in.; min., 3.5 in.
 High pressure mains, 16 mi.; pressure, 15 lbs.
 Annual sales, approx., 306,873,400 c. f.
 Pop. dist. supplied, 45,808; of city, 40,590 (1915).
 No. consumers, 9,704.
 No. meters, reg. and prepay., 9,704.
 Price gas: Light and Fuel, 90c.
 Supplies Cedar Rapids, Marion, Kentwood Pk.

Iowa Southern Utilities Co., Centerville.

RRs.: C., R. I. & P.; C. A. & S. Ry. Co.; C. B. & Q. Ex.: Ad.; W. F.

(Successor to Centerville Light & Trac. Co.)
 Capital stock, pref., auth., \$500,000; issued, \$360,000.
 Common, auth., \$1,500,000; issued, \$580,000.
 Annual dividend, pref., 7 p. c.
 Bonds, \$898,700; due 1933; interest, 6 p. c.
 President, D. C. Bradley.
 Secretary, Lyman Bernhard.
 Treasurer and gen'l mgr., F. S. Payne.
 Supt. and new bus. mgr., J. H. Chase.
 Purchasing agent, F. S. Payne.
 Process manufacturer, Lowe.
 Price of oil, per gal., 4.13c.
 Candle-power, 20.
 Calorific value, 550 B. t. u.
 Gas holder capacity, 30,000 c. f.
 Max. day's send-out, 25,000 c. f.
 Miles of mains, approx., 8.
 Street main pressures, max., 3 in.; min., 2 in.
 Annual sales, approx., 5,000,000 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. dist. supplied, 7,000; of city, 7968 (1917).
 No. consumers, 500.
 No. meters, reg., 475; prepay., 8.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 Ranges in use, 200.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: A. C., 3 phase, 60 cycles.
 Generating capacity, 2,000 kw.
 Voltage: Incand., 110.
 No. public incand., 151; 60 c. p.
 Price incand., Com'l, per kw., 12c.
 Power circuits: No. motors, 100.
 Price power per kw. hr. gross, 8c. and 4c.
 Output of station kw. hrs. total for year, 3,000,000.
 Power used, Steam.
 Cost boiler coal per ton, \$2.50.

People's Gas and Power Co., Chariton.

RRs.: C., R. I. & P.; C. B. & Q. Ex.: Ad.; Am.

Capital stock, auth., \$35,000; issued, \$25,000.
 Bonds, \$12,000; due 1923; interest, 6 p. c.
 President, Samuel McKlveen.



1803

Our long experience at your service
HOLDERS, PURIFIERS, CONDENSERS, ETC.
R. D. WOOD & CO., PHILA., PA.

1918



Secretary and treasurer, E. A. Anderson.
 Gen'l mgr. and pur. agent, E. A. Anderson.
 Process manufacture, Water (Tenney).
 Price of coke per ton, delivered, \$11.50; oil per gal., 8.25c.
 Annual prod., 10,000,000 c. f.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 35,000 c. f.; pressure, 75 lbs. per sq. in.
 Max. day's send out, 32,000 c. f.
 Street mains, approximate, 9.5 miles; pressures, max., 2 lbs.
 Annual sales, approx., 8,600,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. of city, 3,794; dist. supplied, 3,000.
 No. consumers, 500.
 No. meters, reg., 470; prepay., 5.
 Price gas: Light and Fuel, gross, \$1.65.
 (Have asked city to advance rate to \$2.)
 Gas appliances in use: Ranges, 400; heaters, 30; water heaters, 45.
 Supplies Chariton.

Charles City Gas Co., Charles City.

RRs.: C., M. & St. P.; Ill. Cen.; Charles City West Ry. to C. R. I. & P., connections to S. W. Ex.: Am.; W. F.

Capital stock auth., \$120,000; issued, \$84,000.
 Bonds, \$40,000; due 1929; int., 5 p. c.
 President, Z. T. F. Runner.
 Vice-president, C. D. Ellis.
 Secretary, R. K. Runner.
 Treasurer, A. E. Ellis.
 Purchasing agent, R. K. Runner.
 Manager and engineer, R. K. Runner.
 New bus. mgr., R. B. Martell.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$4.75.
 Price coke per ton, delivered, \$12.
 Price oil per gallon, 7c.
 Candle-power, 18; calorific value, 600 B. t. u.
 Annual production, 36,000,000 c. f.
 Gas holder capacity, 60,000 c. f.
 Holder pressure, max., 4.5 in.
 Max. day's send out, 142,000 c. f.
 Miles of mains, approx., 16.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 35,000,000 c. f.
 Gas unaccounted for, 3 p. c.
 Pop. of city, 6,361; of dist. supplied, 6,000.
 No. consumers, 1,240.
 No. meters, reg., 767; prepay., 473.
 Price gas: Light and Fuel, gross, \$1.55; net, \$1.35.
 No. public Humphrey gas arcs, 4. Price per year, \$30.
 Price includes repairs, care, lighting and extinguishing.
 No. hours each lamp is lighted per year, 2,400.
 Gas appliances in use: Ranges, 1,150; heaters, 205; water heaters, 300.
 No. commercial gas arc lamps, in use, 250.
 Supplies Charles City.

Cherokee Gas Co., Cherokee.

RR.: Ill. Cen. Ex.: Am.

Capital stock, com., auth., \$40,000; issued, \$36,000.
 Bonds, \$25,000; due 1925; int., 6 p. c.
 President, R. K. Runner.
 Secretary, H. E. Bennett.
 Treasurer, N. Frudden.
 Gen. mgr. and pur. agt., H. E. Bennett.
 Superintendent, H. E. Bennett.
 Process manufacture, Lowe (Gas Mach. Co.)
 Annual production, 12,000,000 c. f.
 Price coke per ton, delivered, \$12.
 Price oil per gallon, delivered, 6.25c.
 Candle-power, 18; calorific value, 600 B. t. u.
 Max. day's send out, 50,000 c. f.
 Total gas holders capacity, 36,000 c. f.
 Compression tanks, max. press., 100 lbs. to sq. in.
 Miles of mains, approximate, 10.
 Street main pressure, max., 1 lb.
 Annual sales, approx., 12,000,000 c. f.
 Pop. city, 4,884; dist. supplied, the same.
 No. consumers, 625.
 No. meters, reg., 475; prepay., 150.
 Price gas: Light and Fuel, \$1.75.
 Ranges in use, 525; heaters, 50; water heaters, 100.
 No. commercial gas arc lamps, 50.
 Supplies Cherokee.

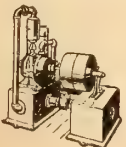
Clear Lake Electric Light and Power Co., Clear Lake.

RR.: C., M. & St. P. Ex.: W. F.

Capital stock, \$20,000; ann. div., 8 p. c.
 Bonds, \$11,000; due annually; interest, 6 p. c.
 President, John L. Etzel.
 Secretary and treasurer, Geo. A. Etzel.
 General manager, John L. Etzel.
 Purchasing agent, J. L. Etzel.
 Superintendent, Gus Lindgren.
 Process manufacture, Lowe (Springer).
 Price coke per ton, delivered, \$7.05.
 Price oil per gal., 3.85c.
 Candle-power, 20.
 Max. day's send out, 20,000 c. f.
 Gas holders capacity, 10,000 c. f.
 Miles of mains, approx., 6.
 Street main pressures, max., 3 in.
 Annual sales, approx., 5,500,000 c. f.
 Pop. city, 3,000; of dist. supplied, 2,000.
 No. meters, reg., 300; prepay., 100.
 Price gas: Light and Fuel, net \$1.50.
 Ranges in use, 400; heaters, 50; water heaters, 10.

ELECTRICAL DEPARTMENT.

Lighting system, 150 kw.
 Power generators, 200 kw. capacity.
 No. public incand., 130; (60 c. p.); lighted moon scale.
 Price incand., Public, per year, \$16.80.
 Price incand., Com'l, per month (16 c. p.), 65c.; per kw., gross 15c., 10c. and 5c.
 Power used, Steam; rated h. p., 150.
 Cost station boiler coal per ton, \$3.55.



NEEDHAM HIGH PRESSURE GAS SYSTEM and APPLIANCES are sold under guarantee of definite consumption, and economy or equivalent increase in production; and will enable gas to compete commercially with other fuels.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Clinton Gas and Electric Co., Clinton.

RRs.: C. R. I. & P.; C. & No. W.; C., B. & Q.; C., M. & St. P.; Iowa & Ill. S. Bs.; Diamond Jo L.; Eclipse (Bridge to E. Clinton, Ill.). Ex.: Ad.: Am.: W. F.

Capital stock, auth., \$1,250,000; issued, \$750,000; ann. div. rate, 8 p. c.
Bonds, \$850,000; due 1926; int., 5 p. c.
President, E. A. Young.
Vice-President, C. H. Young.
Secretary, A. L. Schuyler.
Treasurer, C. C. Coan.
Gen. mgr. and pur. agent, Thos. Crawford.
Engineer, Thos. Crawford.
Supt. and new bus. mgr., Thos. Crawford.
Process manufacture, Lowe and Coal.
Annual production coal gas, 90,000,000 c. f.; water-gas, 40,000,000 c. f.
By-products made: Coke, 8,000 tons; tar, 106,000 gals.; ammonia, 20,000 gals.
Price coal per ton, delivered, \$6.50.
Price oil per gallon, delivered, 5.5c.
Candle-power, 17; calorific value, 550 B. t. u.
Total gas holders capacity, 300,000 c. f.
Holder pressure, max., 6.5 in.
Max. day's send out, 515,000 c. f.
Miles of mains, approximate, 53.
Street main pressures, max., 6.5 in.; min., 3 in.
Annual sales, approx., 130,000,000 c. f.
Gas unaccounted for, 9 p. c.
By-products sold: Coke, 7,500 tons; tar, 100,000 gals.; ammonia, 20,000 gals.
Pop. of city, 25,577; of dist. supplied, 24,500.
No. consumers, 5,300.
No. meters, reg., 2,000; prepay., 3,300.
Price gas: Light and Fuel, gross, \$1; net, 90c.
Ranges in use, 4,300; heaters, 1,200; water heaters, 1,000.
No. commercial gas arc lamps, 150.
Supplies Clinton and Lyons, Ia.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, one-half.
Supt. electrical dept., H. B. Dewart.
Supt. of works, C. Andrews.
System operated: Arc and incand., 60 cycle, A. C.; power, A. C. 2 phase, 60 cycles.
Generating capacity: Lighting, 3,500 kw.
Voltage: Arcs, 70; incand., 110-220; power, 110-220-440.
Miles of wires, 30, one-half underground cables.
City lighting contract: Hours lighted per year: Arc, all dark nights.
No. public arcs, 286; 500 watt. Price per year, \$60.
Commercial lighting: Price current per kw. hr. gross 12c.; discounts to 70 p. c.
Power circuits: No. motors, 260; price per kw. hr., 10c.; discounts, to 70 p. c.
Output of station, kw. hrs., total for year, 7,000,000.
Generating power used, Steam; rated h. p., 3,500.
Cost of station boiler coal, per ton, \$3.50.

Citizens Gas and Electric Co., Council Bluffs.

RRs.: C. & No. W.; C., B. & Q.; C. Gt. W.; C., M. & St. P.; C., R. I. & P.; Ill. Cen.; Wabash; U. P. (opposite Omaha, Neb.). Ex.: Am.: Ad.: Pac.: W. F.

Controlled by Nebraska Power Co., a subsidiary of Am. Power & Light Co.
Operated by Electric Bond & Share Co., New York City.
Capital stock auth., \$500,000; issued, \$430,000.
Bonds, \$190,000; Council Bluffs G. & E. 1st 5s (1928); Citizens 1st 5s, \$141,000 (1926); 2d 5s, \$300,000 (1925); interest, 5 p. c.
Process manufacture, Lowe.
Price coke, delivered, per ton, \$7.25; oil per gallon, 4.45c.
Candle-power, 22; calorific value, 600 B. t. u.
Gas holder capacity, 600,000 c. f.
Gas holder capacity, 300,000 cu. ft.
Holder pressure, max., 3.8.
Miles of mains, approx., 66; street main pressures, max., 3.8 in.; min., 2.5 in.
Annual sales, approx., 151,252,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. of city, 29,292; dist. supplied, est. 31,000.
No. consumers and meters, 6,189.
Price gas: Light and Fuel, gross, \$1.25; net, \$1.10.
Gas appliances in use: Ranges, 5,879; heaters, 560; water heaters, 950.
Supplies Council Bluffs.

ELECTRICAL DEPARTMENT.

Capital apportioned to elec. plant one-third.
Power purchased from Omaha Electric Light and Power Co.
System: A. C., 60 cycle; 1 and 3 phase.
Voltage: Arcs, 55 and 72; incand., 115; power, 220.
City lighting contract: Hours lighted per year: Arc and incand., 4,000.
No. public arcs, 83; 10 amp. flaming; 6.6 amp. series. Price per year, \$85 to \$95.
No. public incand., 903; 60 c. p. Price per year, \$21.25.
Commercial lighting: No. incand., 83,798.
No. electric consumers, 6,482.
Price current per kw. hr., gross, 6.5 to 2.5c. Disc., 0.5 c. per kw. hr.
Power circuits: Motors, 4,085 h. p.; price per kw. hr. 6.5c. gross, to 1.5c. Disc., 0.5c. per kw. hr. up to 5,000 kw. hr., 15 days.
Power purchased, 5,036,200 kw. hrs.

Creston Gas and Electric Co., Creston.

RR.: C., B. & Q. Ex.: Ad.

Capital stock, \$150,000.
Bonds, \$100,000; due 1932; interest, 6 p. c.
President, Marshall E. Sampsell.
Secretary, W. O. Dunn, Jr.
Treasurer, E. A. Potter.

REEVES GAS ENGINES are the highest type machines on the market and their installation insures fuel economy and continuity of operation.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

General manager, W. H. Potter.
Supt. and pur. agt., W. H. Potter.
New bus. mgr., W. H. Potter.
Process manufacture, Coal.
Price coal per ton, delivered, \$7.50.
Candle-power, 16.
Calorific value, 600 B. t. u.
Annual production, 20,000,000 c. f.
Total gas holders capacity, 80,000 c. f.
Holder pressure, 3.2 in.
Max. day's send out, 75,000 c. f.
Miles of mains, approximate, 13.
Street main pressures, max., 3.2 in.; min., 2.5 in.
Annual sales, approx., 18,000,000 c. f.
Gas unaccounted for, 12 p. c.
Pop. dist. supplied, 5,000; city, 6,924.
No. consumers, 800.
No. meters, reg., 775; prepay., 50.
Price gas: Light and Fuel, gross, \$1.40; net, \$1.30 (\$1.85 gross; \$1.75 net—1918).
Ranges in use, 650; heaters, 75; water heaters, 180.
No. commercial arc lamps, 120.
Supplies Creston.

Peoples Light Co., Davenport.

RRs.: C., M. & St. P.; Iowa & Ill.; C., B. & Q.; C., R. I. & P. S. Bs.: Diamond Jo. L.; Dav. & Burl. Packet; Eclipse (Bridge to Rock Island, Ill.). Ex.: Ad.: Am.

Controlled by Tri City Railway and Light Co.
Capital stock, \$2,125,000.
Bonds outstanding, \$750,000; due 1922; int., 5 p. c.
President, B. J. Denman.
Secretary and treas., H. E. Weeks.
Gen. mgr., C. N. Chubb.
Purchasing agent, Geo. G. Kuhn.
New bus. mgr., C. H. Myers.
Engineer, C. N. Chubb.
Supt. plant, C. G. Hanschildt.
Supt. dis., J. Ainsley.
Process manufacture, Coal and Lowe.
Candle-power, 17.4; calorific value, 607 B. t. u.
Total gas holders capacity, 1,360,000 c. f.
Holder pressure, max., 4.5 in.
Max. day's send out, 98,000 c. f.
Miles of mains, approx. (3 in. basis), 195.16.
Street main pressures, max., 4 in.; min., 2.5 in.
Annual sales, approx., 294,134,700 c. f.
Pop. dist. supplied, 40,000; of city, 43,028.
No. consumers, 12,179.
No. meters, reg. and prepay., 12,179.
Price gas: Light and Fuel, gross, \$1; net, 90c.
Sliding scale, \$1 to 65c., varying with consumption up to 450,000 c. f.
Supplies Davenport.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, approx., \$1,000,000.

System operated: Arc D. C.; incand., A. C., single phase, 60 cycles; power, A. C., 2-phase, 60 cycles and D. C.
Sub. station capacity: Lighting, 1,500 kw.; power, 2,400 kw.
Voltage: Incand., 110; power, 440 A. C. and 500 D. C.
City lighting contract: Hours lighted per year: Arc, 4,000; incand., 1,400.
No. pub. arcs, 773; 320 watt. Price per year, \$57.
No. public incand., 800; 40 watt. Price per year, \$4.32 each.
Commercial lighting: No. arcs, 29.
Price current per kw. hr., gross, 10c.; and 5c. with turning point of first 40 hrs. use of connected load. Disc., 10 p. c. to 60 p. c.
Power circuits: Price per kw. hr., 10c. Disc., 10 p. c. to 80 p. c.
Output of station, kw. hr. for year, 14,383,079.
Power purchased from Moline-Rock Island Mfg. Co.

Decorah Gas Co., Decorah

RRs.: C., M. & St. P.; C. R., R. I. & P. Ex.: W. F.

Capital stock auth., \$40,000; issued, \$28,200.
Bonds, \$15,000; due 1917; int., 7 p. c.
President, John Lorenz.
Secretary, W. W. Sanders.
Treasurer, L. B. Whitney.
General manager, W. W. Sanders.
Pur. agent and supt., W. W. Sanders.
New bus. mgr., W. W. Sanders.
Process manufacture, Water gas (Tenney).
Price coke per ton, delivered, \$6.50.
Price oil per gallon, delivered, 3.35c.
Annual production, 12,000,000 c. f.
Candle-power, 18; calorific value, 600 B. t. u.
Gas holder capacity, 36,000 c. f. (compression tanks).
Max. day's send out, 50,000 c. f.
High pressure mains, miles, 10.25; pressure, 1.5 lbs.
Annual sales, approx., 12,000,000 c. f.
Pop. of city supplied, 4,000 (1915).
No. consumers, 545.
No. meters, reg., 530; prepay., 15.
Price gas: Light and Fuel, gross, \$1.40; net, \$1.30.
Gas appliances in use: Ranges, 400; heaters, 25; water heaters, 85.
No. commercial gas arc lamps, 55.
Supplies Decorah.
(No 1918 report.)

Des Moines Gas Co., Des Moines.

RRs.: C. & No. W.; C., R. I. & P.; C., M. & St. P.; C. Gt. W.; C., B. & Q.; Inter-Urban; N. & No. W. & Ft. D. D. M. & So.; Minn. & St. L.; Wabash; St. P. & D. M. Ex.: Am.; Ad.; W. F.; Pac.

Capital stock, \$2,250,000.
Bonds, \$1,500,000. due 1926; int., 5 p. c.
President, Jansen Haines.
Secretary, G. W. Curran.
Treasurer, I. W. Morris.



Tycos Temperature Instruments
INDICATING—CONTROLLING—RECORDING
Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester, N. Y.



Purchasing agent, J. A. Pearson.
 Engineer, H. C. Adams.
 Commercial agent, E. H. Martin.
 Process manufacture, Lowe.
 Candle-power, 22.29.
 Miles of mains, approx., 234.99.
 Annual sales, approx., 789,058,143 c. f.
 Pop. dist. supplied, 115,275; of Des Moines, 111,500; Valley Junction, 3,775.
 No. consumers, 26,090.
 No. meters, reg., 13,272; prepay., 12,818.
 Price gas: Light and Fuel, 90c.
 No. public lamps, 1,469 Welsbachs.
 No. hours lamp is lighted per year, 3,950.
 Price includes care, lighting, extinguishing and repairs.
 Ranges, 24,143; heaters, 1,618; water heaters, 8,014.
 No. commercial gas arc lamps, 3,804.
 Supplies Des Moines and Valley Junction.

Dexter Gas Works, Dexter.

RRs.: C. R. I. & P. Ex.: Am.

(Municipal Plant).
 Depository, Bank of Dexter.
 Manager, Ray Piatt.
 Process manufacture, Lowe (Tenney).
 Price oil per gallon, delivered, 8.5c.
 Candle-power, 15.
 Gas holder capacity, 25,000 c. f.
 Max. day's send out, 10,000 c. f.
 High pressure mains, 7 miles; pressure, 1.5 lbs.
 Gas unaccounted for, 20 p. c.
 Pop. of city, 800; of dist. supplied, 600.
 No. consumers and meters, 200.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 No. public Welsbach incand. lamps, 50.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 816.
 Gas appliances in use; Ranges, 90.
 No. commercial gas arc lamps in use, 15.
 Supplies Dexter.
 (No 1918 report.)

Key City Gas Co., Dubuque.

RRs.: C. B. & Q.; C., M. & St. P.; Ill. Cen.; C. Gt. W. S. Bs.; Diamond Jo. L.; Ferry to E. Dubuque, Ill. Ex.: Ad.; Am.; W. F.

Capital stock, pref., \$230,000; com., \$310,500; ann. div., pref., 6 p. c.
 Bonds, \$170,000; due 1920; interest, 5 p. c.
 President, Geo. McLean.
 Vice-president, B. W. Lacy.
 Secretary, Wm. L. Bradley.
 Treasurer, James M. Burch.
 Gen. mgr. and pur. agent, Geo. McLean.
 Superintendent, E. W. Eustace.
 Engineer, E. W. Eustace.
 Process manufacture, Coal and Lowe.
 Price coal per ton, del'd, \$4.20.
 Candle-power, 16; calorific value, 600 B. t. u.
 Total gas holders capacity, 660,000 c. f.
 Miles of mains, approx., 62.
 Street mains pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 158,000,000 c. f.
 Pop. city supplied, 38,294.
 No. consumers and meters, 6,070.

Price gas: Light and Fuel, gross \$1.25; net \$1. Ranges in use, 5,000.
 No. commercial gas arc lamps, 700.
 Supplies Dubuque.
 (No 1918 report.)

Northern Iowa Gas & Electric Co., Eagle Grove.

RRs.: C. & No. W.; C. Gt. W. Ex.: Am.; W. F.

(Successor to Citizens' Light, Heat & Power Co. For capitalization, etc., see Appendix.)

President, I. C. Elston, Jr.
 Sec. and treas., J. N. McCallum.
 Manager, A. S. Harrington.
 Process manufacture, Water (Tenney).
 Annual production, 7,000,000 c. f.
 Price coke per ton, delivered, \$11.
 Price oil per gallon, 4.75c.
 Candle-power, 19; calorific value, 550 B. t. u.
 Total gas holder capacity, 20,000 c. f.
 Holder pressure, 3.6 in.
 Max. day's send out, 27,000 c. f.
 Miles of mains, approx., 7.
 Street main pressures, max., 3.8 in.; min., 3 in.
 Annual sales, approx., 6,500,000 c. f.
 Pop. dist. supplied, 4,500; of city 3,387 (1910).
 No. consumers, 600.
 No. meters, reg., 290; prepay., 260.
 Price gas: Light and Fuel, \$1.50 for first 1,000 c. f.; \$1.40, to 3,000 c. f.; \$1.35, to 5,000 c. f.
 Ranges in use, 467; water heaters, 120.
 No. commercial gas arc lamps, 4.
 Supplies Eagle Grove.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Generating capacity: 600 kw.
 Voltage; incand., 115; power, 115-230.
 City lighting contract: Hours lighted per year, moonlight schedule.
 No. public incand., 225; 40 and 80 watt. Price per year, \$12 and \$15.
 Commercial lighting: Price current per kw. hr., gross, 11c., 12c. and 13c. Disc., 10 p. c.
 For all lights on meters, a minimum charge of 75c. per mo.
 Power circuits: No. motors, 35; price per kw. hr. not over 10c., rate based on max. demand per kw. per mo.; dis., 10 p. c.
 Generating power used, Steam; rated 977 h.p.
 Cost of station boiler coal, per ton, \$5.

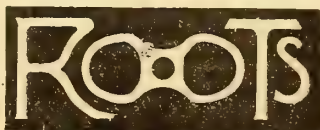
Iowa Electric Co., Fairfield.

RRs.: C. B. & Q.; C., R., I. & P. Ex.: Ad.

Capital stock, com., \$204,275; pref., \$282,560.
 Bonds, \$970,100; due 1934; int., 6 p. c.
 President, William G. Dows.
 Sec'y and treas., C. S. Woodward.
 Engineer, J. M. Drabelle.
 New bus. mgr., Jas. E. Blake.
 Superintendent, gas, L. Canterbury.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.75.
 Candle-power, 14; calorific value, 565 B. t. u.
 Annual prod., 12,150,000 c. f.
 By-products made: Coke, 720 tons; tar, 72,000 gals.
 Max. day's send out, 48,700 c. f.

GAS EXHAUSTERS

Pridefully Produced



GAS BOOSTERS

For Industrial Appliances

Total gas holders capacity, 42,000 c. f.
 Holder pressure, 5.7 in.
 Miles of mains, 17.5.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 12,150,000 c. f.
 Gas unaccounted for, 15 p. c.
 By-products sold: Coke, 4,300 tons; tar, 70,000 gals.
 Gas unaccounted for, 15 p. c.
 Pop. city supplied, 6,000.
 No. consumers, 980.
 No. meters, reg., 850; prepay., 130.
 Price gas: Light and Fuel, \$1.425; net, \$1.375.
 Ranges in use, 650; heaters, 75; water heaters, 125.
 Supplies Fairfield.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycles.
 Generating capacity: Lighting, 285 kw.; power, 285 kw.
 Voltage: Incand., 110; power, 220.
 Sell city current for pumping station and street lighting at 3c. per kw.; city owning and maintaining their own lines.
 No. public incand., 80; price, 3c. per kw. hr.
 Commercial lighting: No. incand., 12,000.
 Price incand., 11c. 1st 15 kw.; 10c. next 35 kw.; 9c. next 50 kw.; 7c. next 50 kw.; 6c. all over. Dom., 11c. to 3c. Disc., 1c. per kw. hr.
 Power circuits: No. motors, 140.
 Price per kw. hr., 8c. to 3c.
 Output of station, kw. hr., total for year, 975,400.
 Generating power. Steam and Water, rated 510 h. p.
 Cost station boiler coal per ton, \$4.50.

Fort Dodge Gas and Electric Co., Fort Dodge.

RRs.: C. Gt. W.; Ill. Cen.; Minn. & St. L.; N. & No. W. & Ft. D. D. M. & So. Ex.: W. F.; Ad.; Am.

Controlled and operated by United Light and Railways Co.

Capital stock, pref., auth., \$1,000,000; issued, \$750,000.

President, O. M. Oleson.

Vice-president, C. M. Hurd.

Sec'y and treas., L. H. Heinke.

Manager and pur. agt., M. Anderson.

New bus. mgr., A. L. McKinstry.

Works supt., John Benway.

Supt. gas dis., W. J. Bowers.

Process manufacture, Coal and Lowe.

Candle-power, 16; cal. value, 600 B. t. u.

Total gas holder capacity, 160,000 c. f.

Holder pressure, 6.5 in.

Max. day's send out, 311,000 c. f.

Miles of mains, approx., 45.18.

Street main pressures, max., 4.5 in.; min., 2.5 in.

Annual sales, approx., 76,984,000 c. f.

Gas unaccounted for, 12.5 p. c.

Pop. city, 19,000; of dist. supplied, 15,000.

No. consumers, 2,876.

No. meters, reg., 2,871; prepay., 126.

Price gas: Light and Fuel, gross, \$1.30 1st 1,000 c. f.; 2d 1,000 c. f., \$1.25; 3d 1,000 c. f., \$1.20; 4th 1,000 c. f., \$1. Disc., 1c., 15 days.

Ranges, 2,700; heaters, 106; water heaters, 713.

No. commercial gas arc lamps, 569.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., single phase, 7,200 alt.; power, A. C., 3 phase, 25 cycles.

Transformer capacity (3-300 k. v. a. 25 cycle) 750 kw. Frequency changers also, for use in purchased power.

Voltage: Arcs, 72; incand., 110; power, 220 A. C., 500 D. C.

City lighting contract: Hours lighted per year: Arc and incand., 3,900 hrs.

No. public arcs, 151; 475 watt. Price per year, \$55.

No. public incand., 83; 40 watt. Price per year, \$16.

Other lamps, 60 ornamental 5 light posts, 340 watt and 52 single light posts.

Price current per kw. hr., gross, 11c. to 4c. Disc., 1c. per kw. hr.

Power circuits: Motors, 252; price per kw. hr., \$1 per mo. per h. p. demand. 3c. net for all over 10 kw.

Output of station for year, kw. hrs., 3,178,863.

Power purchased from Central Iowa Light & Power Co., Frazer, Iowa, 2,000 kw. steam plant maintained for emergency purposes.

Fort Madison Gas Light Co., Fort Madison.

RRs.: A., T. & S. F.; C., B. & Q. S. Bs.: Diamond Jo. L. (Bridge to Niota, Ill.). Ex.: Ad.; W. F.

Capital stock, com., auth., \$150,000; issued, \$100,000.

Bonds, \$139,600, due 1935; interest, 6 p. c.

President and treas., E. C. Beach.

Secretary, C. V. Clark.

Gen. mgr. and pur. agt., J. G. Moffett.

New bus. mgr., J. G. Moffett.

Superintendent, J. G. Moffett.

Process manufacture, Lowe.

Annual production, 36,000,000 c. f.

Price coke per ton, delivered, \$10.50.

Price oil per gallon, delivered, 5c.

Candle-power, 20. Calorific value, 600 B. t. u.

Total gas holders capacity, 82,000 c. f.

Max. day's send out, 120,000 c. f.

Miles of mains, approx., 22.

Street main pressures, max., 5 in.; min., 3 in.

Annual sales, approx., 34,200,000 c. f.

Gas unaccounted for, 11 p. c.

Pop. dist. supplied, 8,900; of city, same.

No. consumers, 2,165.

No. meters, reg., 1,835; prepay., 325.

Price gas: Light and Fuel, gross \$1.40; net \$1.20 to 90c.

Ranges in use, 2,359; heaters, 300; water heaters, 99.

No. commercial gas arc lamps, 596.

Supplies Fort Madison.

BLOWERS

*For Industrial
Appliances*



P.H. & F.M. ROOTS CO.

Connersville
Indiana

New York

Chicago

Peoples Light and Fuel Co., Grinnell.

RRs.: C., R. I. & P.; M. & St. L. Ex.: Ad.; U. S.

Capital stock: Pref., auth., \$25,000; issued, \$12,800. Com., auth., \$25,000; issued, \$17,100.

Bonds, \$20,000; due 1929; int., 6 p. c.

President, E. B. Brande.

Vice-pres., J. W. Kearn.

Secretary, H. L. Beyer.

Treasurer, D. E. Brande.

Manager, F. S. Edge.

Pur. agent, F. S. Edge.

New bus. mgr., F. S. Edge.

Superintendent, P. L. Garrigan.

Engineer, Kirk Garwood.

Process manufacture, Tenney (carb. water).

Price coke per ton, delivered, \$14.15.

Price oil per gal., 6c.

Candle-power, 18; calorific value, 625 B. t. u.

Annual prod., approx., 11,200,000 c. f.

Max. day's send out, 45,000 c. f.

Gas holder capacity, 35,000 c. f.

High pressure mains, miles, 14; pressure, 1 to 5 lbs.

Annual sales, approx., 11,000,000 c. f.

Pop. city, 5,036; of dist. supplied, 5,000.

No. consumers, 690.

No. meters, reg., 220; prepay, 470.

Price gas: Light and Fuel, gross, \$2; net, \$1.90.

No. public gas lamps, 6.

No. gas ranges in use, 500; heaters, 30; water heaters, 60.

No. commercial gas are lamps, 50.

Supplies Grinnell.

Hampton Gas Co., Hampton.

RRs.: C. Gt. W.; Iowa Cen.; St. P. & D. M. Ex.: Ad.; Am.; W. F.

Capital stock auth., \$75,000; issued, \$50,000.

Annual dividend, 7 p. c.

Bonds, \$10,000; due 1918; int., 7 p. c.

President, John R. Howie.

Secretary, I. M. Miller.

Treasurer, J. R. Howie.

Pur. agent, J. R. Howie.

Engineer, Guy Mock.

Superintendent, J. R. Howie.

New bus. mgr., J. R. Howie.

Process manufacture, Lowe (Springer).

Price coke per ton, delivered, \$7.35.

Price oil per gallon, delivered, 4.25c.

Candle-power, 19.

Calorific value, 580 B. t. u.

Annual production, 10,000,000 c. f.

Total gas holder capacity, 54,000 c. f.

Max. day's send out, 48,000 c. f.

Miles of high pressure mains, approx., 12; pressure carried, 6 lbs.

Annual sales, 10,000,000 c. f.

By-products sold: Drip oil, 2,000 gals.

Pop. city supplied, 3,300 (Iowa census).

No. consumers, 554.

No. meters, reg., 444; prepay., 110.

Price gas: Light and Fuel, gross \$1.60; net \$1.50.

Ranges, 425; heaters, 10; water heaters, 40.

No. commercial arc lamps, 70.

Supplies Hampton.

Independence Gas Co., Independence.

RRs.: C., R. I. & P.; Ill. Cen. Ex.: U. S.; Am.

Controlled by Jones & Hovey Co.

Capital stock auth., \$50,000; issued, \$36,000.

Bonds, \$20,000; due 1934; int., 6 p. c.

President, C. D. Jones.

Secretary and treasurer, S. B. Hovey.

Purchasing agents, Jones & Hovey Co.

Superintendent, C. H. Wilson.

Process manufacture, Water (Tenney).

Candle-power, 19.

Calorific value, 630 B. t. u.

Price of coke per ton, delivered, \$12.75.

Price of oil per gal., 6.5c.

Annual production, 10,000,000 c. f.

By-products made: Drip oil, 1,000 gals.

Gas holder capacity, 50,000 c. f.

Holder pressure, max., 3.5 in.

Max. day's send out, 46,000 c. f.

High pressure mains, 11.1 miles; pressure, 1.5 lbs.

Annual sales, approx., 8,000,000 c. f.

By-products sold: Drip oil, 1,000 gals.

Pop. dist. supplied, 2,950; city, 4,000 (est.)

No. consumers, 535.

No. meters, reg., 460; prepay., 75.

Price gas: Light and Fuel, gross, \$1.45; net, \$1.35.

Over 10,000 c. f., \$1.25. After

March 1, 1918: gross, \$1.75; net, \$1.65;

over 10,000 c. f., \$1.55.

Ranges in use, 425; heaters, 55; water heaters, 90.

No. commercial gas are lamps, 20.

Supplies Independence.

Iowa City Light and Power Co., Iowa City.

RRs.: C., R. I. & P.; C., R. & I. City. Ex.: Am.

Controlled by Tri-City Railway & Light Co.

Capital stock, com., \$500,000

Bonds, \$400,000 ref. 1st. m.; due 1932; int., 5

p. c.; \$244,500 reserved to refund an equal

amount of Iowa City Gas & El. Co. 6 p. c.

Entire issue of 1st and ref. 5s., owned by

Tri-City Ry. & Lt. Co. \$244,500 Iowa City

Gas & El. Co. 1st 6s, due serially \$4,000 to

\$9,000 May, 1912, to May, 1927. Int. May

1, Nov. 1, at Chic. Sav. Bk. & Trust Co.,

trustee.

President, B. J. Denman.

Secretary and treas., H. E. Weeks.

Manager and pur. agent, C. H. Myers.

New bus. mgr., L. E. Schrieter.

Superintendent, C. A. Murphy.

Engineer, C. N. Chubb.

Process manufacture, Coal and Lowe.

Candle-power, 18.

Calorific value, 550 B. t. u.

Total gas holders capacity, 200,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 188,500 c. f.

**WILLIAMS' "Agrippa" THREADING-TOOL HOLDER**

The Threading Tool with lockable-spring head will do roughing, finishing and threading at one setting in the tool post.

J. H. WILLIAMS & CO., 74 Richard St., Brooklyn, N. Y.

Miles of mains, approx (3 in. basis), 32.37.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 54,213,900 c. f.
 Pop. dist., supplied, 10,000; city, 12,000.
 No. consumers and meters, 2,213.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.
 Supplies Iowa City.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: Arcs, D. C.; incand. A. C., 60 cycle;
 power, A. C., 60 cycle.
 Generating capacity: Lighting and power,
 1,700 kw.
 Voltage: Incand., 110; power, 220.
 City lighting contract: Hours lighted per year,
 3,300; moonlight, all night schedule.
 No. public arcs, 187 magnetites. Price per
 year, \$56. 90 incand.; 61 ornamental
 post lights.
 Price current per kw. hr.: gross, 13c. first 30
 hrs.; 9c. next 30 hrs.
 Power circuits: Price per kw. hr., 8 and 4c.
 Disc., 3 p. c.
 Output of station, kw. hrs., total for year,
 1,341,475.
 Generating power used: Water; rated h. p.,
 450; 1,000 h. p. steam power reserve.

Iowa Gas Co., Iowa Falls.

RRs.: Ill. Cen.; C., R. I. & P.; C. & N. W.;
 St. P. & D. M. Ex.: Am.

Controlled by Iowa Electric Co.
 Capital stock auth., \$60,000; issued, \$6,900.
 Bonds, \$30,000; due 1935; int., 6 p. c.
 President, Wm. G. Dows.
 Secretary and treas., C. S. Woodward.
 General manager, H. F. Kellog.
 Superintendent, J. E. Sahlin.
 Engineer, J. E. Sahlin.
 Pur. agent and new bus. mgr., J. E. Sahlin.
 Process manufacture, Water (Tenney).
 Price coke per ton, delivered, \$6.50.
 Price oil per gal., delivered, 4.625c.
 Candle-power, 24; calorific value, 650 B. t. u.
 Annual prod., water gas, 10,000,000 c. f.
 By-products made: Tar, est., 700 gals.; none
 sold.
 Gas holder capacity, 46,000 c. f.
 Holder press., max., 7 in.
 Max. day's send out, 45,000 c. f.
 Miles of mains, approx., 12.
 Street main pressures, max., 8 in.; min., 3 in.
 Annual sales, approx., 9,200,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. dist. supplied, 3,500; of city, 2,797.
 No. consumers, 630.
 No. meters, reg., 370; prepay., 260.
 Price gas: Light and Fuel, gross, \$1.50. Dis-
 counts, 2 M or less, 5c.; over 2 M and less
 than 3 M, 10c.; 3 M to 5 M, 15c.; 5 M to
 10 M, 20c.; 10 M, 30c; avg. net price,
 \$1.40.

No. ranges, 550; heaters, 50; water heaters,
 25.
 No. commercial gas arc lamps, 45.
 Supplies Iowa Falls.

Keokuk Electric Co., Keokuk.

RRs.: C., B. & Q.; C., R. I. & P.; Tol., Peo.
 & W.; Wabash. S. Bs.: Diamond Jo L.; K.
 & Q. Packet (Bridge to Hamilton, Ill.).
 Ex.: Ad.; Pac.

Controlled by Central Mississippi Valley Elec-
 tric Properties.

Manager by Stone & Webster.

Manager, J. P. Ingle.

Process manufacture, Lowe.

Candle-power, 18.9; calorific value, 563 B. t. u.

Annual production, 51,269,000 c. f.

Total gas holders capacity, 120,000 c. f.

Max. day's send out, 166,000 c. f.

Miles of mains, approx., 28.

Annual sales, approx., 42,945,100 c. f.

Gas unaccounted for, 15.6.

Pop. city supplied, 14,008 (1910); estimated
 1918, 15,200.

No. meters, reg., 1,571; prepay., 591.

Price gas: Light and Fuel, 1st 2,000 c. f. per
 mo., \$1.35 per 1,000; next 3,000 c. f., \$1.20;
 next 10,000 c. f., \$1.10; next 10,000 c. f.,
 \$1.05; next 25,000 c. f., 95c.; all in ex-
 cess, 85c. Disc., 10c., 10 days. Min.
 charge, 50c.

Ranges in use, 1,809.

No. commercial gas arc lamps, 131.

Supplies Keokuk.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C. (Mun.) 6.6 amp.,
 25 cycles. Commercial: A. C. 1 and
 3-phase 25-cycles; power, D. C.

Voltage: Arcs, series; incand., 110-220; power,
 110-220-440 A. C., 550 D. C.

City lighting contract: Hours lighted per year:
 Arc, 4,000; incand., Warsaw, 3,000; Keo-
 kuk, 4,000.

No. public arcs, 277; 6.6 amp. magnetite.

No. public incand., 139: 4 70-watt; 135 50-
 watt; also 90 60-watt.

Commercial lighting: No. arcs, 3 magnetite
 No. incand., 1,998 kw. hr., incl. 1,223 kw.

Price current per kw. hr., gross, 8c. sliding
 scale to 3c. net.

Power circuits: No. motors, 451; price per kw.
 hr., 5c. to 1c. net.

Fans, flatirons and miscel., 384.

Purchased power kw. hrs. for year, 5,924,000.

Power purchased from Mississippi River Pow-
 er Co.

Knoxville Gas Co., Knoxville.

RRs.: C., B. & Q.; C., R. I. & P. Ex.: Ad.

Capital stock, com., auth., \$40,000; issued,
 \$25,100.

Bonds, \$10,000; due 1920; interest, 6 p. c.

President, Charles Perry.

Secretary, G. T. Underhill.

Treasurer, J. B. Elliott.

General mgr., F. V. Reaver.

RELIABLE

ANGLIRON

RANGES

Set your expectations just as high as you like, order a sample
 line of "RELIABLE 'ANGLIRON'" ranges, examine and test
 them and you will find your ideal of what a gas range really
 should be. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Pur. agt. and supt., F. V. Reaver.
Process manufacture, Lowe (Indianapolis Gas
Construction Co.)

Annual prod., 6,000,000 c. f.
Price coke per ton, delivered, \$6.35.
Price oil per gallon, delivered, 3c.
Candle-power, 16.
Calorific value, 625 B. t. u.
Max. day's send out, 20,000 c. f.
Total gas holders capacity, 20,000 c. f.
Holder pressure, 10 in.
Miles of mains, approx., 10.
Street main pressures, max., 10 in.
Annual sales, approx., 5,700,000 c. f.
Gas unaccounted for, 5 p. c.
Pop. dist. supplied, 4,500; of city, 3,590.
No. consumers, 400.
No. meters, reg., 370; prepay., 30.
Price gas: Light and Fuel, sliding scale, viz.:
1st 2,500 c. f., \$1.50; 2,500 to 4,000 c. f.,
\$1.40; 4,000 to 5,000 c. f., \$1.35; 5,000 to
6,000 c. f., \$1.30; 6,000 to 10,000 c. f.,
\$1.10; over 10,000 c. f., \$1.00.
Ranges in use, 300; heaters, 6; water heat-
ers, 20.
No. commercial gas arc lamps, 15.
Supplies Knoxville.
(No 1918 report.)

Le Mars Gas Co., Le Mars.

RRs.: C. & No. W.; Ill. Cen. Ex.: Am.

Capital stock, \$22,000.
President, Julius Dick.
Secretary, O. H. Hinds.
Treas. and pur. agent, O. H. Hinds.
Manager, O. H. Hinds.
Superintendent, J. M. Auer.
Process manufacture, Lowe (Moses).
Price oil per gal., 3.18c
Candle-power, 16.
Calorific value, 600 B. t. u.
Annual production, 13,000,000 c. f.
Total gas holders capacity, 112,000 c. f.
Holder pressure, max., 4 in.
Max. day's send out, 45,000 c. f.
Miles of mains, approx., 13.5.
Street main pressures, max., 3.8 in.; min.,
3 in.
Annual sales, approx., 13,000,000 c. f.
Gas unaccounted for, 2 p. c.
Pop. city, 4,157; of dist. supplied, 4,000.
No. consumers, 575.
No. meters, reg., 525; prepay., 50.
Price gas: Light and Fuel, gross \$1.40; net
\$1.33.
Ranges in use, 564 (inc. hot-plates); water
heaters, 43.
No. commercial gas arc lamps, 105.
Supplies Le Mars.

Mapleton Gas Co., Mapleton.

RRs.: C. & No. W.; C., M. & St. P. Ex.:
Am.; W. F. _____

Capital stock, \$10,000.
President, J. C. Hammond.
Secretary, John R. Welch.
Treasurer, C. C. Jacobsen.
Pur. agent, Board of Directors.
General mgr., F. C. Drake.
Process manufacture, Water (Tenney).

Price coke per ton, delivered, \$7.35.
Price oil per gallon, 3.08c.
Max. monthly send out, 175,000 c. f.
Gas holder capacity, 30,000 c. f.
Miles of mains, approx., 1.5.
Street main pressures, max., 7.5 in.; min.,
6.5 in.
Annual sales, approx., 1,700,000 c. f.
Gas unaccounted for, 4 p. c.
Pop. city, 1,100; of dist. supplied, 400.
No. consumers and meters, 100.
Price gas, per 1,000 c. f., \$1.75.
No. public incand. gas lamps, 30.
Public lamps lighted 900 hrs. per year.
Contract does not include care, lighting and ex-
tinguishing.
No. ranges in use, 50; water heaters, 12.
No. commercial gas arc lamps, 14.
Supplies Mapleton.

Maquoketa Light and Heat Co., Maquoketa.

RRs.: C. & No. W.; C., M. & St. P. Ex.:
Am.

Capital stock, \$100,000.
President, C. H. Young.
Secretary and pur. agt., Thomas Crawford.
Treasurer, C. H. Young.
Manager, Elmer Crawford.
New bus. mgr., Elmer Crawford.
Process manufacture, Lowe.
Price coke per ton, delivered, \$10; oil per
gallon, 6.5c.
Candle-power, 18; calorific value, 600 B. t. u.
Annual production, 17,000,000 c. f.
Gas holder capacity, 40,000 c. f.
Holder pressure, max., 4 in.
Max. day's send out, 70,000 c. f.
Miles of mains, approx., 16.
Street main pressures, max., 4 in.; min., 2 in.
Annual sales, approx., 16,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 3,600; of city, 3,750.
No. consumers, 950.
No. meters, reg., 350; prepay, 600.
Price gas: Light and Fuel, gross, \$1.65;
net, \$1.50.
Gas appliances in use: Ranges, 928; heaters,
300; water heaters, 300.
No. commercial gas arc lamps, 60.
Supplies Maquoketa.

Marengo Gas Co., Marengo.

RR.: C. R. I. & P. Ex.: Am.

Capital stock auth., \$25,000; issued, \$24,800.
Annual dividend, 6 p. c.
President, Thos. McGuire.
Secretary and genl. mgr., E. D. Brown.
Treasurer, E. D. Brown.
Purchasing agent, E. D. Brown.
Superintendent, E. D. Brown.
New bus. mgr., E. D. Brown.
Engineer, John McElroy.
Process manufacture, Lowe.
Price coke per ton, delivered, \$7.85.
Price oil per gal., delivered, 2.94c.
Candle-power, 19.
Annual production, 5,000,000 c. f.
Max. day's send out, 18,000 c. f.
Gas holders capacity, 30,000 c. f.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Holder pressure, max., 8 in.
 Miles of mains, approximate, 8.5.
 Street main pressures, max., 8 in.; min., 3 in.
 Annual sales, approx., 5,000,000 c. f.
 Pop. city, 2,100; dist. supplied, 1,800.
 No. consumers, 280.
 No. meters, reg., 279; prepay., 1.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 Ranges in use, 250; heaters, 25; water heaters, 21.
 No. commercial arc lamps, 15.
 Supplies Marengo.

Iowa Railway and Light Co., Marshalltown.

RRs.: C. & No. W.; C. Gt. W.; M. & St. L.
 Ex.: Ad.; Am.; W. F.

General office, Cedar Rapids, Ia.
 (For data re capitalization, bonds, etc., see Appendix.)

President, William G. Dows.
 Vice-pres., Isaac B. Smith, John A. Reed.
 General manager, William G. Dows.
 Asst. gen'l mgr., R. S. Cook.
 Secretary, C. S. Woodward.
 Treasurer, Isaac B. Smith.
 Engineer, F. W. Laas.
 Pur. agent, S. C. Dows.
 Local mgr., Chas. Munson.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5 to \$7.50.
 Candle-power, 15.
 Calorific value, 610 B. t. u.
 Annual production, 77,305,200 c. f.
 By-products made: Coke, 5,414 tons; tar, 90,490 gals.

Gas holder capacity, 220,000 c. f.
 Holder pressure, max., 7.4 in.
 Max. day's send out, 292,600 c. f.
 Miles of mains, approx., 32.5.
 Street main pressures, max., 4 in.; min., 3.2 in.
 Annual sales, approx., 67,395,500 c. f.
 Gas unaccounted for, 9 p. c.
 By-products sold: Coke, 5,981 tons; tar, 75,000 gals.
 Pop. dist. supplied, 12,000; of city, 16,028.
 No. consumers, 2,929.
 No. meters, reg., 2,279; prepay., 650.
 Price of gas: Light and Fuel, gross \$1.10; net \$1.
 Ranges in use, 2,300; heaters, 150; water heaters, 220.
 Supplies Marshalltown.

ELECTRICAL DEPARTMENT.

System: incand., A. C.; power, 60 cycle, single and 3 phase A. C.
 Generating capacity: Lighting, 2,300 kw.; power 500 kw.
 Voltage: Incand., 110; power, 110-220.
 Miles of over-head wires, approx., 120.
 Commercial lighting: No. incand., 45,000.
 Price current per kw. hr., 12c. to 5c. Disc., 10 p. c.
 Power circuits: No. motors, 200; price per kw. hr., 7c. to 3c. Disc., 10 p. c.

Generating power used, Steam; rated 3,550 h. p.
 Output of station, kw. hrs. for year, 6,744,510.
 Cost of station boiler coal, per ton, \$2.25, in bins.

Peoples Gas and Electric Co., Mason City.

RRs.: C. & N. W., C., M. & St. P.; C. Gt. W.; Min. & St. L.; C. R. I. & P. Ex.: Ad.; Am.; W. F.

Controlled by United Light & Rys. Co.
 Capital stock, pref., \$200,000; comm. auth. \$600,000; issued, \$436,000.
 Annual div., pref., 6 p. c.
 Bonds, \$370,000; due 1931; int., 6 p. c.
 President, F. J. Hanlon.
 Secretary, L. H. Heinke.
 Treasurer, C. M. Hurd.
 General manager and pur. agent, F. J. Hanlon.
 Superintendent, O. W. Rector.
 New bus. mgr., Paul Schoenlaub.
 Process manufacture, Lowe.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 350,000 c. f.
 Holder pressure, max., 8 in.
 Max. day's send out, 253,029 c. f.
 Miles of mains, approx., 48.43.
 Street main pressures, max., 5 in.; min., 2.5 in.
 Annual sales, approx., 82,222,700 c. f.
 Pop. dist. supplied, 14,105; of city, 18,000 (state census 1915).
 No. consumers and meters 2,821.
 Price gas: Light, gross, \$1.25; net, \$1.15. Fuel, net, 85c. to 90c.
 Ranges in use, 2,618; heaters, 300; water heaters, 758.
 Supplies Mason City.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated: Arc and incand., series A. C.; power, 3-phase, A. C.
 Generating capacity: Lighting and power, 5,500 kw.
 Voltage: Arcs, 72; incand., 110; power, 220.
 City lighting contract: Hours lighted per year, arcs and incand., 4,000.
 No. public arcs, 117; 6.6 amp. Price per year, \$60.
 No. public incand., 104; 60 and 100 c. p. Price per year, \$24 and \$30; 99 5-lt. posts at \$48.
 Price arc and incand., Com'l, per kw., gross, 13c., 10c. and 5c. Disc., 1c. per kw. hr.
 Price current per kw. hr., 8c. to 5c. Disc., 1c. per kw. hr.
 Output of station, kw. hrs. total for year, 8,734,121.
 Power used, Steam; rated 7,000 h. p.

Mt. Pleasant Gas Light Co., Mt. Pleasant.

RR.: C., B. & Q. Ex.: Ad.

Controlled by Iowa Gas & Electric Co.
 Capital stock auth., \$100,000; issued, \$63,800.
 Bonds, \$50,000; due 1934; int., 6 p. c.
 President, Geo. S. Carson.

Be prepared for emergencies. Keep GOODMAN STOPPERS in stock.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Secretary, Frank C. Carson.
 Treasurer, Geo. S. Carson.
 General mgr., H. F. Darbyshire.
 Pur. agent, H. F. Darbyshire.
 New bus. mgr., J. O. Brown.
 Superintendent, J. O. Brown.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$1.85.
 Candle-power, 16.
 Calorific value, 590 B. t. u.
 Annual production, 10,678,905 c. f.
 Max. day's send out, 41,000 c. f.
 Gas holder capacity, 32,000 c. f.
 Holder pressure, 3.8 in.
 Miles of mains, approx., 11.
 Street main pressures, max., 3.8 in.; min., 2.5 in.
 Annual sales, approx., 9,717,000 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. city, 3,874; dist. supplied, 3,300.
 No. consumers, 727.
 No. meters, reg., 657; prepay., 70.
 Price gas: Light and Fuel, net, \$1.45.
 Ranges in use, 470; heaters, 30; water heaters, 170.
 No. commercial gas arc lamps, 150.
 Supplies, Mt. Pleasant.
 (No 1918 report.)

Muscatine Lighting Co., Muscatine.

RRs.: C., M. & St. P.; C., R. I. & P.; Musc.
 N. & S. S. Bs.: Diamond Jo. L.; Dav.
 & Burl. Packet. Ex.: Ad.; W. F.

Controlled by Tri-City Ry. & Light Co.
 Capital stock, auth. and issued, \$700,000.
 President, Joseph F. Porter.
 Vice-president, H. C. Blackwell.
 Secretary and treas., H. E. Weeks.
 General manager, H. C. Blackwell.
 Pur. agent, Geo. G. Kuhn.
 General supt., F. S. Dewey.
 New bus. mgr., J. Callahan.
 Process manufacture, Lowe and Coal.
 Candle-power, 17. Calorific value, 605 B. t. u.
 Max. day's send out, 177,800 c. f.
 Total gas holders capacity, 210,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approx. (3-in. basis), 34.14.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 55,029,800 c. f.
 Pop. dist. supplied, 15,000; of city, 16,178.
 No. meters, reg., 2,416.
 Price gas: Light and Fuel, \$1.25 to \$1; sliding scale.
 Supplies Muscatine.

ELECTRICAL DEPARTMENT.

System operated: Arc D. C. incand., A. C.
 single phase, 7,200 alt.; power, A. C., 2
 phase.
 Generating capacity: Lighting, 750 kw.
 Power purchased from Moline-Rock Island
 Mfg. Co. Steam plant in reserve.
 Voltage: Arcs, 72; incand., 110; power, 440.

City lighting contract: Hours lighted per
 year, arc, 4,000.
 No. public arcs, 50; 480 watt. Price per
 year, \$80.
 No. public incand., 12 posts; 220 watt lamps;
 price per year, \$43.97 per post. Approx.
 550 incand. lamps in use.
 Commercial lighting: No. arcs, 50; munic. in-
 cand., 583; post lights, 34. No. incand.,
 approx., 7,000.
 Price current per kw. hr., gross, 13.5c. Dis-
 counts, sliding scale according to quan-
 tity down to 4.5c.
 Power circuits: No. motors, 251; price per
 kw. hr., 10 to 2.5c.
 Output of station, kw. for year, 3,301,517.

City of Newton Gas and Electric Plant, Newton.

RRs.: C., R. I. & P.; Iowa Cen.; N. & No.
 W. & Ft. D., D. M. & So. Ex.: Ad.;
 Am.

(Municipal plant.)

Bonds, \$33,000; due 1926; int., 4.5 p. c.
 Manager and pur. agt., C. O. Leary.
 Superintendent, C. O. Leary.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$6.65.
 Price of oil per gallon, delivered, 4.5c.
 Gas holder capacity, 60,000 c. f.
 Max. day's send out, 40,000 c. f.
 Miles of mains, approx., 17.
 Street, main pressure, max., 2 lbs.
 Pop. dist. supplied, 5,000; of city, 4,616.
 No. consumers, 510; No. meters, reg., 495; pre-
 pay., 15.
 Price gas: Light and Fuel, \$1.35.
 Gas ranges in use, 460; heaters, 50.
 Supplies Newton.

ELECTRICAL DEPARTMENT.

System: Incand. A. C. and D. C.; power,
 D. C.
 Generating capacity: Lighting and power, 500
 kw.
 Voltage: Incand., 115; power, 230.
 City lighting contract: Hrs. lighted per year:
 Arc and incand., 3,500.
 No. public lamps: 170 400 watt Mazdas, and
 140 80 watt Mazdas.
 Commercial lighting: No. incand., 13,000
 (Mazda).
 Price current per kw. hr., commercial and
 domestic, gross, 8c.
 Power circuits: No. motors, 160; price per kw.
 hr., 2 to 1.75c.
 Generating power used. Steam: rated 600 h. p.
 Cost of station boiler coal per ton, \$2.48.
 (No 1918 report.)

Peoples Gas Co., North English.

RRs.: C. M. & St. P. Ex.: W. F.

Capital stock, \$10,000.
 Bonds, \$800; due 1916; int., 6 p. c.
 President, I. P. Smith.
 Vice-president, B. B. Harrington.
 Treasurer, George E. Swain.
 Secretary and gen. mgr., W. C. Carson.
 Supt. and pur. agt., W. C. Carson.
 Engineer, W. J. Woodland.

Test Meters, steel cases, with capacities from 1/10 to 1 cubic foot per revolution, reading fractional quantities direct and adding up and indicating large volumes. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

New bus. mgr., W. C. Carson.
 Process manufacture, Lowe (Osten Compact).
 Price delivered, coke per ton, \$6.75.
 Price oil per gallon, 3.82c.
 Candle-power, 22.
 Annual production, 2,125,000 c. f.
 Gas holder capacity, 10,000 c. f. Pressure (max.), 4.5 in.
 Street mains, approximate, 4 miles. Pressures, max., 4.5 in.; min., 3.5 in.
 Annual sales, approximate, 2,100,000 c. f.
 Gas unaccounted for, 1.19 p. c.
 Pop. of city, 1,100; dist. supplied, 800.
 No. consumers, 102.
 No. meters, reg., 80; prepay., 22.
 Price gas: Light and Fuel, gross, \$2; net, \$1.75 to \$1.50.
 No. gas ranges in use, 42; heaters, 2; water heaters, 4.
 No. commercial gas arc lamps, 12.
 Supplies North English.
 (No 1918 report.)

Oelwein Gas and Power Co., Oelwein.

RRs.: C. Gt. W.; C. R. I. & P. Ex.: W. F.

Capital stock, \$250,000.
 Bonds, \$80,000; due 1930; interest, 6 p. c.
 President, A. J. Hood.
 Secretary, M. V. Hood.
 Treasurer and purchasing agent, A. J. Hood.
 General manager, W. D. West.
 Superintendent, W. D. West.
 New bus. mgr., W. D. West.
 Engineer, W. D. West.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.65.
 Annual production, 21,000,000 c. f.
 Candle-power, 16; calorific value, 600 B. t. u.
 Gas holder capacity, 70,000 c. f.
 High pressure mains, miles, 15; pressure, 5 lbs. (indiv. regulators).
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 By-products sold: Coke, 600 tons; tar, 24,000 gals.
 Pop. dist. supplied, 7,200; of city, 6,028 (1910).
 No. consumers, 1,028.
 No. meters, reg., 565; prepay, 463.
 Price gas: Light and Fuel, gross \$1.50; net \$1.40.
 Ranges in use, 870; water heaters, 205.
 No. commercial gas arc lamps, 130.
 Supplies Oelwein.

Southern Iowa Electric Co., Osceola.

RR.: C., B. & Q. Ex.: Ad.

(Formerly Osceola Light, Heat and Power Co.)
 Controlled by The Union Power & Light Co.
 Capital stock, \$500,000.
 Bonds, \$25,000; due 1923; int., 6 p. c.
 President, Willis Todd.
 Vice-president, C. T. Kountze.
 Secretary, W. B. Roberts.
 Treasurer, W. B. Roberts.
 Gen'l mgr. and pur. agt., Willis Todd, Omaha.
 Process manufacture, Tenney, coke and oil.
 Price coal per ton, delivered, \$7.60.
 Price oil per gal., delivered, 4.25c.
 Av. candle power, 18.

Annual production, oil gas, 3,000,000 c. f.
 Total gas holders capacity, 10,000 c. f.
 Miles of mains, 7.
 Street main pres., max., 3 in.
 Annual sales, approx., 3,000,000 c. f.
 Pop. dist. supplied, 2,000; of city, 3,000 (est.).
 No. consumers and meters, 200.
 Price of gas: Light, net, \$1.50.
 Ranges, 130; water heaters, 12.
 Supplies Osceola.

ELECTRICAL DEPARTMENT.

Voltage: Incand., 110.

City lighting contract: Moonlight schedule.

Commercial lighting: No. arcs, 9; No. incand., 65.

Price current per kw. hr., gross, 12c. No discount.

Power circuits: No. motors, 12; price per hr., 10c.

Cost of station boiler coal, per ton, \$2.50.

Oskaloosa Light and Fuel Co., Oskaloosa.

RRs.: C., B. & Q.; C., R. I. & P.; Iowa Cen. Ex.: Ad.: Am.

Controlled by Illinois Traction System, Champaign, Ill.

Capital stock, \$150,000.

Bonds, \$125,000; due 1921; interest, 5 p. c.

President, W. B. McKinley.

Secretary, E. A. Macnutt.

Treasurer, Geo. M. Mattis.

General mgr., H. E. Chubbuck.

Pur. agent, H. J. Vance.

Gen'l supt., J. H. Porter.

Engineer, F. W. Bedard.

Process manufacture, Lowe.

Price coke per ton, delivered, \$10.10.

Price coal per ton, del'd, \$6.

Price oil per gal., 7c.

Candle-power, 16.

Calorific value, 565 B. t. u.

Annual production, 24,336,500 c. f.

Total gas holders capacity, 45,000 c. f.

Holder pressure, 4.5 in.

Max. day's send out, 90,000 c. f.

Miles of mains, approx., 13.54.

Street main pressures, max., 4.2 in.; min., 3.5 in.

Annual sales, approx., 19,874,800 c. f.

Gas unaccounted for, 18 p. c.

Pop. city, 10,500 (1915); of dist. supplied, 8,500.

No. consumers, 1,082.

No. meters, reg., 992; prepay, 90.

Price gas: Light and Fuel, gross \$1.50; net \$1.35; 4,000 c. f. or more, \$1.50 gross; \$1.25 net.

Ranges in use, 1,063; heaters, 50; water heaters, 179.

Supplies Oskaloosa.

Ottumwa Gas Co., Ottumwa.

RRs.: C., B. & Q.; C., M. & St. P.; C., R. I. & P.; Wabash. Ex.: Ad.; Am.; Pac.

Operated by United Light & Rys. Co.

Capital stock auth., \$600,000; com., \$300,000.

President, Richard Schaddelee.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street

PHILADELPHIA, PA.

Vice-pres., C. M. Hurd.
 Secretary and treas., L. H. Heinke.
 Mgr. and pur. agt., A. J. Goss.
 Superintendent of dis., R. L. Tunnall.
 Engineer, T. J. Weber.
 New bus. mgr., A. J. Goss.
 Process manufacture, Coal and Lowe.
 Candle-power, 17. Calorific value, 600 B. t. u.
 Total gas holder capacity, 500,000 c. f.
 Gas holder pressure, 6 in.
 Max. day's send out, 435,127 c. f.
 Miles of mains, approx. (3-in. basis), 64.85.
 Street main pressures, max., 5 in.; min., 3 in.
 High pressure mains, miles, 1.5; pressure, 5 lbs.
 Annual sales, approx., 119,516,000 c. f.
 Pop. dist. supplied, 20,000; of city, 22,012.
 No. consumers, 3,988.
 No. meters, reg. and prepay., 3,988.
 Price gas: Light and Fuel, gross, \$1.20; net, \$1.10, 1st 1,000 c. f.; \$1.08, 2d 1,000 c. f.; \$1.05 next 2,000 c. f.; \$1 for all in excess of 1st 4,000 c. f. Prepay, \$1.15 net. Readiness to serve rate; 1st 25,000 c. f., 80c.; next 25,000 c. f., 70c.; next 50,000 c. f., 65c.; next 500,000 c. f., 60c.; all in excess, 55c. gross.

Supplies Ottumwa.

Perry Gas Works, Perry.

RRs.: C., M. & St. P.; Minn. & St. L.; Inter-Urban. Ex.: Ad.; W. F.

Investment, \$90,000.
 Owner, Charles H. Foy.
 Manager and pur. agent, R. B. Ingle.
 Con. engineer, Thos. D. Miller.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$7.50.
 Price of oil per gal., 3.25c.
 Calorific value, 550 B. t. u.
 Annual production: Coal-gas, 16,500,000 c. f.; water-gas, 2,000,000 c. f.
 By-products made: Coke, 1,100 tons; tar, 17,000 gals.
 Total gas holders capacity, 50,000 c. f.
 Holder pressure, 3.5 in.
 Max. day's send out, 75,000 c. f.
 Miles of mains, approx., 14.
 Street main pres., max., 3.5 in.; min., 3 in.
 Annual sales, approx., 18,500,000 c. f.
 Gas unaccounted for, 8 p. c.
 By-products sold: Coke, 550 tons; tar, 17,000 gals.
 Pop. dist. supplied, 5,000; of city, 4,630 (1910).
 No. meters, reg., 700; prepay., 400.
 No. consumers, 1,100.
 Price of gas: \$1.75 first 2,500 c. f.; 2,500 c. f. 4,000 c. f., \$1.65; 4,000 c. f. to 6,000 c. f., \$1.55; 6,000 c. f. to 8,000 c. f., \$1.40; 8,000 c. f. to 20,000 c. f., \$1.25; all over 20,000 c. f., \$1.05. Penalty, 5c., 10 days. Min. charge, 75c. per 1,000 c. f. [Injunction issued by Fed. Court restraining enforcement of ordinance rate, which is as fol-

lows: 95c. per 1,000 c. f. with 75c. readiness-to-serve charge and penalty 10 p. c., 10 days.]

Ranges, 900; heaters, 350; water heaters, 300.
 No. commercial gas arc lamps, 75.
 Supplies Perry.

Red Oak Gas Light Co., Red Oak.

RR.: C., B. & Q. Ex.: Ad.

Controlled by Continental Gas & Elec. Corp., Cleveland, O.
 Capital stock, auth., \$250,000; issued, \$90,800.
 Bonds, \$71,000; due 1920 and 1934; int., 6 p. c.
 President, F. A. Kidder.
 Vice-president, W. H. Abbott.
 Secretary, H. B. Abels.
 Treasurer, C. S. Eaton.
 General manager, W. H. Abbott.
 Pur. agent, W. H. Abbott, 505 Karbach Bldg., Omaha, Neb.
 Superintendent, F. A. Kidder.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$10.
 Price oil per gallon, delivered, 5c.
 Average candle-power, 18.
 Calorific value, 580 B. t. u.
 Annual production, 14,000,000 c. f.
 Max. day's send out, 35,000 c. f.
 Total gas holder capacity, 30,000 c. f.
 Holder pressure, 5 in.
 Miles of mains, approx., 16.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 12,000,000 c. f.
 Gas unaccounted for, 7 p. c.
 Pop. dist. supplied, 5,590; of city, 4,830.
 No. consumers and meters, 1,000.
 Price gas: Light and Fuel, gross, \$1.75; net, \$1.65.
 Ranges in use, 690; heaters, 30; water heaters, 100.
 No. commercial gas arc lamps, 50.
 Supplies Red Oak.

Sheldon Gas Co., Sheldon.

RRs.: C. & N. W.; C. M. & St. P.; Ill. Cen. Ex.: Am.: W. F.

(Began operations December, 1917.)
 Capital stock, auth. and issued, \$40,000.
 Bonds, \$30,000; due 1936; interest, 6 p. c.
 President, D. A. Frerichs.
 Secretary and treasurer, William Glenn.
 Gen'l mgr. and pur. agt., Wm. Glenn.
 Superintendent, William Glenn.
 New business manager, Hugh Glenn.
 Process manufacture, Lowe.
 Annual production, est., 12,000,000 c. f.
 Price of coal per ton, delivered, \$11.
 Oil per gallon, 6.5c.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 20,000 c. f.; pressure, max., 4 in.
 High pressure mains, 7 miles; pressure, 13½ lbs.
 Max. day's send out, 40,000 c. f.
 Gas unaccounted for, 6 p. c.
 Annual sales, estimated, 12,000,000 c. f.
 Pop. of city, est., 4,000; of dist. supplied, 3,500.

MONEL METAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. These are high grade experimental meters for use with corrosive gases, such as oxygen gas.

No. consumers, 450.
No. meters, reg., 416.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
Gas appliances in use: Ranges, 200; heaters, 40; water heaters, 40.
No. commercial gas arc lamps in use, 30.
Supplies Sheldon.

Peoples Gas Co., Shenandoah.

RRs.: C., B. & Q.; Wabash. Ex.: Ad.; Pac.

Controlled by Continental Gas & Electric Corp., Cleveland, O.
Capital stock, pref., \$28,000; com., auth., \$222,000; issued, \$96,000.
Annual div., pref., 6 p. c.
Bonds \$77,000; due 1923 and 1934; int., 5 and 6 p. c.
President, Elbert A. Read.
Vice-pres., W. H. Abbott.
Secretary, H. B. Abels.
Treasurer, C. S. Eaton.
Pur. agent, W. H. Abbott, 505 Karbach Bldg., Omaha, Neb.
Supt. and new bus. mgr., R. J. Ritchie.
General manager, W. H. Abbott.
Process manufacture, Lowe.
Price coke per ton, delivered, \$10.
Price oil per gal., delivered, 5c.
Candle-power, 22. Calorific value, 600 B. t. u.
Annual production, 16,130,000 c. f.
Max. day's send out, 110,000 c. f.
Total gas holders capacity, 100,000 c. f.
Holder pressure, 7 in.
Miles of mains, approximate, 16.
Street main pressures, max., 7 in.; min., 3 in.
Annual sales, approx., 15,000,000 c. f.
Gas unaccounted for, 7 p. c.
Pop. dist. supplied, 5,626; city, 4,976 (1910).
No. consumers, 850.
No. meters, reg., 650; prepay., 200.
Price gas: Light, gross, \$1.75; net, \$1.58. Fuel, gross, \$1.75; net, \$1.00.
Ranges in use, 600; heaters, 90; water heaters, 220.
No. commercial gas arc lamps, 150.
Supplies Shenandoah.

Sioux City Gas and Electric Co., Sioux City.

RRs.: C. & No. W.; C., M. & St. P.; C., B. & Q.; Ill. Cen.; G. N. Ex.: Am.; Ad.; G. N.

(For capitalization and bonds, see Appendix.)
President, L. L. Kellogg.
Secretary, H. A. Hoskins.
Treasurer, James Ball.
Comptroller, G. W. Curran.
Manager, L. L. Kellogg.
Asst. mgr., Wm. J. Bertke.
Purchasing agent, J. A. Pearson.
Process manufacture, Lowe.
Miles of mains, approx., 126.6.
Annual sales, approx., 466,663,000 c. f.
Est. pop. dist. supplied, 60,774; of city, 65,774.
No. consumers, 13,908.
No. meters, reg., 8,195; prepay., 5,713.
Price gas: Light and Fuel, gross \$1.10; net \$1.

Sliding scale: 1st 10,000, \$1.10 gross, \$1 net; next 20,000, \$1.90c.; next 20,000, 90c.-80c.; over 50,000, 80c.-70c.

Ranges, 11,910; heaters, 3,590; water heaters, 3,149.

No. commercial gas arc lamps, 1,253; reflexoliers, 3,560.

Supplies Sioux City.

ELECTRICAL DEPARTMENT.

System operated: 60 cycle 220-110 volt, single phase commercial; 2 and 3 phase 60 cycle and 500 volt D. C. power.

Generating capacity, 3,100 kw.

Voltage: 220-110 commercial; power, 110-220-440-2,300 volt.

City lighting contract: Hours lighted per year: Arc and incand., 4,000.

No. public arcs, 100; novalux, 23; 500 watt.

No. public incand., 1,442; 60 watt Tungsten.

Commercial lighting: No. incand., 108,323; 50 watt.

Price current per kw. hr., lighting, 9.5c. to 3.5c. with discount.

Power circuits: Price per kw. hr., 5c. to 2c.

Output of station, kw. for year, 10,634,209.

Generating power used, Steam.

No. electric meters, 5,293.

Storm Lake Gas Co., Storm Lake.

RRs. C., M. & St. P.; Ill. Cen.; Minn. & St. L. Ex.: Am.; Ad.

Capital stock, auth., \$25,000; issued, \$24,200.

President, Robert Bleakley.

Secretary, L. M. Nusbaum.

Treasurer, L. J. Metcalf.

Supt. and pur. agent, O. J. Merica.

Manager, W. C. Edson.

Engineer, J. R. Long.

Superintendent, O. J. Merica.

Process manufacture, Water Gas (Tenney)

Price coke per ton, delivered, \$7.15; oil per gal., 3.18c.

Candlepower, 20.

Calorific value, 600 B. t. u.

Annual prod., 2,500,000 c. f.

Gas holder capacity, 2,000 c. f.

Holder pressure, 2 in.

Miles of mains, approx., 9.

Street main pressure, max., 6 in.; min., 2 in.

Annual sales, approx., 2,500,000 c. f.

Pop. of city, 2,428; dist. supplied, 2,000.

No. consumers, 300.

No. meters, 270.

Price gas: Light and Fuel, \$1.50.

Gas ranges in use, 200; water heaters, 30.

Supplies Storm Lake.

(No 1918 report.)

Vinton Gas Co., Vinton.

RRs.: C., R. I. & P. Ex.: Am.

Capital stock, \$40,000.

Annual dividend, 8 p. c.

President, E. T. Bryant.

Vice-pres., B. M. Bills.

Secretary, Martin Kennedy.

Treasurer, W. S. Goodhue.

Purchasing agent, Martin Kennedy.

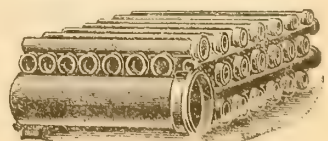
General manager, Martin Kennedy.

WE HAVE LONG MADE A SPECIALTY OF

CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO. : PHILADELPHIA, PA.



New bus. mgr., W. T. Goodwin.
 Process manufacture, Water (Tenney).
 Price coke per ton, delivered, \$10.75; coal,
 \$5; oil, per gal., 7c.
 Candle-power, 19.
 Annual production, 12,000,000 c. f.
 Gas holder capacity, 75,000 c. f.
 Max. day's send out, 60,000 c. f.
 High pressure mains, miles, 9; pressure, 2
 lbs.
 Annual sales, approx., 12,000,000 c. f.
 Pop. city, 3,996 (1916); of dist. supplied,
 3,100.
 No. consumers, 700.
 No. meters, reg., 550; prepay., 150.
 Price gas: Light and Fuel, gross, \$1.75; net,
 \$1.65; over 4,000 c. f. per mo., gross,
 \$1.60; net, \$1.50.
 Gas appliances in use: Ranges, 580; heaters,
 135; water heaters, 180.
 No. commercial gas arc lamps in use, 100.
 Supplies Vinton.

Iowa Gas and Electric Co., Washington..

RRs.: C., B. & Q.; C., M. & St. P.; C., R. I. &
 P. Ex.: Am.; Ad.; W. F.

Capital stock auth., \$600,000.
 Bonds, \$225,000; due 1934; int., 6 p. c.
 President, Geo. S. Carson.
 Secretary, Thos. B. Carson.
 Treasurer, Geo. S. Carson.
 Purchasing agent, H. F. Darbyshire.
 Manager, H. F. Darbyshire.
 Superintendent, H. F. Darbyshire.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$6.10.
 Price oil per gallon, 2.89c.
 Candle-power, 18.
 Annual production, 20,000,000 c. f.
 Total gas holders capacity, 83,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 77,500 c. f.
 Miles of mains, approx., 19.
 Street main pressures, max., 3.8 in.; min.,
 2.5 in.
 Booster mains, ½ mile; pressure, 2 lbs.
 Annual sales, approx., 18,200,000 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. city, 4,525; of dist. supplied, 4,200.
 No. consumers, 1,170.
 No. meters, reg., 766; prepay., 410.
 Price gas: Fuel and Light, \$1.30.
 Ranges in use, 860; heaters, 135; water heat-
 ers, 150.
 No. commercial gas arc lamps, 70.
 Supplies Washington.

ELECTRICAL DEPARTMENT.

System operated, A. C., single phase, 60 cycles.
 Power, A. C., 2 phase, 60 cycle.
 Generating capacity: Lighting and power,
 300 kw.
 Voltage: Incand., 110; power, 110-220.
 Commercial lighting: No. incand., 6,000.
 Price current per kw. hr., gross, 13c. for 1st
 30 kw.; balance at 8c.; dom., 13c. 1st 15
 kw.; balance at 8c.
 Power circuits: No. motors, 139.

Price per kw. hr., 1st 50 kw., 10c.; next 50,
 7c.; next 150, 6c.; next 250, 5c.; all over
 500, 4.5c.

Output of station kw. hrs. for year, 330,000.
 Generating power used, Steam; rated h. p.,
 300.

Cost of station boiler coal, per ton, \$2.85.
 (No 1918 report.)

Citizens Gas and Electric Co., Waterloo.

RRs.: C., R. I. & P.; C. Gt. W.; Ill. Cen.; W.,
 C. F. & No. Ex.: Am.; W. F.

Controlled and operated by The American Gas
 Co.

(For capitalization and bonds, see Appendix.)
 President, Morris W. Stroud.

Vice-pres. and gen. mgr., S. P. Curtis.

Secretary, H. B. Maynard.

Treasurer, J. B. Townsend, 3d.

Local manager, Austin Burt.

Purchasing agent, F. D. Wharton.

Engineer, R. C. Cornish.

Elec. engineer, H. M. Blake.

Process manufacture, Lowe.

Calorific value, 600 B. t. u.

Annual prod., water-gas, 325,958,000 c. f.

By-products made: Tar, 194,063 gals.

Total gas holders capacity, 775,000 c. f.

Max. day's send out, 1,135,000 c. f.

Street mains, approx., 128 miles.

High pressure mains, miles, 18; pressure, 10
 lbs.

Annual sales, approx., 297,827,000 c. f.

Gas unaccounted for, 7.2 p. c.

By-products sold: Tar, 281,913 gals.

Pop. dist. supplied, 42,000; of city, 26,693.

No. consumers, 10,831.

No. meters, reg., 6,105; prepay., 4,725.

Price gas: Light and Fuel, gross, \$1.10; net,
 \$1 1st 5,000; next 5,000, 95c.; next 40,000,
 80c.; next 50,000, 75c.; next 100,000, 70c.;
 next 200,000, 65c.; next 600,000, 60c.; next
 1,000,000, 55c.

No. public Welsbach lamps, 565.*

No. hours lighted per year, 4,000.

Price includes repairs, care, lighting and ex-
 tinguishing.

Ranges in use, 11,639; water heaters, 1,678.

No. commercial gas arc lamps, 395.

Supplies Waterloo and Cedar Falls.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.;
 power, A. C. 3 phase, 60 cycles.

Generating capacity: Lighting and power,
 4500 kw.

Voltage: Primary, 2,300; at arc, 70; incand.,
 110; power, 220.

City lighting contract: Hours lighted per
 year, 4,000.

No. public incand., 169; 80 watt.

Company also supplies current for lighting
 279 5-light, 40-watt ornamental street
 posts. Price per kw. hr., 4c. net.

Commercial lighting: No. arcs, 279; No. in-
 cand., 93,000.

Price current per kw. hr., gross 11c., 7c. and 5c.
 Discount, 0.5c.

Other lamps, 200 series nit. 300 watt.

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

Power circuits; No. motors, \$65; price per kw. hr. Sec. 5c. and 2.5c. net. Discount, 0.5c.

Power circuits; No. motors, \$59; price per output of station, kw. hrs. for year, 11,131,200. Generating power used. Steam: rated h. p., 3,100.

Supplies Waterloo only.

Waverly Gas Co., Waverly.

RRs.: C. R. I. & P.; C. Gt. W.; Ill. Cen.; W., C. F. & No. Ex.: Am.; W. F.

Capital stock, auth. and issued, \$35,000.

President, E. A. Dawson.

Vice-pres., A. C. Ward.

Sec'y and treas., Nat P. Ellis.

Pur. agent and manager, Nat P. Ellis.

Superintendent, Ray Egan.

New business manager, Nat P. Ellis.

Process manufacture, Water (Tenney).

Price coke per ton, \$10.50.

Price coal per ton, delivered, \$4.80.

Price oil per gallon, 6.15c.

Candle-power, 18.

Annual prod. approx., 11,640,000 c. f.

By-products made: Tar, 10,000 gals.

Gas holder capacity, 45,900 c. f.

Holder pressure, 5 in.

Max. day's send out, 50,000 c. f.

Miles of mains, 9.68.

Street main pressures: max., 5 in.; min., 3 in.

High pressure mains, 9.68 miles; pressure, 4 lbs.

Annual sales, approximate, 11,159,600 c. f.

Gas unaccounted for, 4.13 p. c.

By-products sold: Tar, 10,000 gals.

Pop. city, 3,547; dist. supplied, 3,000.

No. consumers, 634.

No. meters, reg., 455; prepay., 179.

Price gas: Light, gross, \$1.50; net, \$1.40.

Fuel, gross, \$1.75; net, \$1.65.

No. public gas lamps, 35, including 5 Humphrey incand. lamps.

Contract includes repairs, care, lighting and extinguishing.

No. hours each lamp is lighted per year, 1,450.

Gas appliances in use: Ranges, 450; heaters, 30; water heaters, 65.

No. commercial gas arc lamps in use, 35.

Supplies Waverly.

Webster City Gas Co., Webster City.

RRs.: C. & No. W.; F. D., D. M. & S.; Ill. Cen. Ex.: Am.

Capital stock, pref., auth., \$60,000; issued, \$21,000. Com. auth. and issued, \$40,000.

Annual dividend, pref. 7 p. c.

Bonds, \$43,000; due 1928; int., 6 p. c.

President, A. L. Reed.

Secretary, M. F. Goodbody.

Treasurer, M. F. Goodbody.

Purchasing agent, M. F. Goodbody.

General manager, M. F. Goodbody.

Engineer, Art Traynor.

Superintendent, Joseph L. Berg.

Process manufacture, Lowe (W. G. Con. Co.).

Candle-power, 21.

Calorific value, 600 B. t. u.

Price of coal per ton, delivered, \$12.50; oil per gal., 7c.

Annual production, 13,500,000 c. f.

Gas holder capacity, 30,000 c. f.

Holder pressure, 4 in.

Max. day's send out, 80,000 c. f.

Miles of mains, approx., 11.

Street main pressure, max., 4 in.

Annual sales, approx., 13,500,000 c. f.

Pop. city, 6,000; of dist. supplied, 5,000.

No. consumers, 1,007.

No. meters, reg., 700; prepay., 357.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

No. gas ranges in use, 800; water heaters, 200.

Supplies Webster City.

Woodbine Light and Heating Co., Woodbine.

RRs.: C. & No. W.; Ill. Cen. Ex.: Am.

Capital stock, auth., \$25,000; issued, \$10,000.

President, Lewis Haas.

Secretary, A. J. Coe.

Treasurer, S. R. DeCou.

Manager, C. W. Reed.

Process manufacture, Tenney (Coke and Gas Oil).

Miles of mains, approx., 4; 1.25 to 2 in.

Pop. town supplied, 1,538. No meters, 150.

Price gas, per 1,000 c. f., \$1.50.

No. public lamps, Miner, 39. Price per mo., \$78.

Price includes repairs, care, lighting and extinguishing.

Lamps lighted until 11 P. M.

Supplies Woodbine.

KANSAS

Total population, 1,840,707.

The Home Gas Co., Abilene.

RRs.: A., T. & S. F.; C., R. I. & P.; U. P. Ex.: Pas.; W. F.

Capital stock, \$75,000.

President, C. L. Brown.

Secretary and treas., R. J. Long.

Purchasing agent, R. J. Long.

Gen'l manager, R. J. Long.

Engineer and asst. mgr., Dave Eisenhower.

Superintendent, R. J. Long.

Process manufacture, Water Gas (Tenney).

Price of coke per ton, delivered, \$13.40.

Price oil per gal., delivered, 5.5c.

Candle-power, 18. Calorific value, 600 B. t. u.

Annual production, 9,000,000 c. f.

Gas holder capacity, 60,000 c. f.

Holder pressure, max., 8 in.

Max. day's send out, 30,000 c. f.

Miles of mains, approx., 20.

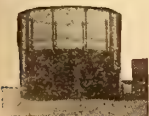
Street main pressures, max., 1.5 lbs.; min., 1.5 lbs.

HOLDER PAINTS:—

Our line includes No. 31 Williamsport Red.

The standard holder paint of many of the largest companies. No. 1908 Green on holder frames makes a pleasing contrast.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York



Annual sales, approx., 8,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 4,118 (1910), now est., 4,800;
 pop. of dist. supplied, 4,000.
 No. consumers and meters, 590.
 Price of gas to consumers: Light and Fuel,
 gross \$1.50; net \$1.40; Fuel, gross \$1.10;
 net \$1.
 No. gas ranges in use, 500; heaters, 75; water
 heaters, 12.
 Supplies Abilene.

Concordia Gas Co., Concordia.

RRs.: C., B. & Q.; A., T. & S. F.; Mo. Pac.;
 U. P. Ex.: Ad.; W. F.; Pac.

Controlled by Eakin-Donelan Co.
 Capital stock, pref., auth., \$85,000; issued,
 \$70,000; com., auth., \$85,000; issued,
 \$70,000.

President, L. R. Eakin.
 Secretary and treas., J. J. Donelan.
 Engineers, Eakin-Donelan Co.
 Purchasing agent, Eakin-Donelan Co.
 Gen. mgr., J. J. Donelan.
 Superintendent, J. H. Dunbar.
 New business mgr., John Starkey.
 Process manufacture, Water Gas (Tenney).
 Candle-power, 20. Calorific value, 610 B. t. u.
 Annual production, 11,000,000 c. f.
 Gas holder capacity, 60,000 c. f.
 Holder pressure, tanks, max., 75 lbs.
 Max. day's send out, 48,000 c. f.
 High pressure mains, miles, 12. Pressure, 1.5
 lbs.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. of dist. supplied, 4,900; of city, 4,415.
 No. consumers, 630.
 No. meters, reg., 630.
 Price gas: Light and Fuel, gross, \$1.50; net,
 \$1.40.
 Gas ranges in use, 590; heaters, 95; water
 heaters, 162.
 No. commercial gas arc lamps in use, 85.
 Supplies Concordia.

Emporia Gas Co., Emporia.

RRs.: A., T. & S. F.; Mo., Kan. & Tex. Ex.:
 Am.; W. F.

Controlled by Howe, Snow, Corrigan &
 Bertles, Grand Rapids, Mich.
 Capital stock, auth., \$500,000.
 Bonds, \$125,000; due 1952; int., 6 p. c.
 President, C. H. Corrigan.
 Sec'y and treas., Burton A. Howe.
 Pur. agent, C. H. Fellows.
 Manager, C. H. Fellows.
 Engineer, F. A. Willard.
 New bus. mgr., C. H. Fellows.
 Process of manufacture, Lowe and Coal.
 Annual prod., coal gas, 17,000,000 c. f.; water
 gas, 4,000,000 c. f.
 Price coke per ton, delivered, \$8; oil per
 gal., 65c.
 Candle-power, 16.
 Calorific value, 590 B. t. u.
 By-products made: Coke, 1,020 tons; tar, 20,-
 000 gals.

Gas holder capacity, 80,000 c. f.
 Holder pressure, 4.5 in.
 Max. day's send out, 90,000 c. f.
 Miles of mains, approximate, 16.3.
 Street main pressures, max., 4.5 in.; min.,
 3.5 in.

Annual sales, approx., 21,600,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. city supplied, 9,058.
 No. consumers and meters, 1,000.
 Price gas: Light and fuel, gross, \$1.50 net.
 \$1.40 for 1st and 2d 1,000 c. f.; next 3,000
 c. f., \$1.30-\$1.20; next 5,000 c. f., \$1.10-\$1;
 next 10,000 c. f., \$1.00c.; next 5,000 c. f.,
 \$1.80c.; next 25,500 c. f., \$1.75c.
 Ranges in use, 730; heaters, 25; water-heat-
 ers, 300.
 No. commercial gas arc lamps, 100.
 Supplies Emporia.

Great Bend Gas Co., Great Bend.

RRs.: A., T. & S. F.; Mo. Pac. Ex: Pac.;
 W. F.

(Eakin-Donelan Co. have franchise. Plant
 not constructed.)

United Water, Gas and Electric Co., Hutchinson.

RRs.: A., T. & S. F.; C., R. I. & P.; Mo. Pac.
 Ex.: U. S.; Pac.; W. F.

Controlled by Cities Service Co.
 Operated by Doherty Organization.
 Capital stock, pref., auth., \$600,000; issued,
 \$350,000; com. auth., \$1,400,000; issued
 \$700,000.
 Annual dividend, pref., 6 p. c.
 Bonds, \$991,000; int., 5 p. c.; \$212,500; int.,
 4 p. c.
 President, H. L. Doherty.
 Vice-pres., A. C. Malloy.
 Secretary, Walter Grundy.
 Treasurer, Walter Grundy.
 General manager, J. F. Springfield.
 Process manufacture, Lowe.
 Miles of mains, approx., 15.
 Annual sales, approx., 500,000 c. f.
 Pop. dist. supplied, 21,000; of city, 16,364.
 Price gas: Light and Fuel, \$1.25.
 Supplies Hutchinson, South Hutchinson and
 Nickerson.
 (Natural gas competition. Artificial gas sold
 only to hold franchise.)

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 Arc system, Ft. Wayne.
 Generating capacity, 7,000 kw.
 No. public ares, 142.
 No. commercial ares, 64.
 No. consumers, 5,552.
 Current, 5c. per kw. hr.
 Power used, Steam.
 Output of station, kw. hrs. total for year,
 18,150,925.
 Cost boiler fuel: Oil, per bbl., \$1.44; natural
 gas, 12.5c.; coal, per ton, \$3.95.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard Garage Heater of North America.

Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Junction City Gas Co., Junction City.

RRs.: Mo., Kan. & Tex.; U. P. Ex.: Am.; Pac.

Capital stock, pref., auth., \$85,000; issued, \$70,000; common, auth., \$85,000; issued, \$70,000. Annual div. pref., 7 p. c.

President, L. R. Eakin.

Secretary and treas., E. Kinney.

Purchasing agent, E. A. Potter, 704 Rector Bldg., Chicago.

General mgr., H. A. Daum.

New business mgr., J. Graham.

Process manufacture, Water Gas (Tenney).

Price of coal per ton, delivered, \$4.50; oil per gal., 4.75c.

Candle-power, 20. Calorific value, 600 B. t. u.

Annual production, 18,000,000 c. f.

Gas holder capacity, 60,000 c. f.

Holder pressure, steel tanks, max., 75 lbs.

Max. day's send out, 80,000 c. f.

High pressure mains, miles, 15; pressure, 2.5 lbs.

Pop. dist. supplied, 8,500; of city, 5,598.

No. consumers, 650.

No. meters, reg., 600; prepay., 50.

Price gas: Light and Fuel, gross, \$1.25.

Ranges, 575; heaters, 50; water heaters, 172.

No. commercial gas arc lamps in use, 50.

Supplies Junction City.

The Manhattan Gas & Electric Co., Manhattan.

RRs.: C., R. I. & P.; U. P. Ex.: Pac.; Am.

(Successor to Manhattan Gas Co. and Manhattan Ice, Light and Power Co.)

Capital stock, pref., auth., \$200,000; issued, \$80,000; com., auth. and issued, \$300,000.

Annual dividend, pref., 7 p. c.; com., 7 p. c.

Bonds, \$275,000; due 1927; int., 6 p. c.

President, E. A. Potter.

Secretary, H. D. Hayden.

Treasurer, Frank R. Grover.

Purchasing agent, E. A. Potter.

Engineer, Charles Coffman.

Superintendent, H. A. Daum.

Process manufacture, Lowe (Tenney).

Price coke per ton, delivered, \$13.15; oil, per gal., 4.1c.

Candle-power, 16.

Calorific value, 550 B. t. u.

Annual prod., approx., 29,033,000 c. f.

Gas holder capacity, 40,000 c. f.

Compression tanks, capacity, 70,000 c. f.

Max. day's send out, 150,000 c. f.

Miles of mains, approx., 13 (high pressure); pressure, 5 lbs.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 25,085,000 c. f.

Gas unaccounted for, 13 p. c.

Pop. of city supplied, est., 10,500.

No. consumers, 900.

No. meters, reg., 846; prepay., 54.

Price gas: Light and Fuel, gross, \$1.40; net, less than 3,000 c. f., \$1.40; 3,000 c. f. and over, \$1.25.

Ranges, 875; heaters, 50; water heaters, 475.

No. commercial gas arc lamps in use, 15.

Supplies Manhattan.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, approx., \$300,000.

System: A. C.

Generating capacity: Lighting, 850 kw.

City lighting contract: Hours lighted, all night.

No. public incand., 290; 100 watt. Price per year, \$18.

Price current per kw. hr., 1st 1½ kw. per mo. per room of 50 watts, 10c.; balance at 6c.

Power circuits: No. motors, 40. Price per kw. hr., 6c. Disc., 10 p. c. to 60 p. c.

Output of station, kw. hrs. for year, 2,402,910.

Generating power used, rated, 1,043,306 kw.

Cost of station boiler coal per ton, \$5.

The Salina Light, Power and Gas Co., Salina.

RRs.: A., T. & S. F.; C., R. I. & P.; U. P.; Mo. Pac. Ex.: Pac.; W. F.

Controlled by Cities Service Co.

Capital stock, \$500,000.

Bonds, \$200,000; due 1931; int., 5 p. c.

President, J. F. Springfield.

Vice-pres., F. W. Frueauff.

2d vice-pres., M. L. Derge.

Gen'l mgr. and treas., J. E. Harsh.

Secretary, J. C. York.

Process manufacture, Coal.

Gen'l mgr. and treas., M. L. Derge.

Price coal per ton, delivered, \$6.43.

Gas holder capacity, 75,000 c. f.

Max. day's send out, 113,000 c. f.

Miles of mains, approximate, 20.4.

Street main pres., max., 3.8 in.; min., 3 in.

Annual sales, approx., 26,518,600 c. f.

Gas unaccounted for, 8.2 p. c.

Population dist. supplied, 3,000; of city, 9,683.

No. consumers, 1,132.

No. meters, 1,134.

Price gas: Light, gross, \$1.75; net, \$1.50. Fuel, Doherty rate.

Ranges, 1,112; heaters, 51; water heaters, 464.

Supplies Salina.

ELECTRICAL DEPARTMENT.

System operated: Arc, series A. C., 6.6 amp. encl.; power, 60 cycle, 3 phase.

Generating capacity: Lighting and power, 2,050.

Voltage: Incand., 108-216; power, 216.

City lighting contract: Arc and incand., all night schedule.

No. public arcs, 132; 6.6 amp. Price per year, \$80.

No. public incand., 386; 50-400 watts. Price per year, \$30.

Price current per kw. hr., gross, 10c. 1st 50 kw. hr.; 5c. all over.

Other lamps used: Nernst and Tungstens.

Power circuits: Price per kw. hr., 10c. Disc., 10 to 80 p. c.

Output of station, kw. hrs., total for year, 4,524,139.

Generating power used, Steam; rated h. p., 850.

Cost of station boiler oil per bbl., 78c.

Winfield Gas Co., Winfield.

(Succeeded by The Winfield Natural Gas Co.)

HUNT COAL AND COKE VALVES are made in a variety of forms—simplex, duplex, Seaton or "S," Briggs, etc.—in designs and materials especially adapted to gas works and coke oven requirements. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

KENTUCKY

Total population, 2,386,866.

Kentucky Solvay Coke Co., Inc., Ashland.

RRs.: C. & O.; A. C. & I.

Capital stock, auth., \$5,000,000; issued, \$2,500,000.

President, R. G. Hazard.

Vice-pres., E. C. Witherby.

Treasurer and sec'y, J. G. Hazard.

General manager, R. B. Parker.

Superintendent, W. W. Stevenson.

Pur. agent, J. A. Whaling.

Semet-Solvay Coke Ovens, 108.

Dimensions: Length, 36 ft.; width, 21 in.; height, 12 ft.

Mfrs. of furnace, foundry and domestic coke and by-products.

Surplus gas sold for industrial use.

No gas sold for city use.

Miles of mains, approx., 12.

Annual sales, approx., 19,567,300 c. f.

Pop. of city, 5,400.

No. consumers and meters, 915.

Price of gas, Light and Fuel, \$1.25.

Kentucky Public Service Co., Frankfort.

RRs.: L. & N.; C. & O.; Fkfrt. & Cin. S. Bs. from Louisville. Ex.: Ad.

(Gas plant leased to Frankfort Natural Gas Co. See report in Natural Gas Department.)

Georgetown Water, Gas, Electric and Power Co., Georgetown.

RRs.: Fkfrt. & Cin.; Cin., N. O. & Tex. Pac.; So. Ex.: Ad.; So.

Capital stock, \$200,000.

Bonds, \$100,000; due 1921; interest, 5 p. c.

President, R. W. Nelson.

Secretary, D. J. Hauss.

Treasurer, W. E. Gallagher.

Purchasing agent and gen. mgr., S. L. Allen.

Superintendent and engineer, S. L. Allen.

Process manufacture, Coal.

Price coal per ton, delivered, \$2.95.

Candle-power, 18.

Annual prod., 4,000,000 c. f.

Total gas holders capacity, 10,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 15,000 c. f.

Miles of mains, approx., 4.

Street main pressures, max., 5 in.; min., 3 in.

Annual sales, approx., 3,200,000 c. f.

Pop. city, 4,533 (1910); dist. supplied, the same.

No. consumers and meters, 150.

Price gas: Light, gross \$1.65; net, \$1.50. Fuel, gross \$1.37½; net \$1.25.

Ranges, 135; heaters, 30; water heaters, 15.

Supplies Georgetown.

Kentucky Public Service Co., Bowling Green.

RR.: L. & N. S. Bs.: E. & B. G. Packets. Ex.: Ad.

Controlled by Associated Gas & Electric Co. (For capitalization, bonds and officers, see Appendix.)

General manager, H. D. Fitch.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.75.

Candle-power, 16. Calorific value, 550 B. t. u.

Gas holder capacity, 120,000 c. f.

Max. day's send out, 91,900 c. f.

Miles of mains, approx., 11.

Street main pressure, max., 4 in.

Annual sales, approx., 22,158,000 c. f.

Gas unaccounted for, 15.9 p. c.

Pop. dist. supplied, 16,000; of city, 9,173.

Consumers and meters, 662.

Price gas: Light and Fuel, gross \$1.10; net \$1.

Water heaters in use, 182.

Supplies Bowling Green.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, 3 phase, 60 cycles.

Generating capacity, 1,250 kw.

Voltage: Incand., 110; power, 220.

City lighting contract: Hours lighted per year, 3,200.

Current sold to city at 3c. per kw. hr.

Price current, domestic, per kw. hr., gross 8c.

Commonwealth Power Railway & Light Co., Danville.

RRs.: Cin., N. O. & Tex. Pac.; So. Ex.: So.

For capitalization, bonds, etc., see Appendix.

President, A. G. Hodenpyl.

Sec'y and treas., Jacob Heckma.

Gen'l manager, F. J. Haas.

Process manufacture, Coal.

Price of gas coal per ton, del'd, \$5.63; coke, \$6.

Gas holder capacity, 70,000 c. f.

ELECTRICAL DEPARTMENT.

System operated: Power, 60 cycles, 3 phase.

Generating capacity: Lighting and power, 450.

Voltage: Arcs, 80; incand., 110; power, 220.

City lighting contract: Hours lighted, arcs, 4,000; incand., 3,200.

No. public arcs, 8; 350 watt. Price per year, \$90.

No. public incand., 181; 75 watt. Price per year, \$25.

Commercial lighting: No. incand., 4,500.

Price current per kw. hr., gross, 10c. Disc., 5 p. c.

Power circuits: No. motors, 34; price per kw. hr., 8c. Disc., 5 to 30 p. c.

Output of station: kw. for year, 496,000.

Power purchased from Lexington Utilities Co., Lexington, Ky.

As manufacturers of large lines of Hydraulic Equipment for Steel Work, we are kept in constant touch with the most advanced practice of today.

R. D. WOOD & CO., PHILA., PA.



Henderson Gas Works, Henderson.

RRs.: Ill. Cen.; L. & N.; L. H. & St. L. S. Bs.: Tenn. & O. R. Trans.; Ryman Line; Lee Line; Ferry to Evansville. Ex.: Am.; Ad.; So.

(Municipal plant.)

Mayor, W. I. Thompson.

Secretary, B. S. Morris.

Treasurer, Henderson National Bank.

Pur. agent and mgr., W. H. Rankin.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.77.

Candle-power, 17. Calorific value, 700 B. t. u.

Max. day's send out, 70,000 c. f.

Total gas holders capacity, 90,000 c. f.

Miles of mains, approximate, 14.

Street main pressures, max., 3.2 in.; min., 2 in.

Annual sales approx., 15,000,000 c. f.

Gas unaccounted for, 20 p. c.

Pop, dist. supplied, 8,000; of city, 11,452.

No. meters, reg., 650; prepay., 150.

No. consumers, 800.

Price gas: Light and Fuel, net, \$1.

Ranges in use, 400; heaters, 160; water heaters, 30.

Supplies Henderson.

ELECTRICAL DEPARTMENT.

Generating capacity: Lighting and power, 525.

City lighting contract: Hours lighted per year: Arc, all night every night.

No. public arcs, 222.

Commercial lighting: No. arcs, 100; No. incand., 10,000.

Price current per kw. hr., gross, 5 cts.

Power circuits: No. motors, 150; price per kw. hr., 5 cts. Disc. up to 40 p. c.

Output of station, kw. for year, 1,126,545.

Generating power used, steam; rated h. p., 830.

Cost of station boiler coal, per ton, 85c. delivered.

(No 1918 report.)

Kentucky Public Service Co., Hopkinsville.

RRs.: Tenn. Cen.; L. & N. Ex.: Am.; So.

Controlled by Associated Gas & Electric Co.

(For capitalization, bonds, officers, etc., see Appendix.)

Pur. agents, J. G. White, M'g't. Corp.

General manager, H. D. Fitch.

Superintendent, E. M. Wood.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.32.

Candle-power, 21. Calorific value, 550 B. t. u.

Max. day's send out, 46,700 c. f.

Total gas holders capacity, 30,000 c. f.

Miles of mains, approximate, 12.4.

Street main pressures, max., 3 in.; min., 2.5 in.

Annual sales, approximate, 10,942,000 c. f.

Gas unaccounted for, 14.1 p. c.

Pop. of city, 9,419; dist. supplied, the same.

No. consumers and meters, 889.

Price gas, gross, \$1.50; net, \$1.25.

Ranges in use, 487; water heaters, 95.

No. commercial gas arc lamps, 30.

Supplies Hopkinsville.

ELECTRICAL DEPARTMENT.

System operated: Series, incand., A. C.; 60 cycle single phase; power, 60 cycle, 3 phase.

Generating capacity: Lighting and power, 1,500 kw.

Voltage: Incand., 115; power, 220.

No. public incand., 25-600 c. p.; 101-400 c. p.; 50-80 c. p. Price per year, \$65, \$50 and \$20.

Price current per kw. hr., gross, 1st 25 kw. hr., 10c.; next 75 kw. hr., 8c.; next 100 kw. hr., 7c.; next 100 kw. hr., 6c.; all over 300 kw. hr., 3.5c. Min. charge, 75c.

Power, price per kw. hr., \$1.50 per h. p. max. demand, plus 1.5c. per kw. hr.

Cost of station boiler coal, per ton, \$3.05.

Louisville Gas and Electric Co., Louisville.

(Company now supplies Natural: see report in Natural Gas Dept.)

Kentucky Public Service Co., Owensboro.

RRs.: Ill. Cen.; L. & N.; L. H. & St. L. S. Bs.: L. & E. Packet; Lee Line. Ex.: Ad.: Am.; So.

Controlled by Associated Gas & Electric Co.

(For capitalization, bonds, officers, etc., see Appendix.)

General Manager, H. D. Fitch.

Pur. agents, J. G. White M'g't. Corp.

Superintendent, R. M. Rawlings.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.20.

Candle-power, 16; calorific value, 600 B. t. u.

Total gas holders capacity, 137,000 c. f.

Max. day's send out, 137,100 c. f.

Miles of mains, approximate, 26.

Street main pressures, max., 5 in.; min., 2.5 in.

Annual sales, approx., 43,528,000 c. f.

Gas unaccounted for, 11.6 p. c.

Pop. dist. supplied, 17,000; of city, 16,011.

No. consumers and meters, 1,718.

Price gas: Light and fuel, gross, \$1.10; net, \$1.

No. commercial gas arc lamps, 237.

Supplies Owensboro.

Paducah Light and Power Co., Paducah.

RRs.: Ill. Cen.; N. C. & St. L. S. Bs.: Tenn. & O. R. Trans.; Ryman Line; St. L. & T. R. Packet; Chat. Packet; Lee Line. Ex.: Ad.; So.; Am.

(Securities owned by Paducah Traction and Light Co.)

Managed by Stone & Webster.

Manager, A. S. Nichols.

Process manufacture, Lowe.

Calorific value, 555 B. t. u.

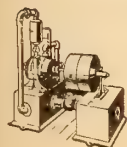
Annual production, 49,070,000 c. f.

Gas holder capacity, 265,000 c. f.

Max. day's send out, 274,000 c. f.

Miles of mains, approx., 19.94; street main pressure, max., 3.8 in.; min., 2 in.

Annual sales, approx., 37,945,200 c. f.



ELIMINATE GAS WASTE by inefficient combustion. Insist on your consumers getting the maximum of heat units they pay for. THE NEEDHAM HIGH PRESSURE GAS SYSTEM will produce the desired results.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Gas unaccounted for, 22 p. c.
 Pop. city, 22,760; pop. dist. supplied, 24,500.
 No. meters, reg., 1,522; prepay., 115.
 Price gas: Light and Fuel, gross, \$1.10. Disc., 10c. for cash. Addl. disc. fuel, 5 p. c. over \$50 per mo.; 10 p. c. over \$100 per mo.
 Gas appliances in use: Ranges, 1,194; water heaters, 314.
 No. commercial gas arc lamps, 239.
 Supplies Paducah.

ELECTRICAL DEPARTMENT.

System operated: Arcs and incand., A. C., single phase, 60 cycles; power, A. C., 3 phase, 60 cycles, and D. C.
 Generating capacity: Lighting and power, 1,830 kw.
 Voltage: Incand., 110; power, 110-220 A. C.; 500 D. C.
 Commercial lighting: Incand., 2,703 kw.
 Price current per kw. hr., gross, 10c. Disc., 10 p. c.
 Power circuits: Motors, 376; price per kw. hr., 6c. for first 300 kw. hr., varying down to 1.5c. for excess consumption. Disc., 10 p. c.
 Output of station, kw. per year, 4,567,000.
 Generating power used, Steam; rated h. p., 2,350.
 Cost of station boiler coal, per ton, \$2.28.

Richmond Water and Light Co., Richmond.

RRs.: L. & N.; L. & At. Ex.: Ad.

Capital stock, auth., \$500,000; issued \$200,000 (includes water company).
 Annual dividend, 1 p. c.
 Bonds, \$112,500; due 1921 and 1939; int., 5 p. c.
 President, Arthur W. Merrill.
 Vice-pres., A. R. Burnam, Jr.
 Secretary, R. E. Turley.
 Treasurer, R. E. Turley.
 Purchasing agent, B. R. Dougherty.
 General mgr., B. R. Dougherty.
 Superintendent, B. R. Dougherty.
 Process manufacture, Coal.
 Price coke per ton, delivered, \$5.
 Candle-power, 16.
 Annual production, 7,800,000 c. f.
 Total gas holders capacity, 30,000 c. f.
 Holder pressure, max., 2 in.
 Max. day's send out, 25,000 c. f.
 Miles of mains, approx., 8.
 Street main pressures, max., 2 in.; min., 1.5 in.
 Annual sales, approx., 6,000,000 c. f.
 Gas unaccounted for, 22 p. c.
 By-products sold: Coke and tar.
 Pop. city, 5,340; of dist. supplied, 6,000.
 No. consumers and meters, 370.
 Price gas: Light and Fuel, gross \$1.50; net \$1.25; \$1 when 5,000 c. f. per mo. is used.
 Ranges, 275; heaters, 200; water heaters, 90.
 No. commercial gas arc lamps, 100.
 Supplies Richmond.

Kentucky Utilities Co., Shelbyville.

RRs.: L. & N.; So.; C. & O. Ex.: Ad.; So.

Controlled by Middle West Utilities Co.
 General office, Paul Jones Bldg., Louisville, Ky.
 Capital stock, pref., auth., \$1,000,000; issued, \$500,000; com., \$1,000,000.
 Bonds, \$2,022,000; 1st mtge. 6s, due 1919; deb. bonds, \$499,000; int., 6 p. c.
 President, Harry Reid.
 Sec'y and treas., A. A. Tuttle.
 Purchasing agent, C. G. Miles.
 Engineer, G. T. Bogard.
 Superintendent, J. B. Crawford.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.
 Candle-power, 18.
 Annual production, 3,500,000 c. f.
 Max. day's send out, 12,000 c. f.
 Gas holder capacity, 25,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approximate, 2.7.
 Street main pressure, max., 3.8 in.; min., 3 in.
 Annual sales, approx., 3,000,000 c. f.
 Pop. city, 3,412; of dist. supplied, 2,000.
 No. consumers and meters, 215.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15.
 Ranges in use, 176; heaters, 21; water heaters, 56.
 Supplies Shelbyville.

ELECTRICAL DEPARTMENT.

(Business conducted under same name as gas company.)
 System operated: A. C., single phase, 60 cycles.
 Power, A. C. 1 and 3 phase, 60 cycles.
 Generating capacity: Lighting and Power, 375 kw.
 Voltage: At arc., 75; incand., 110; power, 110-220.
 City lighting contract: Hours lighted, 4,000.
 No. public arcs, 58; 500 watts.
 Price arc, Public, per year, \$70.
 No. public incand., 4; 80 watt; price per year, \$32; and 2 60 watt, price per year, \$24.
 Commercial lighting: No. incand., 17,702; 50 watt equiv. Price per kw. hr., gross, 12c. Disc., 10 p. c.
 Cooking and heating rate, 10.5c. 1st 10 kw. hr.; excess, 3c. Disc., 0.5c. per kw. hr.
 Power circuits: No. motors, 21.
 Price power current per kw. hr., 11c. for 1st 30 hrs. use; 6c. for next 30 hrs. use; 4c. for over 60 hrs. use. Quantity discounts.
 Output of station, kw. hrs. for year, 780,000.
 Power used, Steam; rated 450 h. p.
 Cost boiler fuel, per ton, \$2.60.

GAS EXHAUSTERS

Designed by Experts



GAS BOOSTERS

For Industrial Appliances

LOUISIANA

Total population 1,843,042.

Alexandria Lighting and Water Dept., Alexandria.

RRs.: C. R. I. & P.; St. L., W. & Gulf; Mo.
 Pac.; La. & Ark.; La. Ry. & Nav.; So.
 Pac.; T. & P.; SS. from New Orleans or
 Shreveport. Ex.: Pac.; So. and W. F.

(Municipal gas plant to be constructed.)

Mayor. W. W. Whittington, Jr.

City engineer. I. W. Sylvester.

Baton Rouge Electric Co., Baton Rouge.

RRs.: Y. & M. V.; La. Ry. & Nav.; N. O., Tex.
 & Mex.; So. Pac.; Baton R., Ham. & E.;
 V. & B. Packet, and Ouachita River
 Lines; Miss. Packet; Ferry to Port Allen,
 La. Ex.: Am.; W. F.; Pac.

Capital stock: Pref., auth., \$250,000; issued,
 \$200,000; com., auth., \$500,000; issued,
 \$300,000.

Annual div., pref., 6 p. c.

Bonds, \$505,500; due 1939; int., 5 p. c.

Notes, \$150,000; due 1918; int., 6 p. c.

President, H. H. Hunt.

Vice-president, Edward Godchaux.

Secretary, A. K. Todd.

Treasurer, H. B. Sawyer.

Under mgt. of Stone & Webster.

Manager, I. Maxwell Stover.

Process manufacture, Coal.

Annual production, 31,584,000 c. f.

By-products made: Coke, 20,315 tons; tar,
 32,880 gals.

Max. day's send out, 123,000 c. f.

Gas holder capacity, 96,000 c. f.

Miles of mains, approx., 20.4.

Street main pressures, max., 3.5 in.; min.,
 2.5 in.

Annual sales, approx., 27,229,700 c. f.

Gas unaccounted for, 12.4 p. c.

Pop. district supplied, 19,500; of city, 14,897.

No. meters, reg., 879; prepay., 591.

Price of gas: Less than 2,000 c. f., \$1.50; next
 4,000 c. f., \$1.40; next 34,000 c. f., \$1.30;
 next 40,000 c. f., \$1.10; over 80,000 c. f.,
 \$1. Min. chg., 50c. Disc., 10c. per 1,000
 c. f.

Ranges in use, 1,234; water heaters, 596.

No. commercial gas arc lamps, 17.

Supplies Baton Rouge and vicinity.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., 60 cycle; in-
 cand, 60 cycle A. C.; power, 3 phase, 60
 cycle, A. C. (converted to 600 v. D. C. for
 railway).

Generating capacity: Lighting and power,
 1,500 kw.Voltage: Arcs, series; incand., 115; power,
 2,300-230 (Railway, 600).City lighting contract: Hours lighted per
 year: Arc and incand., 4,000 (dusk to
 dawn).

No. public incand., 154-400 c. p. Type C
 Mazda; 43-250 c. p. Type C Mazda; 22-60
 c. p. Mazda.

Commercial lighting: No. arcs, 10; No. in-
 cand., 2,017.3 kw. equiv.Price current per kw. hr., 11c. to 6c. Disc.,
 1c. per kw. hr.

Power circuits: No. motors, 160; price per kw.
 hr., sliding scale, 10c. to 5c., disc., 1c. per
 kw. hr., or (optional) serv. chg. \$1.10 per
 con. h. p. per mo. plus current chg., 6c. to
 2c., with 10 p. c. disc.

Power used also for electric devices, 895 kw.

Output of station, kw. for year, 2,827,000.

Generating power used, Steam; rated h. p.,
 2,110.**Gretna Gas Light and Fuel Co., Gretna.**

RRs.: N. O. So.; S-Pac.; T. & P. Ex.: Pac.;
 So.: W. F.

New Orleans office, 522-524 Audubon Bldg.

(Plant under construction.)

President, H. O. Penick.

Sec'y and treasurer, W. J. Sonnemann.

Manager and engineer, Felix Borden.

Process manufacture, Water-gas (Tenney).

Jennings Gas and Electric Co., Jennings.

RR.: So. Pac. Ex.: W. F.

Capital stock auth., \$100,000; issued, \$86,000.

President, G. A. Courtney.

Vice-president, F. N. Litten.

Secretary, J. P. Haber.

Treasurer, R. N. Litten.

Gen. mgr. and pur. agent, F. N. Litten.

New bus. mgr., F. N. Litten.

Superintendent, W. M. Brown.

Process manufacture, Oil (Beal's).

Price oil per gal., del'd, 4c.

Candle-power, 22. Calorific value, 650 B. t. u.

Annual production, 8,000,000 c. f.

Gas holder capacity, 40,000 c. f.

Holder pressure, 24 in. (high pressure).

Max. day's send out, 55,000 c. f.

High pressure mains, 10 miles; pressure,
 max., 2 lbs.; min., 4 in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 5 p. c.

Pop. of city, 3,925; dist. supplied, the same.

No. consumers, 310.

No. meters, reg., 210; prepay., 100.

Price gas: Light, gross, \$1.50; net, \$1. Fuel, \$1.

No. ranges, 300; heaters, 300; water heaters,
 75.

No. commercial gas arc lamps, 20.

Supplies Jennings.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

Capital apportioned to electric plant, approx.,
 \$43,000.

System operated, D. C.

Generating capacity, 350 kw.

Voltage: Incand. and power, 220 D. C.

Miles of overhead wires, 33.

City lighting contract: Hours lighted per year:
 arc and incand., 3,000.

BLOWERS

*For Industrial Appli-
 cations Universally Used*

**P.H. & F.M. ROOTS CO.**

Connersville

Indiana

New York

Chicago

No. public arcs, 45 clusters; 240 watt. Price per year, \$50.

No. public incand., 45; 60 watt. Price per year, \$18.

Price current per kw. hr., 15c.; sliding scale to 10c.

Power circuits; No. of motors, 20.

Price per kw. hr., sliding scale, 10c. to 3c.

Output of station, kw. hrs. total for year, 500,000.

Generating power used, Steam and Oil engine rated 450 h. p.

Cost of boiler fuel, oil, 4c. per gal.

Lake Charles Gas Co., Lake Charles.

RRs.: So. Pac.; St. Louis, W. & G.; K. C. So.; Shreveport, Alex. & S. W.; Lake Charles & Gulf S. S. Line. Ex.: W. F. & Pac.

(Controlled by The Lake Charles Railway, Light & Water Works Co.)

Capital stock, auth., \$200,000; issued, \$100,000.

President, J. A. Landry.

Secretary, P. O. Moss.

Treasurer, D. J. Landry.

Gen. mgr. and pur. agent, P. O. Moss.

Engineer, Jos. H. Connelly.

Superintendent, Fred A. Bird.

New bus. mgr., P. O. Moss.

Process manufacture: Water-gas (Tenney).

Price of coke per ton, del'd, \$7.10; oil per gal., 3.75c.

Candle power, 20.

Calorific value, 625 B. t. u.

Gas holder capacity, 190,000 c. f.; pressure, 1.75 lbs.

Max. day's send out, 80,000 c. f.

High pressure mains, 16.5 miles; pressure, 1.75 lbs.

Street main pressures, max., 2.25 in.; min., 1.5 in.

Pop. of city, est., 20,000; dist. supplied, 11,100.

No. consumers, 800.

No. meters, reg., 725; prepay., 50.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.40 for 1st 3,000 c. f.; \$1.50-\$1.20 for next 7,000 c. f.; all over 10,000 c. f., \$1.

No. heaters in use, 300; water-heaters, 200.

No. commercial gas arc lamps, 100.

Supplies Lake Charles.

New Orleans Gas Light Co., New Orleans.

RRs.: N. O. Gt. N.; Ill. Cen.; Colo. So.; N. O. & P.; N. O. Term.; Cin., N. O. & Tex. P.; L. & N.; T. & P.; La. Ry. & Nav.; La. So.; N. O. So.; So. Pac.; Y. & M. V. S. Bs.; So. Pac. Lines; N. O. & G. I. Packet; A. & D. G. Packet; Ferry to Algiers, La. Ex.: Am.; So.; Pac.; W. F.

Controlled by New Orleans Railway & Light Co.

Capital stock, auth., \$10,000,000; issued, \$5,250,000.

Annual dividend, 10 p. c.

President and gen'l mgr., Lee Benoist.

Secretary, Joseph H. DeGrange.

Treasurer, H. A. Ferrandon.

Pur. agents and engineers, United Gas & Elec. Engineering Corp.

Superintendent, A. E. Merchant.

New bus. mgr., John J. Flautt.

Process manufacture, Lowe.

Price of coke per ton, delivered, \$5.77; oil per gal., 3.4c.

Candle-power, 19; calorific value, 600 B. t. u.

Annual prod., 1,578,959,000 c. f.

By-products made: Tar, 986,550 gals.

Total gas holders capacity, 7,400,000 c. f.

Holder pressure, 16.5 in.

Max. day's send out, 8,337,000 c. f.

Miles of mains, approx., 436.6.

Street main pressures, max., 5.5 in.; min., 4 in.

Annual sales, approx., 1,452,287,000 c. f.

Gas unaccounted for, 7.36 p. c.

By-products sold, tar, 1,073,600 gals.

Pop. city, 339,075; of dist. supplied, 300,000.

No. meters, reg., 29,634; prepay., 18,429.

No. consumers, 48,063.

Price of gas to consumers; Sliding schedule.

Up to 10,000 c. f., \$1.10; 10,100 c. f. to

25,000 c. f., \$1.05; 25,100 to 50,000 c. f.,

\$1; 50,100 to 100,000, 95c.; 100,100 to

150,000, 90c.; 150,100 and over, 85c. Disc.,

10c. Prepayment meters, \$1.10 net.

Ranges in use, 39,937; heaters, 21,446; water heaters, 8,128.

No. commercial gas arcs, 3,309.

Supplies New Orleans and Algiers.

MAINE

Total population, 774,914.

Central Maine Power Co., Augusta.

RRs.: Me. Cen. S. Bs.; Aug. & Bath Co.; E. S. S. Co. Ex.: Am.

Capital stock, pref., auth., \$1,740,000; issued, \$740,000; com., \$2,500,000.

Div. paid, annual, pref., 6 p. c. and 7 p. c.

Bonds, \$4,271,000; int., 5 p. c.

President, Harvey D. Eaton.

Secretary, Geo. D. Hegarty.

Treasurer, Walter S. Wyman.

General manager, Walter S. Wyman.

Pur. agent, W. S. Wyman.

Gas superintendent, W. H. Williams.

New bus. mgr., Geo. S. Williams.

Process manufacture, Lowe.

Price coal per ton, delivered, \$9.35, anth.; \$10. bit.

Price oil per gal., delivered, 5c.

Candle-power, 20.

Annual production, 29,896,026 c. f.

Max. day's send out, 96,530 c. f.

Total gas holders capacity, 142,000 c. f.

Holder pressures, 2.5 to 4 in.

High pressure mains, 6 miles.

Miles of mains, approximate, 40.

Street main pressures, max., 4 in.; min., 2.5 in.

Annual sales, approx., 25,064,398 c. f.

Gas unaccounted for, 16 p. c.

OUR HEAT EXCHANGERS give the greatest efficiency because they embody the principles of high speed counter current flow in thin films.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Pop. dist. supplied, 20,000; of city, 13,211.
No. meters, reg., 1,119; prepay., 643.
No. consumers, 1,762.
Price gas: Light, gross, \$1.60; net, \$1.50;
Fuel, \$1.25.
Ranges in use, 1,056; water-heaters, 429.
No. commercial gas arc lamps, 20.
Supplies Augusta, Hallowell and Gardiner.

ELECTRICAL DEPARTMENT.

System operated: Arc, 1 ph. A. C. and D. C.,
60 cycle; incand., 3 phase, 60 cycle A. C.
and D. C.; power, A. C., 3 phase, 60 cycle.
Generating capacity: Lighting and power,
12,500 kw.
Voltage: Arcs, 72; incand., 110; power, 220.
City lighting contract: Hrs. lighted per year,
4,000.
No. public incand., 8,176—50 watt equiv. Price
per year, standards of 4 lamps for \$55;
1 for \$30; 1 for \$55.50.
Commercial lighting: No. incand., 138,871—
50 watt equiv.
Price current per kw. hr., gross, 9c. Disc., 5
p. c.
Other lamps used, 25 series Tungsten, one
flaming arc.
Power circuits: No. motors, 1,105; price per
kw. hr., 8c. Disc., 5 to 50 p. c. as to
quantity.
Output of station, for year, 29,847,579 kw hrs.
Generating power used, Steam-Water; rated
h. p., 17,000 h. p.
Price of boiler coal per ton, \$10.

Bangor Gas Light Co., Bangor.

RRs.: Ban. & Aroos.; Me. Cen.; B. Ry. &
El. S. Bs.: B. & B. Line; B. & B. H.
Co.; E. SS. Co. Ex.: Am.

(Controlled by The American Gas Co.)
Capital stock, \$300,000.
Bonds, \$300,000; due 1941; interest, 5 p. c.
President, Morris W. Stroud.
Vice-pres. and gen. mgr., S. P. Curtis.
Secretary, W. L. Fox.
Treasurer, J. B. Townsend, 3d.
Pur. agent, F. D. Wharton.
Manager, G. M. Dolley.
Engineer, R. C. Cornish.
Process manufacture, Coal.
Calorific value, 600 B. t. u.
Annual production, 80,156,000 c. f.
By-products made: Coke, 4,790 tons; tar,
74,290 gals.; ammonia, 13,563 gals.
Total gas holders capacity, 560,000 c. f.
Holder pressure, 4.5 in.
Max. day's send out, 294,000 c. f.
Miles of mains, approx., 48.
Street main pressures, max. 4.5 in.; min. 2 in.
Annual sales, approx., 64,998,000 c. f.
Gas unaccounted for, 17 p. c.
By-products sold: Coke, 3,365 tons; tar, 95,080
gals.; ammonia, 11,101 gals.
Pop. dist. supplied, 32,600; of city, 24,803.
No. consumers, 4,045.
Meters, reg., 2,689; prepay., 1,356.

Price gas: Light and Fuel, gross, \$1.75; net,
\$1.65; disc. to \$1.25, according to quan-
tity. 1st 5,000 c. f., net, \$1.65; 2d 5,000
c. f., \$1.55; next 10,000 c. f., \$1.45; next
20,000 c. f., \$1.35; over 40,000 c. f., \$1.25.
Prepayment meters set to deliver 140 c. f.
for 25c.

Ranges in use, 2,066; water heaters, 469.
No. commercial gas arc lamps, 643.
Supplies Bangor and Brewer.

Bath and Brunswick Light and Power Co., Bath.

RR.: Me. Cen. S. Bs.: A. & B. Co.; E. S. S.
Co.; P. B. Co. Ex.: Am.

(For capitalization and bonds, see Appendix.)
President, Harvey D. Eaton.
Treasurer, Walter S. Wyman.
Gen. mgr., Walter S. Wyman.
Superintendent, J. C. Humphreys.
Process manufacture, Coal.
Price of coal per ton, \$5.
Annual production, 7,000,000 c. f.
Candle-power, 18.
Gas holder capacity, 32,000 c. f.; press, 2.2 in.
Max. day's send out, 30,000 c. f.
Miles of mains, approximate, 7.
Street main pressures, max., 2.2 in.
Annual sales, approx., 7,000,000 c. f.
Gas unaccounted for, 11 p. c.
Pop. dist. supplied, 4,500; of city, 9,396.
Consumers and meters, 554.
Price gas: Light and Fuel, gross, \$1.60; net,
\$1.50.
Ranges in use, 300.
No. commercial gas arc lamps, 60.
Supplies Bath.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
System: Arc A. C.; incand. A. C., single phase;
power, A. C., 3 phase, 7,200 alt.
Generating capacity: Lighting and power, 400
kw.
Voltage: At arc, 80; incand., 115; power,
110-220.
City lighting contract: Hours lighted, arc and
incand., 4,000.
No. public arcs, 35; 1,200 c. p.; price per year,
\$75.
No. public incand., 146; 100-250 watt: price
per year, \$25 (100 watt).
Commercial lighting: No. arcs, 5; incand.,
20,000.
Price arc and incand., Com'l, per kw. hr., gross,
12c.; net, 10c.
Other lamps, 25 flaming arcs.
Power circuits: No. motors, 110.
Price current per kw. hr., 10c. to 3c., sliding
scale.
Power used, Steam and Water.
Cost boiler coal per ton, \$4.50.

Penobscot Bay Electric Co., Belfast.

RR.: Me. Cen. S. Bs.: E. S. S. Co.; B. & C.
Line. Ex.: Am.

(Successors to Belfast Gas and Electric Co.
and Bucksport Light and Power Co.)
Capital stock, \$200,000.
Bonds, \$20,000; due 1923; interest, 5 p. c.



Tycos Temperature Instruments for Gas Works
H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.
Write for Catalogue 600.
Taylor Instrument Companies

Rochester, N. Y.



President, W. M. Shaw.
 Secretary and treas., M. H. Blackwell.
 Supt. and pur. agt., A. C. Hopkins.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.70.
 Total gas holder capacity, 10,000 c. f.
 Max. day's send out, 7,000 c. f.
 Miles of mains, approximate, 4.25.
 Street main pressures, max., 4.25 in.
 Pop. city supplied, 4,618.
 No. consumers and meters, 210.
 Price gas: Light, \$2.50; Fuel, \$1.80.
 Ranges in use, 64.
 Supplies Belfast.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: Incand., series Tungsten A. C.; power,
 A. C., 3 phase, 60 cycle.
 Power generators, 1,200 kw. capacity.
 Voltage: Incand., 110; power, 220.
 City lighting contract: Hours lighted, all night
 and every night.
 No. public incand., 320; 75 watt.
 Price incand., public, per year, \$15.
 Price incand., com'l, per kw. hr., 12c. Disc.,
 2c. per kw., 10 days.
 Power used, Steam and Water
 Cost boiler coal per ton, \$5.
 (No 1918 report.)

York County Power Co., Biddeford.

RR.: Bost. & Me. Ex.: Am.; B. L.

Controlled by Cumberland County Power &
 Light Co., Portland, Me.

Capital stock, pref., auth., \$500,000; issued,
 \$383,000; common, auth. and issued,
 \$1,000,000.

Annual dividend, pref., 6 p. c.

Bonds, \$518,500; due 1943; int., 5 p. c.

President, William M. Bradley.

Vice-pres. and gen'l mgr., A. H. Ford.

Treas. and clerk, C. F. Berry.

Secretary, William S. Linnell.

Gen'l supt., F. R. Fowles.

Pur. agent, M. A. Williams.

Engineer, G. C. Estill.

New bus. mgr., Wm. L. Shaw.

Process manufacture, Coal.

Candle-power, 16.

Annual production, 21,404,600 c. f.

By-products made: Coke, 636 tons; tar, 20,144
 gals.

Price of coal per ton, del'd, \$7.75.

Gas holder capacity, 113,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 90,100 c. f.

Miles of mains, approx., 19.5.

St. main pressures, max., 4 in.; min., 2.6 in.

Annual sales, approx., 19,459,600 c. f.

Gas unaccounted for, 17.11 p. c.

By-products sold: Coke, 582 tons; tar, 15,594
 gals.

Pop. cities: Biddeford, 17,079; Saco, 6,583;
 dist. supplied, 10,000.

No. consumers and meters, 1,462.

Price gas: Light and Fuel, \$1.60 up to 3,000
 c. f.; 3,000 to 6,000, \$1.40; 6,000 to 10,000,
 \$1.30; 10,000 to 20,000, \$1.20; 20,000 and
 over, \$1.10.

Ranges in use, 1,172; heaters, 184; water
 heaters, 124.

No. commercial gas arc lamps, 124.

Supplies Biddeford and Saco.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System: A. C., 3 phase, 7,200 alt.

Generating capacity, 2,000 kw.

Voltage: Arcs, 72; incand., 115; power, 110-
 230.

City lighting contract: Hours lighted per
 year, 3,800.

No. public arcs, 154; 400 watt; price per year,
 \$60.

No. public incand., 347; 60 c. p.; price per
 year, \$22.50.

Commercial lighting: Price per kw. hr., net,
 9.25c.; dom., service charge, \$2 per mo.
 for 4 kw. demand, plus \$1 per mo. for
 add'l, plus current charge of 2c. per kw.
 hr.

Power circuits: No. motors, 84; price per kw.
 hr., 7c., 5c. and 3c. net.

Output of station, kw. for year, 1,223,500.

Power used, Steam; rated 1,650 h. p.

Cost of boiler coal per ton, \$4.02.

St. Croix Gas Light Co., Calais.

RR.: Wash. Co. S. Bs.: Frontier; Bridge
 to St. Stephens, N. B. Ex.: Am.; West.

Capital stock, \$200,000. Annual div., 1 p. c.

President, Frank Todd.

Secretary, F. N. Davis.

Treasurer, Frank Todd.

General mgr. and new bus. mgr., F. N. Davis.

Purchasing agent, F. N. Davis.

Supt. and engineer, F. N. Davis.

Process manufacture, Coal.

Price coke per ton, delivered, \$6.

Candle-power, 18.

Calorific value, 650 B. t. u.

Annual production, 11,140,000 c. f.

Max. day's send out, 64,000 c. f.

Total gas holders capacity, 41,000 c. f.

Holder pressure, 3.1 in.

Miles of mains, approximate, 6.

Street main pressures, max., 3.1 in.; min.,
 3.1 in.

Annual sales, approx., 9,687,000 c. f.

Gas unaccounted for, 13 p. c.

Pop. dist. supplied, 4,000; of cities, 7,500.

No. consumers, 500.

No. meters, reg., 434; prepay., 66.

Price gas: Light and Fuel, gross, \$2; net,
 \$1.80 for first 2,000 c. f.; next 2,000 c. f.
 gross, \$1.90; next 6,000 c. f., \$1.80; all
 over, \$1.70.

No. public lamps, 1; lighted until 12.30 a. m.
 Ranges in use, 150; heaters, 182; water heat-
 ers, 39.

No. commercial gas arc lamps, 231.

Supplies Calais, Me., and St. Stephens, N. B.

Supplies Milltown, N. B., with electricity
 only.



Williams' "Agrippa" Boring-Tool Holder

The Boring Tool takes any size or shape of bar and requires
 no bushings. Its sleeve bar permits either straight or angular
 adjustment of cutter without resetting.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$25,000.
 System operated: Arc, D. C.; incand., Alt.,
 7,200 three phase, 60 cycles.
 Generating capacity: Lighting, 345 kw.
 Voltage: Arcs, 90; incand., 110; power, 220.
 Pub. arcs lighted every night till 12.30.
 No. public arcs, 110; 360 watt. Price per
 year, \$60.
 No. public incand., 22; 60 watt. Price per
 year, \$20.
 Commercial lighting: No. incand., 7,500.
 40 Tungsten lamps in use at Co.'s station and
 office.
 Price current per kw. hr., gross, 15c. Dis-
 count, sliding scale.
 Power circuits: No. motors, 16; price per
 kw. hr., 7c. to 1.5c.
 Electricity used also for vacuum cleaners,
 toasters, etc.
 Generating power used, Water; rated h. p.,
 800. Steam, rated 300 h. p.
 Output of station kw. hrs. for year, 607,000.
 Cost of station boiler coal, per ton, \$5.50.
 (No 1918 report.)

Lewiston Gas Light Co., Lewiston.

RRs.: Me. Cen.; G. R. Trunk. Ex.: Am.;
 Can.

Capital stock, auth., \$400,000; issued, \$350,000.
 Annual dividend, 6 p. c.
 Bonds, \$200,000; due 1924; interest 4 p. c.
 President, Wallace H. White.
 Secretary, Wm. R. Stevens.
 Treasurer, Herbert Payson.
 Superintendent, John J. Scott.
 Process manufacture, Lowe.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Annual production, 99,122,000 c. f.
 Max. day's send out, 435,000 c. f.
 Total gas holder capacity, 400,000 c. f.
 Holder pressure, 5.5 in.
 Miles of mains, approx., 44.08.
 Street main pressures, max., 3.5 in.; min. 2.5
 in.
 Annual sales, approx., 91,748,700 c. f.
 Gas unaccounted for 7.4 p. c.
 Pop. dist. supplied, 30,000; of cities, Lewis-
 ton, 27,305; Auburn, 15,965.
 No. consumers, 6,404.
 No. meters, reg., 3,374; prepay., 3,030.
 Price gas, \$1.30 to \$1.10.
 Gas appliances in use, 7,302.
 No. commercial gas arc lamps, 200
 Supplies Lewiston and Auburn.

Peak Island Corporation, Peak Island.

RRs.: (Same as Portland, Me.)

Capital stock, \$250,000.
 Bonds, \$75,000; due 1921; int. 5 p. c.
 President, S. B. Adams.
 Vice-pres., Scott Wilson.
 Sec'y and treas., LeRoy F. Tobie.
 Manager, Geo. A. Zuker.
 Process manufacture, Lowe.
 Miles of mains, 5.

Pop. dist. supplied, 3,000.
 No. consumers, 100.
 Price of gas, gross, \$2.50; net, \$2.
 No. public lamps, 125; lighted 2,240 hours.
 Contract includes repairs, care, lighting and
 extinguishing.
 Annual sales, approx., 200,000 c. f.
 Supplies Peak Island.

Portland Gas Light Co., Portland.

RRs.: Bost. & Me.; Me. Cen.; Gr. Trunk.
 S. Bs.: P. & B. Co.; E. S.S. Co.; Me. S.S.;
 Me. Coast Co. Ex.: Am.; Can.; B. L.

Capital stock, com., auth., \$1,000,000; issued,
 \$1,000,000; annual dividend, 6 p. c.
 Bonds outstanding, \$200,000; due 1936; int.
 rate, 4 p. c.
 President, Fred N. Dow.
 Vice-president, Wm. H. Moulton.
 Clerk, Burton Smart.
 Treasurer, Burton Smart.
 Pur. agent, Burton Smart.
 General manager, Fred N. Dow.
 Consulting engineer, H. Burgi.
 New bus. mgr., E. A. Willard.
 Superintendent, C. O. Pratt.
 Indus. fuel engineer, A. G. Spinney.
 Process manufacture, Coal and Lowe.
 Annual prod., coal gas, 318,256,000 c. f.;
 water gas, 83,094,000 c. f.
 Price coal per ton, delivered, \$6.70.
 Price oil per gallon, delivered, 5.625c.
 Candle-power, 13-14; calorific value, 550-563
 B. t. u.
 By-products made: Coke and breeze, 18,056
 tons; tar, 403,218 gals.; ammonia sul-
 phate, 105,689 lbs.
 Total gas holder capacity, 2,550,000 c. f.
 Holder pressure, 10.8 in.
 Max. day's send out, 1,300,000 c. f.
 Miles of mains, approx., 96.
 Street main pressures, max., 6 in.; min., 3 in.
 Annual sales, approx., 382,191,500 c. f.
 Gas unaccounted for, 5.5 p. c.
 By-products sold: Coke, 10,857 tons; tar,
 403,218 gals.; ammonia sulphate, 165,689
 lbs.
 Pop. dist. supplied, 80,000; of cities, Portland,
 58,571; So. Portland, 7,471; Westbrook,
 8,281.
 No. consumers, 13,591.
 No. meters, reg., 7,096; prepay., 6,495.
 Price gas: Light, gross, \$1.10; net, \$1; Fuel,
 for gas eng., net, \$1 down to 70c., based on
 quantity used per month.
 No. public Welsbach incand. lamps, 775.
 Each lamp lighted per year, 4,000 hours.
 Price per lamp, per year, \$27.
 Price includes repairs, care, lighting and ex-
 tinguishing.
 Ranges in use, 11,407; heaters, 3,062; water
 heaters, 6,462.
 No. commercial gas arc lamps, 2,786.
 Supplies Portland, South Portland and West-
 brook.

RELIABLE

ANGLIRON RANGES and

HOT SPOT HEATERS

Service is essential to business success. It is the

combination of quality, efficiency and durability. It is this
 combination which has placed "ANGLIRON" ranges and
 "HOT SPOT" heaters into the homes of thousands of satis-
 fied users of gas as a fuel. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Rockland, Thomaston and Camden St. Ry., Rockland.

RRs.: Me. Cen.; R., T. & C. (El.). S. Bs.:
Me. Cen. R. R. Lines; P. B. Co.; R. & M.
Line; V. & R. Co.; E. S.S. Co. Ex.: Am.

Operated by Maine Rys., Light and Power Co.,
Portland, Me.

Capital stock, \$400,000; ann. div., 5 p. c.

Bonds, \$800,000; due 1921; int., 4 p. c.

President, William T. Cobb.

Secretary, Alan L. Bird.

Treasurer, Herbert W. Keep.

Gen'l manager, William T. Cobb.

Supt. and pur. agent, William C. Bird.

New bus. mgr., William C. Bird.

Process manufacture, Coal.

Price of coal per ton, delivered, \$9.20.

Candle-power, 18.

Annual production, 16,500,000 c. f.

By-products made: Coke, 560 tons; tar,
24,800 gals.

Gas holder capacity, 60,000 c. f.

Holder pressure, 4 in.

Max. day's send out, 65,000 c. f.

Miles of mains, approximate, 12.

Street main pressures, max., 4 in.; min.,
2.5 in.

Annual sales, approx., 14,500,000 c. f.

Gas unaccounted for, 11.9 p. c.

By-products sold: Coke, 560 tons; tar, 24-
800 gals.

Pop. dist. supplied, 5,000; of city, 8,174.

No. consumers, 1,140.

No. meters, reg., 400; prepay., 740.

Price gas: 1st 3,000 c. f., \$2; next 3,000 c. f.,
\$1.90; next 4,000 c. f., \$1.70; next 10,000
c. f., \$1.50. Balance, \$1.30. Penalty, 10c.,
10 days.

Ranges in use, 1,000; heaters, 165; water
heaters, 51.

No. commercial gas arc lamps, 35.

Supplies Rockland.

ELECTRICAL DEPARTMENT.

(Business conducted under same name.)

System operated: Arcs, D. C.; incand., A. C.;
power, A. C., 60 cycle, 2 and 3 phase.

Voltage: Arcs, 80; incand., 110; power, 2300-
440-220-110.

No. public arcs, 121; 350 watts. No. public in-
cand., 188; 75 watts.

Price per year: 12 o'clock and 1 hr. in morn-
ing (1,800 hrs), arc \$66.01, incand. \$22.90;
1 o'clock, arcs \$68.11, incand. \$23.39; all
night (3,400 hrs.), arcs \$75, incand. \$24.77.

Commercial lighting: No. arcs, 4; No. in-
cand., 2.

Price commercial per kw. hr., 12c. to 4c.; disc.,
10 p. c., 10 days. Domestic, per mo., 12c.
(sliding scale to 4c.).

Power used also for street railway.

Power purchased from Central Maine Power
Co. Trans. line, 50 miles, Augusta to
Rockland. Power circuits: No. of mo-
tors, 97.

Price power per kw. hr., 6c. to 2c. (sliding
scale); dis., 2 p. c., 10 days.

Output of station kw. hrs. for year, 3,759,750.

Municipal Light and Power Co., South Portland.

RRs.: (via Portland). Ex.: Am.; Can.

Controlled by H. M. Payson & Co.

Capital stock auth., \$200,000; issued, \$100,000.

Bonds, \$123,000; due 1931; int., 5 p. c.

President, Wm. E. Allen.

Secretary, Frank D. Marshall.

Treasurer, E. R. Payson.

General manager, Edgar R. Payson.

Pur. agent, Edgar R. Payson.

Superintendent, D. L. Woodsum.

(Purchase gas from Portland Gas Light Co.)

Candle-power, 20.

Amount gas purchased, 23,593,100 c. f.

Max. day's send out, 109,000 c. f.

High pressure mains, miles, 26; pressure, 3 lbs.

Annual sales, approx., 17,014,700 c. f.

Gas unaccounted for, 13.3 p. c.

Pop. of city, est., 9,500; dist. supplied, winter,
8,000; summer, 12,000.

No. consumers, 1,200.

No. meters, reg., 1,200.

Price gas: Light and Fuel, gross, \$1.50; net,
\$1.40.

Gas appliances in use: Ranges, 1,105; heat-
ers, 76; water heaters, 128.

Supplies South Portland and Cape Elizabeth.

Kennebec Gas and Fuel Co., Waterville.

RRs.: Me. Cen. Ex. Am.

Capital stock, auth., \$200,000; issued, \$140,000.

Bonds, \$50,000; due 1943; int., 5 p. c.

President, A. B. Benesch.

Vice-president, Albert B. Kerr.

Sec'y and treas., Geo. E. Brown.

General mgr. and pur. agt., Francis Colton.

Process manufacture, Coal and Lowe.

Price of coal per ton, del'd, \$8.50.

Price of oil per gal., 9c.

Annual production, coal gas, 7,000,000 c. f.;
water gas, 8,000,000 c. f.

Candle-power, 16. Cal., 650 B. t. u.

Gas holder capacity, 30,000 c. f.

Holder pressure, max., 3.4 in.

Max. day's send out, 65,000 c. f.

Miles of mains, 16; press., max., 4 in.; min.,
3 in.

Annual sales, approx., 12,000,000 c. f.

Gas unaccounted for, 20 p. c.

Pop. cities, est., 22,000; of dist. sup'd, 13,000.

No. consumers, 700.

No. meters, reg., 652; prepay., 48.

Price of gas: Light and Fuel, gross, \$1.60;
net, \$1.50. Rate effective Feb. 4, 1918:

1st 3,000 c. f., \$1.90; 2d 3,000 c. f., \$1.80;

3d 3,000 c. f., \$1.70; 4th 3,000 c. f., \$1.55;

5th 3,000 c. f., \$1.40; 6th 3,000 c. f., \$1.

Min., 75c.; 10c. penalty.

No. ranges, 600; heaters, 250; water heaters,
305.

No. commercial gas lamps, 100.

Supplies Waterville, Fairfield and Winslow.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Westbrook Gas Co., Westbrook.

RRs.: Bos. & Me. Ex.: Am.

Controlled by H. M. Payson & Co.
Capital stock, auth. \$150,000; issued, \$100,000.
Bonds, \$113,500; due 1931; int., 5 p. c.
President, Lemuel S. Lane.
Secretary, Frank D. Marshall.
General manager, Edgar R. Payson.
(Purchase gas from Portland Gas Light Co.).
Amount gas purchased, 13,096,200 c. f.

Candle-power, 20.

Max. day's send out, 54,100 c. f.
Miles of mains, approx., 15.
Street main pressures, max., 5 in.; min., 2 in.
Annual sales, approx., 11,507,100 c. f.
Gas unaccounted for, 12.1 p. c.
Pop. of city, est., 8,500; of dist. supplied, 7,000.
No. consumers and meters, 878.
Price gas: Light, gross, \$1.50.
Gas appliances in use: Ranges, 740; heaters, 186; water heaters, 49.
Supplies Westbrook.

MARYLAND

Total population, 1,368,240.

Annapolis Public Utilities Co., Annapolis.

RRs.: W. B. & A. (El.); Balt. & Annap. Short Line; Tolch. Co.; W. Riv. Line. Ex.: Ad.: W. F.

Controlled by The Washington, Baltimore & Annapolis Electric R. R. Co.
General office, Terminal Bldg., Baltimore, Md.
Capital stock, authorized, \$300,000; issued, \$172,000.
Bonds, \$80,000; due 1921; int., 6 p. c.
Bonds, \$200,000; due 1953; int., 5 p. c.
President, Geo. T. Bishop.
Vice-president, J. J. Doyle.
Secretary, W. H. Wright.
Treasurer, Geo. A. Craig.
General manager, J. J. Doyle.
Pur. agent, D. Zerhusen.
Engineer, H. T. Connolly.
Supt. and new business mgr., H. T. Connolly.
Process manufacture, Coal.
Calorific value, 600 B. t. u.
Annual production, coal gas, 33,729,500 c. f.
By-products made: Coke, 1,942 tons; tar, 47,887 gals.

Holder capacity, 85,000 c. f.
Holder pressure, 4 in.
Max. day's send out, 110,000 c. f.
Miles of mains, 17.
Street main pressures, max., 4 in.; min., 2 in.
Annual sales, approx., 27,305,040 c. f.
Gas unaccounted for, 19 p. c.
By-products sold: Coke, 1,009 tons; tar, 47,887 gals.

Pop. city, 8,609; dist. supplied, 10,000.
No. consumers, 1,414.
No. meters, reg., 812; prepay., 602.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.
Ranges in use, 1,200; heaters, 260; water heaters, 300.
Supplies, Annapolis, Eastport and German-town, Md.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
System: arcs D. C.; incand., 3 phase; power, A. C., 3 phase.
Generating capacity, 840 kw.
Miles of overhead wires, 158; underground cables, 1,200 ft.
Voltage: Line, 4,500; incand., 110; power, 110-220.

City lighting contract: Hours lighted, 3,800.
No. public arcs, 110; 360 watt. Price per year, \$70.
No. public incand., 56; 40 watt. Price per year, \$12.
Commercial lighting: No. incand., 15,000.
Price incand., Com'l, per kw. hr., 10c. and 7.5c. Disc., 10 p. c.
Power circuits: No. motors, 20; price per kw. hr., 7.5c. and 6c. Disc., 10 p. c.
Output of station, kw. hrs., total for year, 899,120.
Power purchased from Wash., Balt. and Annapolis Elec. R. R. Co.

Consolidated Gas Electric Light and Power Co. of Baltimore, Baltimore.

RRs.: Balt. & Annap. Short Line; B. & O.; Md. & Pa.; No. Cen.; Phila., Balt. & Wash.; W. Md.; W. B. & A. El. Ry.; B. C. & A. Ry.; Md., Del. & Va. Ry. S. Bs.: N. Y. & B. Trans.; B. & P. Co.; Ches. Co.; Balt. Packet; B. & C. Co.; Mer. & Min. Trans. Ex.: Ad.; Am.; W. F.

(For detailed financial information, see Appendix.)

Chmn. of Bd., J. E. Aldred.
President, Herbert A. Wagner.
Vice-pres., Charles M. Cohn.
Vice-pres., Charles E. F. Clarke.
Treasurer, John L. Bailey.
Secretary and asst. treas., Wm. Schmidt, Jr.
Asst. sec'y and asst. treas., R. F. Bonsall.
Purchasing agent, Andrew Banks, Jr.
Engineer, George Beadenkopf (Gas Dept.)
Gen. supt., E. D. Edmonston (Elec. Dept.).
Supt. indus. fuel dept., Thomson King.
Process manufacture, Lowe.
Calorific value, 600 B. t. u.
Max. day's send out, 20,559,000 c. f.
Gas holder capacity, 14,000,000 c. f.
Miles of mains, approx., 775.
Street main pres., max., 6 in.; min., 2 in.
Semi-pressure mains, 12 mi.; pressure, 20 lbs.
Booster mains, 16 miles; pressure, 1 lb.
Annual sales, approx., 5,115,365,200 c. f.
Gas unaccounted for, 3 p. c.
Pop. dist. supplied, 725,000; of city, est., 600,000.
Consumers and meters, 132,503.

We will gladly send you any size or sizes of GOODMAN STOPPERS on trial.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Price gas: Light and Fuel, gross, 85c.; net, 75c. For differential rates for indus. service, communicate with company.
 No. public gas lamps, 12,439.
 No. hours lamp is lighted per year, 4,000.
 Contract does not include repairs, care, lighting and extinguishing.
 Ranges, 121,760; water heaters, 32,277.
 Supplies Baltimore and suburbs.

ELECTRICAL DEPARTMENT.

System operated: Lighting: Arcs and incand., D. C. and A. C., 60 cycles; power, D. C.; A. C., 25 and 60 cycles, single and 3 phase.
 Generating capacity: Steam and Water, 90,000 h. p.
 Voltage: Incand., 120; power, 240; series mun. street lighting.
 City lighting contract: Hours lighted per year, arcs, 2,000 and 4,000; incand., 4,000.
 No. public arcs, 4,375; 528-500-320 watt. Price per year, city, overhead, \$62, all night; \$74, underground, all night; \$86.60, white way, all night; \$83, underground, half night.
 No. public incand., 5,813; 60-40 c. p.; price per year, underground, all night, \$32.20; overhead, all night, \$20.70.
 Commercial lighting, 62,107.4 kw. equiv. (Total connected load at June 30, 1917.)
 Price commercial current per kw. hr. Schedule B., yearly rate, two-rate system 8c. primary for first 40 hours' consumption; 5c. to 2c. secondary; also have schedules for indus. service.
 Motors, 158,543 h. p.
 Power circuits: Price current per kw. hr., same as lighting primary rate for first 20 hours. Disc., sliding scale, 5c. to 2c.
 Municipal, state and federal service.
 Output of station, kw. hr., total for year, 296,489,590.
 Generating power used, Steam and Water; rated h. p., 90,000.

Cambridge Gas, Electric Light and Power Co., Cambridge.

R.R.: Phila., Balt. & Wash. S. Bs.: B., C. & A. Ry. Line; B. & E. Sh. Trans. Ex.: Ad.

Controlled by the Eastern Shore Gas & Electric Co.

General office, 611 Chestnut St., Philadelphia.

Capital stock, \$100,000.

Bonds, \$161,000; due 1955; interest, 6 p. c.

President, H. F. Hansell, Jr.

Vice-pres., Charles Day.

Secretary, J. E. Zimmerman.

Treasurer, J. E. Zimmerman.

Managers, Day and Zimmerman, Inc.

General supt. and pur. agt., F. W. Woodcock.

New bus. mgr., S. E. Matthews.

Process manufacture, Coal.

Price coal per ton, delivered, \$7.

Candle-power, 16. Calorific val., 600 B. t. u.

Annual production, 16,000,000 c. f.

Gas holder capacity, 30,000 c. f.

Max. day's send out, 70,000 c. f.

Miles of mains, approx., 40.

Street main pressure, max., 4.4 in.; min., 4 in.

Annual sales, approx., 14,000,000 c. f.

Gas unaccounted for, 12 p. c.

Pop. dist. supplied, 5,000; of city, est., 9,000.

No. meters, reg., 520; prepay., 500.

No. consumers, 1,020.

Price gas: Light and Fuel, \$1.65.

No. ranges in use, 740; heaters, 100; water heaters, 60.

No. commercial gas arc lamps, 20.

Supplies Cambridge.

ELECTRICAL DEPARTMENT.

System operated: A. C., 2 and 3 phase, 60 cycles.

Generating capacity: Lighting and power, 200 kw. (Emergency only.)

Current now being secured from Laurel, Del., plant of Eastern Shore Gas & Elec. Co., over a 23,000 volt transmission line.

Voltage: Primary, 2,300; incand., 110; power, 220.

City lighting contract: Hours lighted per year, 4,000.

No. public arcs, 14; 1,000 c. p.; price per year, \$75.

No. public incand., 168; 60 candle-power; price per year, \$20.40.

Commercial lighting: No. incand., 6,000.

Price current per kw. hr., gross, 12c. to 7c. Disc., 10 p. c.

Power circuits: No. motors, 105.

Price current per kw. hr., 7.7c. to 2c.

Substation output, kw. hr. for year, 894,000.

Generating power used: Steam, rated 300 h. p.

Cost of station boiler coal, per ton, \$6.

Chestertown Gas Co., Chestertown.

R.R.: Phila., Balt. & Wash.; Md., Del. & Va. Ry. Ex.: Ad.

Capital stock, auth., \$50,000; issued, \$15,000.

Bonds, \$50,000; due 1947; int., 5 p. c.

President, Merritt W. Pharo.

Secretary, Albert Pharo.

Treasurer, Louis Rafetto.

Gen. mgr. and pur. agent, Albert Pharo.

Supt. and engineer, Paul N. Adams.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$7.

Price of oil per gal., delivered, 4c.-8c.

Candle-power, 18.

Annual production, 5,000,000 c. f.

Gas holder capacity, 25,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 25,000 c. f.

Miles of mains, approx., 5.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 5,000,000 c. f.

Pop. of city, 2,735; of dist. supplied, the same.

No. consumers, 346.

No. meters, reg., 205; prepay., 140.

Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.

Gas appliances in use: Ranges, 322; heaters, 75; water heaters, 38.

No. commercial gas arc lamps, 18.

Supplies Chestertown

Precision Orsats or Flue Gas Analyzers for either 50 or 100 CCs always in stock. Prices and Bulletins on request.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Crisfield Light and Power Co., Crisfield.

RRs.: N. Y., Phila. & Norfolk; S. Bo., B. C. & A. Ry. Line. Ex.: Ad.

Controlled by Layton & Owens, Bridgeville, Dela.

Capital stock, \$30,000.

Bonds, \$30,000; due 1931; int., 6 p. c.

President, Charles Owens.

Secretary, Robert R. Layton.

Treasurer, Robert R. Layton.

General mgr., Walter Owens.

Pur. agent, R. G. Ankham.

New business manager, W. R. Ankham.

Supt. and engineer, R. G. Ankham.

Process manufacture, Lowe.

Price coal per ton, delivered, \$10.

Price oil per gallon, delivered, 9c.

Candle-power, 20.

Calorific value, 600 B. t. u.

Annual production, 12,000,000 c. f.

By-products made: Tar, 6,300 gals.

Gas holder capacity, 60,000 c. f.

Holder pressure, max., 3 in.

Max. day's send out, 45,000 c. f.

High pressure mains, miles, 9. Pressure, 15 lbs.

Street main pressures, max., 15 lbs.; min., 5 lbs.; individual regulators.

Annual sales, approx., 10,530,000 c. f.

Gas unaccounted for, 10 p. c.

By-products sold: Tar, 1,000 gals.

Pop. of city supplied, 4,468; dist. supplied, 6,000.

No. consumers, 556.

No. meters, reg., 377; prepay., 179.

Price gas: Light and Fuel, net, \$1.25. All over 6 M. c. f., discount 25c., 5 days.

Gas appliances in use: Ranges, 524; heaters, 152; water heaters, 36.

No. commercial gas arc lamps, 7.

Supplies Crisfield, Mariners and Lawsonia.

Easton Light and Fuel Co., Easton.

RRs.: B., Ch. & At.; Phila., Balt. & Wash. S. Bs.: B., C. & A. Ry. Lines. Ex.: Ad.

Capital stock, \$50,000.

Bonds, \$50,000; int., 5 p. c.

Receivers, Wm. M. Sheehan and G. Elbert Marshall.

New bus. mgr., G. Elbert Marshall.

Superintendent, Ralph B. Rhodes.

Process manufacture, Lowe.

Candle-power, 24.

Gas holder capacity, 21,000 c. f.

Miles of mains, approximate, 5.

Annual sales, approx., 6,000,000 c. f.

Pop. dist. supplied, 5,000; of town, 5,000.

No. consumers and meters, 370.

Price gas: Light, gross and net, \$2. Fuel, \$1.50.

Supplies Easton.

Property sold in 1918 to S. M. Kitzmiller & Bro. of Shippensburg, Pa.

The Elkton Gas Improvement Co., Elkton.

RR.: Phila., Balt. & Wash. Ex.: Ad.

President, De Lancy Scott.

Secretary, Charles Adams.

Treasurer, Irving T. Kepler.

Process manufacture, Coal.

Annual production, 3,500,000 c. f.

Gas holder capacity, 15,000 c. f.

Miles of mains, approximate, 3.

Street main pressures, max., 3 in.

Annual sales, approx., 3,300,000 c. f.

Pop. dist. supplied, 2,500; of town, 3,000.

No. consumers, 265.

No. meters, reg., 200; prepay., 65.

Price gas: Light and Fuel, gross, \$2.10; net, \$2.

Ranges, 225.

Supplies Elkton.

Frederick Gas and Electric Co., Frederick.

RRs.: B. & O.; No. Cen.; H. & F. Ry. Ex.: Ad.; Am.; W. F.

Controlled by The Hagerstown & Frederick Railway Company.

President, Emory L. Coblenz.

Secretary, M. P. Moller.

Treasurer, T. H. Haller.

Purchasing agent, R. V. Mitchell.

Gen. mgr., M. A. Pooler.

Superintendent, Wm. H. Steinhaus.

New bus. mgr., Geo. C. Rhoderick, Jr.

Process manufacture, Lowe.

Price of coal per ton, del'd, \$6.75.

Price oil per gal., delivered, 10.25c.

Calorific value, 600 B. t. u.

Annual production, 30,072,000 c. f.

By-products made: Tar, 8,000 gals.

Total gas holders capacity, 50,000 c. f.

Holder pressure, 5.4 in.

Max. day's send out, 138,000 c. f.

Miles of mains, approx., 14.

Street main pressures, max., 5 in.; min., 2.5 in.

Annual sales, approx., 30,000,000 c. f.

Gas unaccounted for, 16 p. c.

By-products sold: Tar, 8,000 gals.

Pop. dist. supplied, 12,000; city, 10,411 (1910)

No. consumers, 1,492.

No. meters, reg., 1,072; prepay., 421.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.

Ranges in use, 1,390; heaters, 165; water heaters, 284.

Supplies Frederick.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., single and 3 phase, 60 cycle.

Generating capacity: Lighting and power, 4,000 kw.

Voltage: Line, 2,200; incand., 110; power, 220-110.

Commercial lighting: No. arcs, 27; No. incand., 9,000.

Price current per kw. hr., 9c. to 5c. Discount, 5 p. c.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Power circuits: No. of motors, 125; price, 5c. to 2c. Discount, 5 p. c.
 Output of station, kw. for year, 12,126,850.
 Generating power used, Steam; rated 5,333 h. p.
 Cost of station boiler coal per ton, \$5.70.
 Supplies Frederick, Middletown, Myersville, Jefferson, Thurmont, Lewistown, Walkersville and Emmetsburg, Hagerstown, Williamsport.

Hagerstown Light and Heat Co. of Washington County Hagerstown.

RRs.: B. & O.; Cum. Vy.; N. & W.; W. Md.
 Ex.: Ad.; So.

(Controlled by Lehigh Power Securities Co.)
 Capital stock, \$200,000.
 Bonds, \$291,000; due 1962: int., 5 p. c.
 President, P. B. Sawyer.
 Secretary, R. C. Saylor.
 Treasurer, M. L. Winters.
 Gen. mgr. and pur. agt., W. R. Rhoades.
 Superintendent, E. B. Spielman.
 New bus. mgr., F. J. Bullard.
 Process manufacture, Lowe.
 Annual production, 92,372,000 c. f.
 By-products made: Tar, 1,600 gals.
 Calorific value, 600 B. t. u.
 Total gas holder capacity, 375,000 c. f.
 Holder pressure, 8 in.
 Max. day's send out, 356,000 c. f.
 Miles of mains, approx., 32.5.
 Street main pressures, max., 5 in.; min., 3.5 in.
 Annual sales, approx., \$1,541,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. dist. supplied, 23,000; of city, est. 27,000.
 No. consumers, 4,070.
 No. meters, reg., 2,527; prepay., 1,543.
 Price gas: Light and Fuel, gross, \$1.45; net, \$1.35; discount for quantity.
 No. public Miner incand. gas lamps, 12. Price per year, \$20.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 2,361; heaters, 500; water heaters, 975.
 No. commercial gas arc lamps, 360.
 Supplies Hagerstown and suburbs.

Havre de Grace Gas Co., Havre de Grace.

RRs.: Phila., Balt. & Wash. S. Bs.: Tolch.
 Co. Ex.: Ad.

Capital stock, \$50,000.
 Bonds, \$50,000; due 1930; int., 5 p. c.
 President, Samuel W. Appleton.
 Secretary and treas., J. W. Maslin.
 Purchasing agent, Jas. H. McHale.
 Gen'l mgr. and engineer, Jas. H. McHale.
 Superintendent, Jas. H. McHale.
 Process manufacture, Lowe.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Annual production, 6,000,000 c. f.
 By-products made: Tar, 20,000 gals.
 Gas holder capacity, 20,000 c. f.
 Max. day's send out, 35,000 c. f.
 Miles of mains, approx., 8.

Street main pressures, max., 4 in.; min., 3.6 in.
 Annual sales, approx., 5,500,000 c. f.
 Pop. city, 4,212; of dist. supplied, 4,500.
 No. consumers, 500.
 No. meters, reg., 25; prepay., 475.
 Price gas: Light and Fuel, gross, \$1.50.
 Gas appliances in use: Ranges, 300; heaters, 50; water heaters, 75.
 No. commercial gas arc lamps in use, 50.
 Supplies Havre de Grace.

Hyattsville Gas and Electric Co., Hyattsville.

RRs.: B. & O.; Ches. Beach. Ex.: W. F.

(Owned by Humphreys & Miller, Inc.)
 Capital stock, com., auth., \$100,000; issued, \$86,000.
 President, Altan S. Miller.
 Secretary, Robert O. Luqueer.
 Treasurer, Robert O. Luqueer.
 General manager, E. G. Bucklin.
 Superintendent, E. G. Bucklin.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.75.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Max. day's send out, 110,000 c. f.
 Total gas holders capacity, 60,000 c. f.
 Holder pressure, 3.25 in.
 Miles of mains, approx., 25.
 Street main pres., max., 3.25 in.; min., 2.5 in.
 Annual sales, approx., 26,000,000.
 Gas unaccounted for, 7.4 p. c.
 Pop. dist. supplied, 7,500.
 Consumers and meters, 1,350.
 Price gas: Light and Fuel, \$1.50 first 10,000 c. f.; over 10,000 c. f. to 150,000 c. f., \$1 per M.; all over 150,000 c. f., 90c.
 Ranges in use, 1,335; water heaters and heaters (no record).
 Supplies Hyattsville, Brentwood, Mt. Rainier, Riverdale, Bladensburg and East Hyattsville and Cottage City and Maryland Agricultural College at College Park.
 (No electric department.)

Georgetown Gas Light Co., Rockville.

(See report under Washington, D. C.).

Citizens Gas Co., Salisbury.

RRs.: B., Ch. & At.; N. Y., Phila. & Norf.
 S. Bs.: B., C. & A. Ry. Lines. Ex.: Ad.

Capital stock, auth., \$65,000; issued, \$65,000.
 Bonds, \$120,000; due 1940; int., 6 p. c.
 President, William P. Jackson.
 Secretary, C. R. Disharoon.
 Treasurer, W. B. Miller.
 Pur. agent and gen. mgr., Harold W. Smith.
 Superintendent, W. R. Ruark.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$4.90; oil per gal., 9.36c.
 Calorific value, 600 B. t. u.
 Annual production, 30,000,000 c. f.
 By-products made: Tar, 8,000 gals. (none sold).
 Gas holder capacity, 60,000 c. f.
 Holder pressure, max., 3.5 in.

SERVICE CLEANERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our New American Service Cleaners have been improved and they are now sold generally throughout the country.

DRIP PUMPS

These are made of brass and are exceptionally strong and durable.

Max. day's send out, 115,000 c. f.
 Street mains, approx., 10.75 miles.
 Street main pressures, max., 3.5 in.; min., 3 in.
 High pressure mains, 12.5 miles; pressure, average, 25 lbs.
 Annual sales, approx., 28,250,000 c. f.
 Gas unaccounted for, 5.7 p. c.
 Pop. of Salisbury, 6,090; of dist. supplied, 6,500.
 Pop. of Delmar, 959; of dist. supplied, 1,200.
 No. consumers, 1,600.
 No. meters, reg., 870; prepay., 730.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50; from 17,000 to 20,000 c. f., \$1.40; over 20,000 c. f., \$1.20.
 Gas appliances in use: Ranges, 1,153; heaters, 310; water heaters, 154.
 No. commercial gas arc lamps in use, 75.
 Supplies Salisbury; also supplies Delmar, through high pressure main.

Bethlehem Steel Co., Sparrows Point.

RRs.: B. & O.; No. Cen. Ex.: Am.

President, E. G. Grace.
 Secretary, B. H. Jones.
 Treasurer, B. H. Jones.
 Comptroller, F. A. Shick.
 Asst. to president, H. E. Lewis.
 Purchasing agent, W. M. Tobias.
 120 Koppers Ovens.
 Candle-power, 10 to 16.
 Annual sales, approx., 1,000,000,000 c. f.
 Supplies Consolidated Gas Co. of Baltimore.

Washington Gas Light Co. of Montgomery County, Md., Takoma Park.

Controlled by Washington Gas Light Co., Washington, D. C.
 Office, 413 Tenth St., N. W., Washington, D. C.
 Capital stock auth. and issued, \$10,000.
 Dividend paid in 1917, 6 p. c.
 President, Sanford N. Whitwell (Washington, D. C.).
 Sec. and treas., George M. Whitwell.
 Gas purchased from Washington Gas Light Co., Washington, D. C.
 Gas purchased, 13,600,000 c. f.
 Street mains, approximate, 5.21 miles.
 Annual sales, approx., 13,600,000 c. f.
 Pop. town, est., 3,000; dist. supplied, 3,000.

No. consumers and meters, 378.
 Price gas: Light and Fuel, gross, \$1; net, \$5c.
 Supplies Takoma Park.

Consolidated Public Utilities Co., Westminster.

RRs.: W. Md. Ex.: Ad.

Capital stock, com., auth., \$150,000; issued, \$137,540.
 Bonds, \$135,000; due 1930; int., 4 to 5 p. c.
 President, James Howell Billingslea.
 Vice-president, Geo. W. Albaugh.
 Secretary, E. Lee Erb.
 Treasurer, E. Lee Erb.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.
 Candle-power, 16.
 Max. day's send out, 35,000 c. f.
 Total gas holders capacity, 31,000 c. f.
 Miles of mains, approximate, 10.
 Street main pressures, max., 4 in.; min., 2.2 in.
 Annual sales, approx., 7,700,000 c. f.
 Gas unaccounted for, 9.8 p. c.
 Pop. dist. supplied, 3,000; of city, 3,295.
 No. meters, reg., 490; prepay., 60.
 No. consumers, 555.
 Price gas: Light and Fuel, gross \$1.50; net \$1.25 (sliding scale).
 Ranges in use, 400; heaters, 50; water heaters, 50.
 No. commercial gas arc lamps, 3.
 Supplies Westminster.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$10,000 stock; \$20,000 bonds, 5 p. c.
 System operated: Arc., D. C. series; incand., A. C., single ph., 133 cycles.
 Generating capacity: Lighting, 150 kw.
 Voltage: Incand., 110-120.
 City lighting contract: Hours lighted per year: Arc, Moonlight sch.
 No. public arcs, 46; 350 watt; price per year, \$60.
 No. public incand., 28; 110 watt; price per year, \$18.
 Commercial lighting: Price per kw. hr., gross, 10 to 6c.
 Generating power used, Steam; rated h. p., 400.
 Cost of station boiler coal per ton, \$3.25.
 (No 1918 report.)

MASSACHUSETTS.

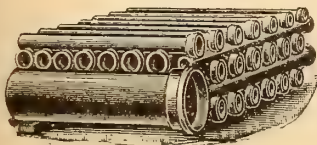
Total population, 3,747,564.

Adams Gas Light Co., Adams.

RRs.: Bos. & Al. Ex.: Am.

Controlled by Mass. Lighting Companies.
 Capital stock, \$60,000; ann. div., 21 p. c.
 President, Arthur E. Childs.
 Secretary and treas., Geo. F. Howland.
 Gen'l mgr., Guy K. Dustin.
 Engineer, R. Y. Conklin.
 Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).
 Local mgr., B. K. Cook.
 New bus. mgr., Wm. Gould.

(Gas purchased from No. Adams Gas Light Co.)
 Candle-power, 16.9; calorific value, 600 B. t. u.
 Annual purchase, 29,580,200 c. f.
 Miles of mains, approx., 18.
 Street main pressures, max., 3.5 in.; min., 3.2 in.
 High pressure mains, miles, 2; pressure, 10-25 lbs.
 Annual sales, approx., 27,824,700 c. f.
 Gas unaccounted for, 5.6 p. c.
 Pop. city, 13,218; of dist. supplied, the same.
 No. meters, reg., 597; prepay., 1,200.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO.
 PHILADELPHIA, PA.

No. consumers, 1,797.

Price gas: Light and Fuel, gross, \$1.15; net \$1.05.

Ranges in use, 1,320; water heaters, 290.

No. commercial gas arc lamps, 42.

Supplies Adams.

ELECTRICAL DEPARTMENT.

(Current purchased from No. Adams Gas Light Co.)

System A. C., single and 3 phase, 60 cycles.

Miles of overhead wires, 134.

Voltage: Arcs, 78; incand., 110; power, 2,300.

City lighting contract: Hours lighted, 3,928.

Public arcs, 92; 310 watt; price per year, \$78.

Public incand., 135; 50 watt; price \$18 per lamp per year.

Commercial lighting: No. incand., 14,668.

Price commercial: 1st 15 kw. hr. per mo., net, 12c.; all over 15 kw. hr., per mo., net, 8c.

Power circuits: No. motors, 38.

Price current per kw. hr., gross, 5c.; net, 4c.; next 6,000 kw., 2c.; next 22,000 kw., 1.75c.; all over 30,000 kw. hr., 1.5c. Subject to monthly load-factor discount.

Power purchased, kw. hrs., total for year, 982,238.

Amesbury and Salisbury Gas Co., Amesbury.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, \$60,000.

Bonds, \$60,000; due 1923; int., 5 p. c.

President, Daniel A. Cashman.

Treasurer, John Cashman.

Secretary, Daniel A. Cashman.

Gen. mgr. and pur. agt., John A. McCarthy.

Superintendent, John A. McCarthy.

Process manufacture, Lowe (Granger).

Candle-power, 19.8.

Calorific value, 618 B. t. u.

Price coke per ton, del'd, \$8.50.

Price oil per gal., 8.6c.

Annual production, 19,200,000 c. f.

By-products made: Tar, 13,000 gals.

Gas holder capacity, 110,000 c. f.

Holder pressure, max., 5 in.

Max. day's send out, 140,000 c. f.

Miles of street mains, 34.

Street main pressures, max., 5.2 in.; min., 2.6 in.

High pressure mains, 18 mi.; pressure, max., 25 lbs.; min., 5 lbs.

Annual sales, approx., 18,500,000 c. f.

Gas unaccounted for, 12 p. c.

By-products sold, tar, 10,000 gals.

Pop. dist. supplied, approx., 10,000; of town, 9,894 (Amesbury).

No. consumers, 1,628.

No. meters, reg., 904; prepay., 1,026.

Price gas: Light and Fuel, gross, \$2.50; net, \$2.

Ranges and hot plates in use, 906; heaters, 18; water heaters, 6.

No. commercial gas arc lamps, 80.

Supplies Amesbury, Salisbury and Salisbury Beach and Hampton, N. H.

Amherst Gas Co., Amherst.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, \$300,000; annual div., 6 p. c.

Bonds, \$30,000; due 1924; int., 5 p. c.

President, Philip Cabot.

Secretary and treas., F. C. Abercrombie.

General manager, Geo. W. Lawrence.

Pur. agent, J. J. O'Connell.

Engineer, C. F. Mosher.

Superintendent, J. J. O'Connell.

New bus. mgr., J. J. O'Connell.

Process manufacture, Lowe.

Price coal per ton, delivered, \$10.

Price oil per gallon, delivered, 5.92c.

Candle-power, 18.

Annual production, 14,465,430 c. f.

Gas holder capacity, 80,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 82,060 c. f.

Miles of mains, approx., 21.4.

Street main pressure, max., 4.2 in.; min., 3.7 in.

Annual sales, approx., 13,574,840 c. f.

Gas unaccounted for, 9.3 p. c.

Pop. of city, 5,112 (1910); dist. supplied, est., 6,000.

No. consumers, 803.

No. meters, reg., 579; prepay., 224.

Price gas: Light and Fuel, gross, \$1.75. Discount, 5c., 10 days. (Effective, Jan. 1, 1918).

No. ranges in use, 475; water heaters, 225.

Supplies Amherst and Pelham.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System operated: Arc and incand., A. C., 60 cycle; power, A. C., single and 3 phase.

Voltage: Incand., 110; power, 110-220-550.

Miles of overhead wires, 299.3.

City lighting contract: Hours lighted per year, Amherst, 374-60 c. p. lighted from dark to 1 a. m.; price \$14; 28-250 c. p. at \$49.50; Hadley, 102 incand., 60 c. p. at \$25; all night. Hatfield, 226-60 c. p., until 12 midnight; price, \$15.50; 1-250 c. p., at \$45. Whately, 49-60 c. p., until 12 midnight; price per year, \$20.

Commercial lighting: Price per kw., hr. gross, 13c. to 8c., sliding scale. Disc., 10 p. c., 10 days.

Power circuits: No. motors, 146; price current per kw. hr., sliding scale, 5c. to 1.8c.; cooking and heating, 1st 40 kw. hrs., 5c. per kw. hr.; over 40 kw. hrs., 2c. per kw. hr. Min. mo. chare, \$1.50.

Output of station, kw. hrs., for year, 3,949,824.

Current purchased from Turners Falls Power & Electric Co.; also from Greenfield Electric Light & Power Co.

Furnished to towns of Amherst, Hadley, Hatfield and Whately.

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Arlington Gas Light Co., Arlington.

RR.: Bos. & Me. Ex.: Am.; B. L.

Controlled by Mass Lighting Companies.
Capital stock, \$450,000.

Annual dividend, 6 p. c.

Bonds, \$100,000; due 1927; int., 5 p. c.

President Arthur E. Childs.

Secretary and treas., Geo. F. Howland.

Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.

Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).

Local manager, F. A. Woodhead.

Com. mgr., William Gould.

Process manufacture, Lowe. (Coal-gas plant not in use.)

Price of coal per ton, del'd. \$6.97.

Price coke per ton, delivered, \$4.89.

Price gas oil per gal., 5.07c.

Candle-power, 16.8; calorific value, 600 B. t. u.

Annual prod., water-gas, 144,291,800 c. f.

Total gas holder capacity, 735,000 c. f.

Holder pressure, 8.5 in.

Max. day's send out, 624,000 c. f.

Miles of mains, approx., 86.

Street main pressures, max., 4.5 in.; min., 4.5 in.

High pressure mains, 12 miles; pres., 7.3 lbs.

Booster mains, pressure, 2.5 lbs.

Annual sales, approx., 135,927,000 c. f.

Gas unaccounted for, 5.1 p. c.

Pop. cities, 32,975; dist. supplied, the same.

No. consumers, 6,411.

No. meters, reg., 5,203; prepay., 1,208.

Price gas, gross, \$1.20; net, \$1.10.

Gas appliances in use: Ranges, 5,235; water heaters, 1,735.

No. commercial gas arc lamps, 175.

Supplies Arlington, Belmont, Winchester.

Athol Gas and Electric Co., Athol.

RR.: Bos. & Al.; Bos. & Me. Ex.: Am.; Nat.

(Controlled, through stock ownership by Commonwealth Gas & Electric Co.)

Capital stock, auth., \$655,000; annual div., 8.5 p. c.

Bonds, \$15,000; due 1921; int., 5 p. c.

Vice-pres., Bowen Tufts.

Vice-pres., E. G. Loomis.

Secretary, E. C. Mason.

Treasurer, Paul B. Webber.

Pur. agent, M. B. Webber.

Chief engineer, Geo. T. Mills.

General mgr., Paul B. Webber.

Local mgr., A. A. Loughton.

New bus. mgr., A. W. Evans.

Indus. fuel engineer, R. H. Jameson.

Process manufacture, Lowe-Granger.

Price of coal per ton, delivered, \$6.50.

Price of oil, per gal., 4.3c.

Candle-power, 17.

Calorific value, 625 B. t. u.

Annual production, 12,258,773 c. f.

Total gas holder capacity, 86,000 c. f.

Holder pressure, max., 3 in.

Max. day's send out, 49,780 c. f.

Miles of mains, approx., 11.

Street main pressure, max., 3 in.

Annual sales, approx., 17,948,300 c. f.

Gas unaccounted for, 6.5 p. c.

Pop. of city (1915), 9,534; dis. supplied, 16,700.

No. consumers, 3,031.

No. meters 3,031.

Price gas: Light, \$1.75; Fuel, \$1.45.

No. gas ranges in use, 844.

Supplies Athol, Orange, Wendell and Erving.

ELECTRICAL DEPARTMENT.

System operated: A. C., single phase, 60 cycles; power, 1 and 3 phase, A. C., 60 cycles.

Generating capacity, 2,040 kw.

Voltage: Incand., 110; power, 220 and 550.

City lighting contract: Hours lighted per year: All night, every night, 4,000 hrs.

No. public incand., 675; 40 and 60 c. p. Price per year, \$18 and \$21.

Price current per kw. hr., gross, 14c. to 8c.

Power circuits: No. motors, 251.

Price per kw. hr., 10c. to 2c.

Output of station kw. hrs. for year, 3,273,326.

Generating power used, Water; rated 2,720 h.p.

Cost of station boiler coal per ton, \$4.32.

Furnishes elec. power to Street Railway Co.

Attleboro Gas Light Corp., Attleboro.

RR.: N. Y., N. H. & H. Ex.: Ad.; E. & P.

Capital stock, \$116,000; ann. div., 12 p. c.

President, Wm. C. Davenport.

Secretary, Wm. J. Luther.

Treasurer, Walter T. Soper.

Manager and pur. agent, Wm. J. Luther.

Superintendent and engineer, Wm. J. Luther.

New bus. mgr., Wm. J. Luther.

Process manufacture, Coal.

Candle-power, 17.

Annual production, 70,000,000 c. f.

Gas purchased, 17,534,800 c. f.

Total gas holders capacity, 666,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 249,000 c. f.

Miles of mains, approx., 30.

Street main pressures, max., 3.5 in.; min., 3 in.

Annual sales, approx., 84,000,000 c. f.

By-products sold: Coke, 3,364 tons; tar, 104,975 gals.

Pop. dist. supplied, 12,000; of city, 16,215.

No. meters, reg., 730; prepay., 2,610.

Price gas: Light and Fuel, gross, \$1.20; net, \$1. (Petition for increase.)

Ranges in use, 1,600.

Supplies Attleboro.

Beverly Gas and Electric Co., Beverly.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, auth. and issued, \$687,500; ann. div., 12 p. c. on \$437,500; 9 p. c. on \$250,000.

President, Andrew W. Rogers.

Secretary, Charles R. Prichard.

Treas. and pur. agt., Charles R. Prichard.

General mgr., Andrew W. Rogers.

Superintendent gas, C. R. Prichard.

PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



Superintendent elec. dept., A. Macaulay.
 Process manufacture, Lowe and Coal.
 Candle-power, 17.2.
 Total gas holder capacity, 300,000 c. f.
 Max. day's send out, 396,300 c. f.
 Miles of mains, approx., 72.
 Street main pres., max., 3.5 in.; min., 3 in.
 High pressure mains, 2 miles; pressure, 0.5 to 2 lbs.
 Annual sales, approx., 96,828,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. dist. supplied, 30,000; Beverly, 22,959; Danvers, 11,177.
 No. consumers, 5,600.
 No. meters, reg., 2,600; prepay., 3,000.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.10 in Beverly; \$1.55 gross, \$1.35 net in Danvers.
 No. gas ranges in use, 2,762.
 Supplies Beverly and Danvers with gas, Beverly, Topsfield, Hamilton and Wenham with electricity.

ELECTRICAL DEPARTMENT.

System operated: Power, A. C., 3-phase, 60 cycle. Arcs and incand., D. C.
 Generating capacity: Lighting and power, 1,500 kw.
 Voltage: Arcs, 80; incand., 110; power, 220.
 Miles of overhead wires, 108; underground cables, 12.2 miles.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs: Beverly, 102 mag. at \$97 and \$69 per year; 332 enclosed at \$79.
 No. public incand.: Beverly, 427, 50 watt; price per year, \$18.50 and \$20; Wenham, 178, 50 watt; Hamilton, 257, 50 watt. Price per year, \$18.50. Topsfield, 62, 50 watt., at \$25.30 per year.
 Commercial lighting: No. arcs, 45; No. incand., 53,287.
 Price current per kw. hr., gross, 12c. in Beverly, Wenham and Hamilton; 15c. in Topsfield. Disc., 2c. per kw.
 Power circuits: No. motors, 81; price per kw. hr., 10c. in Beverly, Wenham and Hamilton; 12c. in Topsfield. Disc., 10 to 70 p. c.
 Output of station, kw. hrs., total for year, 2,586,922.
 Generating power used, Steam; rated h. p., 2,250.
 Cost of station boiler coal, per ton, \$4.43.

Blackstone Electric Light Co., Blackstone.

RR.: N. Y., N. H. & H. Ex.: Ad.; E. & P.
 Boston office, C. D. Parker & Co., Inc., 78 Devonshire St.
 Capital stock, \$40,000.
 President, E. P. Rowell, Plymouth, Mass.
 Treasurer, Chas. R. Adams, Boston, Mass.
 General manager, O. E. Wolcott.
 Superintendent, Ralph O. Ditson.
 New bus. mgr., Ralph O. Ditson.
 Gas purchased from Woonsocket, R. I.
 Candle-power, 20.
 Miles of mains, approx., 4.5.
 Street main pressures, max., 4 in.; min., 2.4 in.
 Annual sales, approx., 5,593,500 c. f.

Pop. of city, 6,000; of dist. supplied, the same.
 No. consumers and meters, 423.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.25.
 Gas appliances in use: Ranges, 353.
 Supplies Blackstone.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycle.
 Voltage: Incand., 110-220.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 18; 320 watt. Price per year, \$100.
 No. public incand., 140; 50 watt. Price per year, \$25.
 Commercial lighting: No. incand., 4,251.
 Price current per kw. hr., gross, 14.5. Disc., 1c.
 Output of station, total kw. for year, 243,691.

Boston Consolidated Gas Co., Boston.

RRs.: Bos. & Al.; Bos. & Me.; B. R. B. & L.; N. Y., N. H. & H. S. Bs.: Met. Co.; N. E. Nav.; Me. Coast Co.; Mer. & Min. Trans.; Clyde S.S.; Ocean S.S.; Dom. At. Ry. Lines. Ex.: Ad.; Am.; Nat.; Mar.; W. F. N. Y. & B.; E & P.

(Controlled by Massachusetts Gas Cos.)
 (For detailed information see Appendix.)
 Capital stock, \$15,124,600; ann. div., 7 p. c.
 Chairman of Board, J. L. Richards.
 President, W. A. Wood.
 Vice-presidents, E. N. Wrightington and D. D. Barnum.
 Secretary, H. S. Lyons.
 Treasurer, R. Grant.
 Purchasing agent, A. Dunbar.
 Chief engineer, W. A. Wood.
 New business manager, E. N. Wrightington.
 Process manufacturer, Lowe.
 (Coke oven gas purchased of N. E. Fuel & Transportation Co.)
 Annual production, water-gas, 3,563,317,000 c. f.
 Gas purchased, 2,845,050,000 c. f.
 By-products made: Tar, 1,877,067 gals.
 Candle-power, 17.26.
 Calorific value, 585 B. t. u.
 Total gas holder capacity, 29,199,000 c. f.
 Max. day's send out, 19,709,000 c. f.
 Miles of mains, approx., 971.
 Street main pressures, max., 3 in.; min., 2.6 in.
 Booster mains, 30 miles; pressures, 1.5 to 3 lbs.
 Annual sales, approx., 5,810,284,000 c. f.
 Gas unaccounted for, 1.37 p. c.
 By-products sold: Tar, 742,739 gals.
 Pop. dist. supplied, 706,301; of city, 670,585.
 No. consumers, 169,734.
 No. meters, reg., 134,298; prepay., 35,436.
 Price gas: Light and Fuel, 90c. (Jan. 1, 1918).
 No. public gas lamps, approx., 10,041, including 9,928 Welsbach incand.
 Hours lighted per year, 3,699, 3,828 and 4,000.
 Contract includes repairs, care, lighting and extinguishing. Price per year \$21.
 Supplies Boston, Brookline and Milton.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

This company has taken over Massachusetts Pipe Line Co., Brookline, Dorchester, Jamaica Plain, Boston, Roxbury, South Boston Gas Light companies and Bay State Gas Co. Also supplies gas to Charlestown Gas & Electric Co., Dedham & Hyde Park Gas Co., Newton & Watertown Gas Co. and Citizens' Gas Light Co. of Quincy and East Boston Gas Co.

Charlestown Gas and Electric Co., Boston.

(For RRs. and S. Bs. see Boston Consol. Gas Co.)

Capital stock, \$800,000.
Annual dividend, 17 p. c.
(For further financial data, see Appendix.)
President, Frank J. Bartlett.
Clerk, S. J. Fowler.
Treasurer and pur. agent, S. J. Fowler.
New bus. mgr., S. J. Fowler.
General manager, S. J. Fowler.
Superintendent, P. Coyle.
Process of manufacture, Coal.
Candle-power, 16.
Calorific value, 610 B. t. u.
Annual production, 383,000,000 c. f.
By-products made: Coke, 21,158 tons; tar, 438,225 gals.; ammonia, 171,583 lbs.
Gas purchased, 4,308,000 c. f.
Max. day's send out, 1,400,000 c. f.
Total gas holder capacity, 1,300,000 c. f.
Holder pressure, max., 8.5 in.
Miles of mains, approx., 62.
Street main pressures, max., 4 in.; min., 2.5 in.
Annual sales, approx., 336,000,000 c. f.
Gas unaccounted for, 9 p. c.
Pop. of Boston, 670,585; dist. supplied, est., 60,000.
No. consumers, 13,524.
No. meters, reg., 8,448; prepay., 5,076.
Price gas: Light and Fuel, gross 90c.; net 80c.
Supplies Charlestown and part of Somerville.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand., A. C.; power A. C. 3-phase, 60 cycles.
Voltage: Incand., 220-110; power, 220-110.
City lighting contracts: Hours lighted, arc and incand., 4,000.
No. public arcs, 294.
No. public incand., 1.
Miles of overhead wires, 40; underground cables, 31.
Commercial lighting: Price per kw. hr., gross 11c.; disc., 1c. Also yearly contracts.
Power circuits: No. motors, 247; price current per kw. hr., 10c. Disc., excess of 23 and not exceeding 103 kw. hrs., 9c.; excess of 103 kw. hrs., 70 p. c. on bills over \$10; 30 p. c. on bills over \$100 after above deductions. Avg. rate, 6c. Min. charge, \$1.
Current purchased from Edison El. Ill. Co., of Boston.

East Boston Gas Co., Boston.

(For RRs. & S. Bs., see Boston Consol. Gas Co.)

(Controlled by Massachusetts Gas Cos.)
Capital stock, \$575,000; ann. div., 7.5 p. c.
Chairman of Board, J. L. Richards.
President, N. W. Gifford.
Treasurer, H. C. French.
Clerk, A. S. Bull.
Purchasing agent, A. Dunbar.
Gen'l mgr., N. W. Gifford.
New bus. mgr., J. M. Riley.
Process manufacture, Coal and Lowe.
Annual prod., coal-gas, 113,634,000 c. f.; water-gas, 203,138,000 c. f.
Gas purchased, 203,295,256 c. f.
By-products made: Coke, 6,925 tons; tar, 350,211 gals.; ammonia, 45,277 lbs.
Candle-power, 16,21.
Calorific value, 600 B. t. u.
Total gas holder capacity, 2,521,642 c. f.
Max. day's send out, 1,786,000 c. f.
Miles of mains, approx., 81.
Street main pressures, max., 4 in.; min., 3 in.
Booster mains, 3 miles; pressure, 10 in.
Annual sales, approx., 566,785,000 c. f.
Gas unaccounted for, 2,89 p. c.
By-products sold: Coke, 546 tons; tar, 307,275 gals.; ammonia, 45,277 lbs.
Pop. dist. supplied, 95,000; of East Boston, est., 60,000; Chelsea, 32,452.
No. consumers, 19,796.
No. meters, reg., 14,525; prepay., 5,271.
Price gas: Light and Fuel, 90c. (after Jan. 1, 1918).
No. public gas lamps, 932, incl. 919 Welsbach incand.
Contract includes repairs, care, lighting and extinguishing. Price per year, \$21.
No. hours lamp is lighted per year, 3,897 in Chelsea and 4,000 in East Boston.
No. commercial gas arc lamps, 800.
Supplies East Boston and Chelsea.

New England Fuel and Transportation Co., Boston.

RRs.: Bos. & Me.; Bos. & A.

(Successor to New England Gas and Coke Co.)
(Office, 111 Devonshire St. Works located at Everett.)
Capital stock, \$25,000,000.
Chairman of Board, J. L. Richards.
Vice-Pres. and gen. mgr., W. E. McKay.
Secretary, A. S. Bull.
Treasurer, H. C. French.
Purchasing agent, A. Dunbar.
Superintendent, R. M. Folsom.
Process manufacture, Otto-Hoffman Coke-oven process.
No. of ovens, 400; length, 33 ft.; width, 18 in.; height, 6 ft.
Candle-power, 18.
Daily capacity, approx., 10,000,000 c. f.
(Residual gas not used in coking is sold to Boston Consolidated Gas Co.)
Annual sales, approx., 2,845,050,000 c. f.

HUNT INDUSTRIAL RAILWAYS are particularly adapted to handling quenched coke from the quenching bins to storage cars, tracks, curves, switches in standard designs and sizes can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Old Colony Gas Co., Braintree.

RRs.: N. Y., N. H. & H. Ex.: Ad.; N. Y. & B.; Bos. Loc.

(For capitalization and bonds, see Appendix.)

President, E. M. Farnsworth.

Vice-president, E. M. Farnsworth, Jr.

Secretary and treasurer, J. A. Hall.

New bus. mgr., C. D. Bond.

Indus. fuel engr., C. D. Bond.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$8.

Price of oil per gal., 6.66c.

Calorific value, 530 B. t. u.

Annual production, 100,000,000 c. f.

Gas holder capacity, 830,000 c. f.

Holder pressure, 9.5 in.

Max. day's send out, 440,000 c. f.

High pressure mains, miles, 125; pressure, max., 10 lbs.; min., 7 lbs.

Distribution high pressure supplied through compressor.

Annual sales, approx., 90,000,000 c. f.

Gas unaccounted for, 9 p. c.

Pop. dist. supplied, of Braintree, 8,066; Weymouth, 12,895; Hingham, 4,965; Rockland, 6,928; Abington, 5,455; Whitman, 7,292.

No. consumers and meters, 5,200.

Price gas: Light, gross, \$1.50; net, \$1.40.

Gas appliances: Ranges, 3,500; water heaters, 434.

No. commercial gas arc lamps, 403.

Supplies Braintree, Weymouth, Rockland, Abington, Hingham and Whitman.

Brockton Gas Light Co., Brockton.

RRs.: N. Y., N. H. & H. Ex.: Ad.; N. Y. & B.; B. L.

Capital stock, \$1,537,000; ann. div., 6 p. c.; since July 1, 1917, 5 p. c. rate.

Bonds, \$100,000; due 1928; int., 5 p. c.

President, Marcus Beebe.

Secretary, C. S. Purinton.

Treasurer, M. P. Clough.

General manager, Geo. H. Priest.

Pur. agent, Jas. F. Garvin.

Asst. manager, J. B. Anderson.

Supt. of works, Oliver W. Adams.

Indus. fuel engineer, R. H. Sheldon.

Process manufacture, Lowe and Coal (Wood-all-Duckham vertical retorts).

Price coal per ton, delivered, \$6.93.

Price of oil, per gal., 5.5c.

Calorific value, 552 B. t. u.

Annual prod., coal gas, 246,000,000 c. f.; water gas, 215,000,000 c. f.

By-products made: Coke, 16,841 tons; tar, 316,120 gals.; ammonia, 92,592 lbs.

Total gas holders capacity, 2,700,000 c. f.

Holder pressure, max., 13 in.

Max. day's send out, 1,674,000 c. f.

Miles of mains, approx., 240.

Street main press., max., 4 in.; min., 3 in.

High pressure mains, 134 mi.; pressure, 15 lbs.

Annual sales, approx., 400,615,100 c. f.

Gas unaccounted for, 8.5 p. c.

By-products sold: Coke, 7,960 tons; tar, 289,740 gals.; ammonia, 77,700 lbs.

Pop. of dist. supplied, 100,000; of city, Brockton, 65,000.

No. meters, reg., 8,888; prepay., 11,938.

No. consumers, 20,826.

Price gas: Light and Fuel, gross, \$1.35; net,

\$1.25. Randolph, Holbrook, Avon, Bridge-

water, Stoughton and Canton, gross,

\$1.50; net, \$1.40.

No. gas ranges in use, 12,113.

No. commercial arc lamps, 4,219.

Supplies Brockton, Randolph, Avon, Holbrook, East Bridgewater, Bridgewater, West Bridgewater, Stoughton and Canton.

Cambridge Gas Light Co., Cambridge.

RRs.: Bos. & Me. Ex.: Ad.; Am.; B. L.

(For capitalization, etc., see Appendix.)

President, Albert M. Barnes.

Clerk, Karl S. Barnes.

Treasurer, Vinton W. Mason.

Gen. mgr. and pur. agent, Albert M. Barnes.

Superintendent, John P. Kennedy.

New business manager, W. L. King.

Indus. fuel engineer, A. F. Pettingell.

Process manufacture, Coal and Lowe.

Mixture supplied, 75 p. c. coal, 25 p. c. water.

Total gas holders capacity, 10,100,000 c. f.

Holder pressure, max., 4.5 in.

Max. day's send out, 4,873,000 c. f.

Miles of mains, approx., 178.

Street main pressures, max., 5 in.; min., 2 in.

Annual sales, approx., 1,048,256,000 c. f.

Pop. dist. supplied, 170,000; of city, 104,839.

No. consumers, 39,139.

No. meters, reg., 28,906; prepay., 10,233.

Price gas: Light and Fuel, gross, \$1; net, 90c.

No. public Welsbach lamps, 350.

Price does not include repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 3,650.

Supplies Cambridge and portion of Somerville.

Clinton Gas Light Co., Clinton.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.: Ad.; Am.; N. Y. & B.

Controlled by Mass. Ltg. Cos.

Capital stock, \$183,000.

Bonds, \$110,000; due 1925; interest, 4.5 p. c.

President, Arthur E. Childs.

Secretary and treas., Geo. F. Howland.

Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).

Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.

Commercial mgr., William Gould.

Local manager, R. E. Freel.

Process manufacture, Lowe.

Price gas coal per ton, delivered, \$6.02 and \$6.53.

Price gas oil per gal., delivered, 5.8c.

Candle-power, 16.8; calorific value, 600 B. t. u.

Annual production, 26,361,500 c. f.

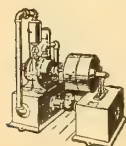
Max. day's send out, 96,000 c. f.

Total gas holder capacity, 90,600 c. f.

Holder pressure, 4 in.

Miles of mains, approx., 14.

Street main pressures, max., 3.5 in.; min., 3.5 in.



YOU CAN CONVINCE THE MOST SKEPTICAL that gas is not an expensive fuel. It is only expensive when inefficiently used. THE NEEDHAM HIGH PRESSURE GAS SYSTEM enables your customers to utilize every heat unit.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Annual sales, approx., 24,428,200 c. f.
 Gas unaccounted for, 6.9 p. c.
 Pop. dist. supplied, 13,192; of city, the same.
 No. meters, reg., 1,338; prepay., 93.
 No. consumers, 1,431.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40 for 1st 50,000 c. f.; next, 50,000 c. f., \$1.20 net; next 50,000 c. f., \$1. All over 150,000 c. f., 85c.
 Gas appliances in use: Ranges, 1,069; water heaters, 122.
 No. commercial gas arc lamps, 84.
 Supplies Clinton.
 (Franchise also covers Lancaster.)

ELECTRICAL DEPARTMENT.

System operated: Arcs and incand., A. C., single and 3 phase, 60 cycles; power, A. C., 3 phase, 60 cycles.
 Miles of overhead wires, 259.
 Voltage: Arcs, 77; incand., 110; power, 110-220.
 City lighting contract; Hours lighted per year: Incand., 3,915. Clinton: 3,915, Lancaster.
 Public incand., 100; 60 watt, price per year, \$28.50; 573, 35 watt, price per year, \$20; 195, 47 watt, price per year, \$17.55.
 Commercial lighting: No. arcs, 2; incand., 21,867 (40 watt units).
 Price light, commercial, gross, 13c. per kw. hr. 1st 300 kw. hrs.: net, 12 c.; all over 300 kw. hrs., 8c. net.
 Power circuits: No. motors, 73. Price per kw. hr., 6c. first 1,000 kw. hr.; next 9,000 kw. hr., 2.5c.; all over 10,000 kw. hr., 2c.; also subject to monthly load factor discount.
 Total power purchased for year, kw. hrs., 4,086,890.

Easthampton Gas Co., Easthampton.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.: Ad.; Am.
 Capital stock, \$450,000; ann. div., 6 p. c.
 President, Philip Cabot.
 Secretary, Fred C. Abercrombie.
 Treasurer, Fred C. Abercrombie.
 General manager, Geo. W. Lawrence.
 Pur. agent, John N. Lyman.
 New bus. mgr., John N. Lyman.
 Superintendent, John N. Lyman.
 Engineer, E. W. Furbush.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.08 3/5.
 Candle-power, 16. Calorific value, 575 B. t. u.
 Annual production, 20,820,000 c. f.
 By-products made: Coke, 1,530 tons; tar, 23,600 gals.
 Total gas holder capacity, 170,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 80,381 c. f.
 Miles of mains, approx., 16 1/6.
 Street main pressures, max., 3.2 in.; min., 3.2 in.
 Annual sales, approx., 17,394,000 c. f.
 Gas unaccounted for, 15.9 p. c.
 By-products sold: Coke, 887 tons; tar, 15,800 gallons.

Pop. dist. supplied, 8,500; of city, est., 9,500.
 No. consumers, 1,560.
 No. meters, reg., 431; prepay., 1,129.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 Ranges in use, 610.
 Supplies Easthampton.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$400,000.
 System operated: Arc, incand. and power, A. C., 3-phase, 60 cycle. Power, single and 3-phase.
 Generating capacity: Lighting and power, 3,300 kw.
 Voltage: Incand., 110; power, 110-220-550.
 City lighting contract: Hours lighted, 3,879.
 No. public incand., 337; 60 c. p. Price per year, \$23.
 Commercial lighting: No. incand., 11,800.
 Price current per kw. hr., gross, 13c. Discounts, 10 p. c.
 Power circuits: No. motors, 66; price per kw., 5c.; disc., sliding scale.
 Output of station, kw. for year, 18,593,630.
 Generating power used: Steam, rated, 4,500 hp.
 Cost of station boiler coal per ton, \$4.455.

Fall River Gas Works Co., Fall River.

RR.: N. Y., N. H. & H. S. Bs.: N. E. Nav.; Mer. & Min. Trans. Ex.: N. Y. & B.; Ad.; E. & P.

(For financial data, see Appendix.)

President, Frederick P. Royce.
 Treasurer, Henry B. Sawyer.
 Manager, Jos. E. Nute.
 Under management of Stone & Webster.
 Process of manufacture, Lowe and Coal.
 Candle-power, 14.9. Calorific value, 551 B. t. u.
 Annual prod.: Coal gas, 341,289,000 c. f.; water gas, 412,269,700 c. f.
 By-products made: Coke, 22,852 tons; tar, 370,300 gals.; ammonia, 166,020 lbs.
 Total gas holder capacity, 3,076,000 c. f.
 Holder pressure, max., 10 in.
 Max. day's send out, 2,839,000 c. f.
 Miles of mains, approx., 154.8.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 699,686,000 c. f.
 Gas unaccounted for, 6.5 p. c.
 Pop. dist. supplied, est., 135,100; of city, 119,295.
 No. meters, reg., 25,782; prepay., 1,619.
 Price gas: Light and Fuel, gross, 90c.; net, 80c. Somerset: Gross, \$1.10; net, \$1.
 No. public lamps, 420.
 Hours lighted, per year, 3,920.5.
 Ranges in use, 26,494.
 Supplies Fall River and Somerset, Mass.

itchburg Gas and Electric Light Co., Fitchburg.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.: Am.; Nat.; Ad.; N. Y. & B.

Capital stock, auth., \$888,000; issued, \$888,000; annual div., 10 p. c.
 Coupon notes, \$35,000; due 1918; int., 4.25 p. c.
 President, C. H. Tenney.

WE ARE SPECIALISTS in the construction of plants to remove gasoline from Natural Gas by either the Compression or Absorption Method.
HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Treasurer, E. A. Bradley.
 Clerk, Horace P. Wood.
 Purchasing agent, F. P. Mooney.
 Manager, C. R. Hayes.
 Engineer, H. L. Battles.
 New bus. mgr., F. S. Clifford.
 Supt., G. W. Stiles.
 Process manufacture, Coal and Lowe.
 Annual prod., coal gas, 90,052,000 c. f.; water gas, 89,030,000 c. f.
 By-products made: Coke, 4,623.21 tons, tar, 103,648 gals.; ammonia, 23,808 lbs.
 Price coal per ton, delivered, \$4.85.
 Price oil per gal., delivered, 5.35c.
 Calorific value, 548 B. t. u.
 Total gas holder capacity, 494,000 c. f.
 Holder pressure, max., 4.8 in.
 Max. day's send out, 683,000 c. f.
 Miles of mains, approx., 69.51.
 Street main pres., max., 4.8 in.; min., 3.8 in.
 Annual sales, approx., 170,846,000 c. f.
 Gas unaccounted for, 4.4 p. c.
 By-products sold: Coke, 2,303.31 tons; tar, 113,840 gals.; ammonia, 25,253 lbs.
 Pop. dist. supplied, 41,000; of city, the same.
 No. consumers, 8,578.
 No. meters, reg., 2,275; prepay., 6,303.
 Price of gas: Light and Fuel, first 25,000 c. f., \$1.10; next 10,000 c. f., \$1; next 10,000 c. f., 90c.; over 45,000 c. f., 80c.; net, 10c. per M. less. Min., \$3 per year.
 Ranges in use, 7,841; heaters, 2,608; water heaters, 1,300.
 No. commercial gas arc lamps, 481.
 Supplies Fitchburg.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand., A. C. 60 cycle, single phase; power, A. C., 60 cycle, 3 phase and single phase.
 Generating capacity: Lighting and power, 6,300 kw.
 Voltage: Arcs, 110 commercial; incand., 110-220; power, 110-550.
 City lighting contract: Hours lighted per year, 3,988.
 No. public arcs, 297; 430 watt. Price per year, \$86.40.
 No. public incand., 635; 50 watt; price per year, \$18.72, 570-75 watt; \$50 for clusters of 4, 75 watt; price per year, \$21.60, \$28.08 and \$38.88 in Fitchburg; 34-50 watt lamps in Ashby; \$16.25, \$18 and \$20 with min. yearly charge of \$600. 84 lamps in Townsend, 40 watt; price per year, \$12.50 and \$16.25. Min. yearly charge, \$875.
 Commercial lighting: No. arcs, 24; No. incand., 49,636.
 Price current per kw. hr., gross, 13c. to 4.5c. Discount, 1c.
 Power circuits: No. motors, 712; price per kw. hr., 1c. to 0.5c.; disc., 10 p. c.
 Output of station, kw. hr. for year, 10,894,916.
 Generating power used: Steam and Water, rated 9,200 h. p.
 Cost of station boiler coal, per ton, \$4.87.
 Supplies Fitchburg, Ashby and Townsend.

Framingham Gas Fuel and Power Co., Framingham.
 RR.: N. Y., N. H. & H. Ex.: Ad.; N. Y. & B.
 Capital stock, \$75,000.
 President (vacant).
 Secretary and treas., Vincent Goldthwaite.
 Purchasing agent, Frank W. Jennings.
 Superintendent, Frank W. Jennings.
 New-business manager, R. H. Hathaway.
 Gas purchased from West Boston Gas Co.
 Candle-power, 19.
 Amount of gas purchased, 36,748,000 c. f.
 Miles of mains, approx., 24.6.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 34,078,000 c. f.
 Gas unaccounted for, 6.4 p. c.
 Pop. city supplied, 12,945 (1910).
 No. consumers and meters, 2,067.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 Ranges in use, 1,689.
 Supplies Framingham.

West Boston Gas Co., Framingham.
 RRs.: (See Framingham Gas Fuel & Power Co. above.)
 Capital stock issued, \$147,500.
 Annual dividend, 6 p. c.
 President (vacant).
 Secretary and treasurer, Vincent Goldthwaite.
 Purchasing agent, F. W. Jennings.
 Superintendent, F. W. Jennings.
 Process manufacture, Lowe (Gas Mach. Co.).
 Candle-power, 18.
 Annual production, 114,369,000 c. f.
 Gas holder capacity, 210,000 c. f.
 Holder pressure, 6 in.
 High pressure mains, 10 miles; press., 15 lbs. to 20 lbs.
 Annual sales, approx., 109,402,000 c. f.
 Gas unaccounted for, 4.1 p. c.
 Supplies Marlboro, Hudson Gas Co., Natick Gas Light Co. and Framingham Gas, Fuel & Power Co.

Gardner Gas, Fuel and Light Co., Gardner.
 RR.: Bos. & Me. Ex.: Nat.
 Capital stock, auth. and issued, \$140,000.
 Annual dividend, 7 p. c.
 President, John A. Dunn.
 Treasurer, James A. Stiles.
 Clerk, Edward C. Mason.
 Manager, Paul B. Webber.
 Engineer, J. A. Todd.
 Purchasing agent, M. Bernard Webber.
 Superintendent, R. B. Smith.
 New bus. mgr., G. N. Thomson.
 Process manufacture, Lowe (Western).
 Price of coal per ton, delivered, \$6.90; oil per gal., 6.125c.
 Candle-power, 18.
 Calorific value, 625 B. t. u.
 Annual production, 18,000,000 c. f.
 Gas holder capacity, 45,000 c. f.
 Holder pressure, max., 3 in.
 Max. day's send out, 83,358 c. f.
 Miles of mains, approx., 21.3.
 Street main pressure, 3 in.

GAS EXHAUSTERS

For Water Gas Sets



GAS BOOSTERS

For Industrial Appliances

Annual sales, approx., 17,051,259 c. f.
Gas unaccounted for, 5.5 p. c.
Pop. city, 16,364; of dist. supplied, 7,500.
No. consumers, 1,321.

No. meters, reg., 571; prepay., 450.
Price gas: Light and Fuel, \$1.85; with sliding scale, viz., 10,000 to 20,000, \$1.75; 20,000 to 30,000, \$1.70; 30,000 to 40,000, \$1.65; 40,000 to 50,000, \$1.60; 50,000 to 60,000, \$1.55; 60,000 to 75,000, \$1.50; 75,000 to 100,000, \$1.45; 100,000 and over, \$1.40.
All contract rates.

No. public Welsbach lamps, 93; lighted 4,000 hours.

Contract includes repairs, care, lighting and extinguishing.

Ranges in use, 1,156; heaters, 200; water heaters, 140.

No. commercial gas arc lamps, 112.

Supplies Gardner.

Gloucester Gas Light Co., Gloucester.

RR.: Bos. & Me. S. Bs. from Boston. Ex.: Am.; B. L.

Controlled by Mass. Lighting Companies.
Capital stock, \$210,000.

Annual dividend, 10 p. c.

President, Arthur E. Childs.

Secretary and treas., Geo. F. Howland.

Pur. agts., Gas and Electric Imp't Co. (H. L. Ogden).

Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.

Local manager, Wm. H. Coffin.

Com'l mgr., William Gould.

Process of manufacture, Lowe.

Price coal per ton, delivered, \$6.61 and \$6.46.

Price gas oil per gal., delivered, 4.5c.

Candle-power, 17. Calorific value, 600 B. t. u.

Annual production, 92,008,000 c. f.

By-products made: Tar, 42,781 gals.

Total gas holder capacity, 300,000 c. f.

Holder pressure, 4.5 in.

Max. day's send out, 370,600 c. f.

Miles of mains, approx., 40.

Street main pressures, max., 6 in.; min., 2 in.

Annual sales, approx., 88,816,300 c. f.

Gas unaccounted for, 2.3 p. c.

Pop. dis. supplied, 24,478; of city, same.

No. meters, reg., 2,766; prepay., 862.

No. consumers, 3,778.

No. meters, reg., 2,738; prepay., 1,040.

Price gas: Light and Fuel, gross, \$1.20; net, \$1.10, first 200,000 c. f.; all over 200,000 c. f., 80c. net.

No. public lamps, 116, including 94 Welsbach incand. Price, 100 at 3.5c. per lamp per night; 16 at 5 c. per lamp per night.

Contract does not include repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year: 100, 1,656 hours; 16, 1,080 hours.

Gas appliances in use: Ranges, 2,964; water heaters, 587.

No. commercial gas arc lamps, 447.

Supplies Gloucester.

Greenfield Gas Light Co., Greenfield.

RR.: Bos. & Me. Ex.: Am.; Nat.

Capital stock, pref., \$83,000; com., \$83,000; ann. div. on pref., 6 p. c.; com., 5 p. c.

Bonds, \$75,000; due 1937; int., 5 p. c.

President, W. L. Mason.

Treasurer, P. H. Faulkner.

Manager and purchasing agent, F. C. Butler.

New-business manager, J. F. Cray.

Process manufacture, Lowe.

Price coal per ton, delivered, \$7.12.

Price oil per gallon, 4.85c.

Candle-power, 20. Calorific value, 600 B.t.u.

Annual production, 56,090,000 c. f.

Max. day's send out, 222,200 c. f.

Total gas holder capacity, 154,700 c. f.

Holder pressure, max., 6.2 in.

Miles of mains, approx., 33.8.

Street main pressures, max., 5 in.; min., 3.2 in.

High pressure mains: Miles, 9.5; press., 8 lbs.

Annual sales, approx., 49,970,850 c. f.

Gas unaccounted for, 8 p. c.

Pop. city, 10,427; dist. supplied, 13,000.

No. consumers, 2,896.

No. meters, reg., 1,282; prepay., 1,614.

Price gas: Light, gross, \$1.75; net, \$1.65.

Fuel, gross, \$1.20; net, \$1.10.

Ranges in use, 1,373; water heaters, 827.

No. commercial gas arc lamps, 260.

Supplies Greenfield and Turners Falls.

Haverhill Gas Light Co., Haverhill.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, \$585,000; annual div., 9 p. c.

President, F. P. Royce.

Vice-president, Marcy L. Sperry.

Clerk, Geo. A. Peirce.

Treasurer, H. B. Sawyer.

Under management of Stone & Webster.

Manager, F. M. Roberts.

Process manufacture, Lowe.

Annual production, 385,900,000 c. f.

Candle-power, 15.3. Calorific value, 543 B. t. u.

Total gas holders capacity, 1,540,000 c. f.

Max. day's send out, 1,748,000 c. f.

Miles of mains, approx., 108.48.

Street main pressures, max., 5 in.; min., 3.5 in.

High pressure mains, 8 mi.; press., approx. 10 lbs.

Annual sales, approx., 356,822,900 c. f.

Gas unaccounted for, 6.8 p. c.

Pop. dist. supplied, 58,000 (est.); of Haverhill, 44,115.

No. meters, reg., 9,752; prepay., 2,930.

Price gas: Light and Fuel, gross (Haverhill), 90c.; net, 80c. In Groveland and Merrimac, gross, \$1.30; net, \$1.20.

No. public lamps, 613.

No. hours lamps are lighted per year, 2,700.

No. ranges, heaters and water heaters, 13,474.

No. commercial gas arc lamps, 2,443.

Supplies city of Haverhill; towns of Groveland and Merrimac.

WASH OIL PUMPS

For By-product Coke

Ovens



P.H. & F.M. ROOTS CO.

Connorsville

Indiana

New York

Chicago

City of Holyoke Gas and Electric Dept., Holyoke.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.:
Ad.; Am.

(Municipal plant.)

Bonds, \$953,000; serial; int., 3.5 and 4 p. c.
Mayor, John J. White.
Manager, John J. Kirkpatrick.
Pur. agent, William A. Bennett.
Superintendent, A. W. Darby.
New bus. mgr., John J. Kirkpatrick.
Process manufacture, Coal (Woodall-Duckham) and Lowe.
Price coal per ton, delivered, \$9.
Price oil per gal., 8c.
Candle-power, 16. Calorific value, 560 B. t. u.
Annual prod.: Coal gas, 82,604,120 c. f.;
water gas, 174,810,442 c. f.
By-products made: Coke, 5,702 tons; tar, 165,-
000 gals.; ammonia, 37,742 lbs.
Total gas holder capacity, 1,000,000 c. f.
Holder pressure, 9.2 in.
Max. day's send out, 912,957 c. f.
Miles of mains, approx., 64.29.
Street main pressures, max., 4 in.; min., 2.1 in.
Annual sales, approx., 257,299,350 c. f.
Gas unaccounted for, 4 p. c.
By-products sold: Coke, 1,773 tons; tar, 115,-
045 gals.; ammonia, 37,742 lbs.
Pop. dist. supplied, 65,000; of city, 57,730.
No. consumers, 13,986.
No. meters, reg., 3,617; prepay., 10,369.
Price gas: Light and Fuel, gross, \$1.10; net \$1.
No. water heaters, 3,000.
Supplies Holyoke.

ELECTRICAL DEPARTMENT.

System operated: Arcs, A. C. and D. C.
incand.; A. C.; single phase, 60 cycle;
power, A. C., 3-ph., 60 cycles.
Generating capacity: Lighting and power,
10,250 kw.
Voltage: Arcs, 110; incand., 110; power, 110-
220-550.
Miles of overhead wires, 330; underground
cables, 24.7.
City lighting contract: Hours lighted per year:
Arc and incand., 4,033.
No. public arcs, 146; 400 watt. Price per year,
\$75.
No. public incand., 928; 100-250-400 c. p.
Price per year, \$4.80 to \$45.
Commercial lighting: No. incand., 205,812.
Price current per kw. hr.: Gross, 8c.; dis-
counts, 2c. Domestic, 6c., net.
Power circuits: No. motors, 1,576. Price cur-
rent per kw. hr., 5c. to 1.1c.; disc. of 1c.
per kw. hr. up to 3,000 kw.; disc., 1 p. c.
above 3,000.
Output of station, kw. for year, 18,684,700.
Generating power used, Water and Steam,
rated h. p., 14,666.

**Dedham and Hyde Park Gas and Electric Light Co.,
Hyde Park.**

RR.: N. Y., N. H. & H. (Fairmount). Ex.:
Ad.; E. & P.; B. L.

Capital stock, \$155,950.
Bonds, \$60,000; due 1918; interest, 5 p. c.
President (vacant).
Secretary and treas., Vincent Goldthwaite.
Gen. mgr. and pur. agent, Benj. J. Bean.
New-business mgr., B. J. Bean.
(Purchases from Boston Con. Gas Co.)
Amount gas purchased, 80,000,000 c. f.
Candle-power, 18.
Total gas holder capacity, 125,000 c. f.
Holder pressure, max., 3.5 in.
Max. day's send out, 300,000 c. f.
Miles of mains, approx., 50.
Street main pressures, max., 4 in.; min., 3.5 in.
Annual sales, approx., 80,000,000 c. f.
Gas unaccounted for, 9.04 p. c.
Pop. dist. supplied, 22,000; of Dedham, 9,284;
of Hyde Park, 15,507.
No. consumers, 3,500.
No. meters: Reg., 3,000; prepay., 500.
Price gas: Light and Fuel, gross \$1.15; net
\$1.05.
Ranges in use, 2,500; heaters, 726; water heat-
ers, 422.
No. commercial gas arc lamps, 300.
Supplies Dedham and Hyde Park.

Ipswich Gas Light Co., Ipswich.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, \$16,000; annual div., 3 p. c.
President, Daniel Safford.
Secretary and treasurer, Geo. E. Farley.
Purchasing agent and manager, C. W. Brown.
Supt. and new bus. mgr., C. W. Brown.
Process manufacture, Oil (Kendall).
Price of coal per ton, delivered, \$9.50.
Price oil per gal., delivered, 10.5c.
Candle-power, 20.
Annual prod., 4,000,000 c. f.
Gas holder capacity, 40,000 c. f.
Holder pressure, 2.5 in.
Max. day's send out, 15,000 c. f.
Miles of mains, approx., 5.5.
Street main pressure, max., 2.5 in.
Annual sales, approx., 3,700,000 c. f.
Gas unaccounted for, 7½ p. c.
Pop. dist. supplied, 5,000; of city, 6,500.
No. consumers, 275.
No. meters, reg., 175; prepay., 100.
Price gas: Light and Fuel, gross and net \$2.
Ranges, 50; heaters, 25; water heaters, 15.
No. commercial gas arc lamps, 30.
Supplies Ipswich.

Lawrence Gas Co., Lawrence.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, \$2,500,000.
Bonds, \$300,000; due 1920; int., 4 p. c.
President, N. H. Emmons.
Treasurer, R. W. Emmons, 2d.
Vice-pres. and agent, C. J. R. Humphreys.
Asst. Agent, Fred H. Sargent.

**Tycos Temperature Instruments are the result**

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Assistant superintendent, H. G. Taylor.
 Assistant supt., R. Garretson Humphreys.
 Process manufacture, Coal and Lowe.
 Candle-power, 16.9.
 Annual prod., coal gas, 375,896,800 c. f.; water gas, 251,555,100 c. f.
 Gas holder capacity, 2,294,000 c. f.
 Max. day's send out, 2,431,000 c. f.
 Miles of mains, approx., 188.5.
 Street main pressures, max., 4 in.; min., 2.7 in.
 Annual sales, approx., 576,084,000 c. f.
 Gas unaccounted for, 7.9 p. c.
 Pop. dis. supplied, 125,000; of city, 85,892 (1910), now est. 100,000.
 No. meters, reg., 26,547; prepay., 30.
 Price gas: Light and Fuel, gross, 95c.; net, 85c.
 No. public lamps, 27; including 14 Welsbachs.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lighted per year, 13—4,000 hours and 14—2,300 hours.
 No. gas stoves in use, approx., 26,244.
 Supplies Lawrence, Methuen, North Andover and Andover.

ELECTRICAL DEPARTMENT.

System operated: A. C. and D. C., 3-phase, 60 cycle; and A. C., 1 ph. 60 cycle.
 Generating capacity, lighting, 12,470 kw.
 Voltage: Arcs and incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000 in Lawrence; incand., 2,300 hrs. in other towns.
 No. public arcs: Lawrence, 601; 480-330 watt. Price per year, \$87 and \$78. In Methuen, 1 arc: 480 watt. Price, \$70; Andover, \$29; \$68.
 No. public incand.: Lawrence, 654; 80 c. p.: price per year, \$18. Methuen, 409; 60 c. p.; price, \$17. North Andover, 341; Andover, 286; 60 c. p., at \$15; price, \$16. Boxford, 23; 60 c. p., price, \$17.
 Commercial lighting: No. arcs, 77; incand., 96,331.
 Price current per kw. hr.: Gross, 12c. to 5c. Disc., 10 p. c.; 6c. for charging; heating, first 20 kw. hrs. per mo., 13c.; all over 3½c.
 Power circuits: Price per kw. hr., 10c. to 2c. Disc., 10 p. c.
 Output of station, kw. for year, 9,722,658.
 Generating power used: Steam and Water; rated, 8,333 h. p.
 Supplies Lawrence, Methuen, North Andover and Boxford.

Leominster Gas Light Co., Leominster.

RR.: N. Y., N. H. & H. Ex.: Ad.; Nat.; N. Y. & B.

Controlled by Mass. Lighting Companies.
 Capital stock, \$135,000; ann. div., 10 p. c.
 Bonds, \$50,000; due 1932; int., 5 p. c.
 President, Arthur E. Childs.
 Secretary and treas., Geo. F. Howland.
 Pur. agt., Gas & Electric Imp't Co. (H. L. Ogden).
 Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.
 Local manager, E. O. Wedge.
 Com'l mgr., William Gould.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.43 and \$6.32.
 Price of oil per gallon, delivered, 5.4c.
 Candle-power, 16.9. Calorific value, 600 B. t. u.
 Annual production, 56,478,200 c. f.
 Total gas holder capacity, 188,000 c. f.
 Holder pressure, max., 5.5 in.
 Max. day's send out, 230,000 c. f.
 Miles of mains, approx., 34.
 Street main pressures, max., 5.5 in.; min., 3.5 in.
 Annual sales, approx., 52,468,300 c. f.
 Gas unaccounted for, 6.79 p. c.
 Pop. cities supplied, 19,256.
 No. consumers, 2,853.
 No. meters, reg., 1,367; prepay., 1,486.
 Price gas: First 2,000 c. f., gross, \$1.40; net, \$1.30; next 48,000 c. f., \$1.35-\$1.25; next 50,000 c. f., \$1.05 net; all over 100,000 c. f., 85c.
 Gas appliances in use: Ranges, 1,841; water heaters, 272.
 No. commercial gas arc lamps, 34.
 Supplies Leominster and Lunenburg.

Lexington Gas Co., Lexington.

RR.: Bos. & Me. Ex.: Am.; B. L.

Controlled by Mass. Lighting Companies.
 Capital stock, \$40,000; ann. div., 4.5 p. c.
 President, Arthur E. Childs.
 Secretary and treasurer, Geo. F. Howland.
 Pur. agt., Gas & Electric Imp't Co. (H. L. Ogden).
 Gen'l mgr., G. K. Dustin.
 Engineer, R. Y. Conklin.
 Local bus. mgr., F. A. Woodhead.
 Com'l mgr., William Gould.
 (Gas purchased from the Arlington Gas Light Co.)
 Amount gas purchased, 6,367,900 c. f.
 Candle-power, 16.8. Calorific value, 600 B. t. u.
 Miles of mains, approximate, 9.
 Street main pressures, max., 3.5 in.; min., 3.5 in.
 High pressure mains, 2.5 mi.; pressure, 2 lbs.
 Annual sales, approx., 5,785,800 c. f.
 Gas unaccounted for, 7.5 p. c.
 Pop. dist. supplied, 5,538; of city, the same.
 No. consumers, 337.
 No. meters, reg., 320; prepay., 17.
 Price gas: Light and Fuel: First 10,000 c. f., gross \$1.60, net \$1.50; all over 10,000 c. f., \$1.25.
 Gas appliances in use: Ranges, 257; water heaters, 122.
 No. commercial gas arcs, 8.
 Supplies Lexington.

Lowell Gas Light Co., Lowell.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.: Ad.; Am.; N. Y. & B.

Capital stock, \$1,000,000; ann., div., 12 p. c.
 Coupon notes, \$300,000; due 1920; int. 4½ p. c.
 President, Geo. S. Motley.
 Clerk and treasurer, Everett F. Gray.

One of our five million foot holders has stood the most severe cyclones ever recorded in the United States.

R. D. WOOD & CO., PHILA., PA.



General manager, Geo. S. Motley.
 Supt. mfr., W. J. Pead, Jr.
 Superintendent, dis., Albert I. Flanders.
 New business manager, E. S. Sherman.
 Process manufacture, Coal and Lowe.
 Annual prod., coal gas, 550,000,000 c. f.; water gas, 300,000,000 c. f.
 Price coal per ton, delivered, \$8.
 Price oil per gallon, delivered, 8.67c.
 Candle-power, 16. Calorific value, 550 B. t. u.
 Total gas holders capacity, 4,250,000 c. f.
 Holder pressure, max., 4 in.
 Max. day's send out, 3,100,000 c. f.
 Miles of mains, approx., 182.
 Street main pressures, max., 3.3 in.; min., 3 in.
 Annual sales, approx., 800,000,000 c. f.
 Gas unaccounted for, 1 p. c.
 Pop. of city, 106,294; dist. supplied, 120,000.
 No. consumers, 27,000.
 No. meters, reg., 22,000; prepay., 5,300.
 Price gas: Light and Fuel, gross, \$1.15; net 95c. for first 100,000 c. f.; 2,100,000 c. f., 85c. net; next 200,000 c. f., 75c.; over 400,000 c. f., 70c.
 No. public incand. gas lamps, 1,526.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 4,000.
 Ranges in use, 21,366; heaters, 2,750; water heaters, 3,800.
 No. commercial gas arc lamps, 3,854.
 Supplies City of Lowell; towns of Chelmsford, Dracut and Tewksbury.

Lynn Gas and Electric Co., Lynn.

RRs.: Bos. & Me.; B., R., B. & L. S. Bs. from Boston. Ex.: Am.; B. L.
 Capital stock, \$1,625,000; annual div., 16 p. c.
 President, John S. Bartlett.
 Vice-pres., M. P. Clough.
 Clerk and treasurer, Eugene B. Fraser.
 General manager, Henry K. Morrison.
 New bus. mgr., Ernest Wallen.
 Supt. gas dept., F. E. Drake.
 Engineer, C. L. Simond.
 Supt. electric dept., J. F. Dubois.
 Process manufacture, Coal and Lowe.
 Candle-power, 16.92.
 Max. day's send out, 3,422,826 c. f.
 Miles of mains, approx., 211.
 Annual sales, approx., 980,000,000 c. f.
 Gas unaccounted for, 8.2 p. c.
 Pop. dist. supplied, 112,109; of Lynn, 89,336; Swampscott, 6,204; Saugus, 8,047; Marblehead, 7,338.
 No. public incand. gas lamps, 65.
 No. meters, 33,113.
 Price gas: Light and Fuel, gross, \$1.05.
 Gas stoves in use, 49,279.
 Supplies Lynn, Swampscott, Nahant and Saugus, Marblehead, Lynnfield.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 Generating capacity, 6,650 kw.
 No. public arcs, 645; hours lighted, 4,000.
 No. public incand., 2,331; hours lighted, 3,000.
 Price arc, Public, per year (1,200 c. p.), \$67 and \$73.50 (2,000 c. p.), \$90.

Price incand., public, per year, \$15 to \$17.50.
 Commercial lighting: No. arcs, 303; No. incandescent, 196,056.
 Price incand., com'l. per kw. hr., 11.5c. 1st 100 kw.; next 100 kw., 10.5c.; over 200 kw., 8.5c.; disc., 1/2c. per kw.
 Power circuits: No. motors, 822. Price per kw. hr., 8c. to 2c. Disc, 10 p. c.
 Output of station, kw. for year, 12,755,920.
 Power used, steam; rated (boilers), 3,900 h. p.

Malden and Melrose Gas Light Co., Malden.

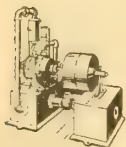
RRs.: Bos. & Me. Ex.: Am.; B. L.

Executive office, 201 Devonshire St., Boston.
 Capital stock auth., \$2,085,500; issued, \$2,085,500. Annual dividend, 8 p. c.
 President, C. H. Tenney.
 Vice-pres., A. B. Tenney.
 Clerk, H. P. Wood.
 Treasurer, E. A. Bradley.
 Asst. treas., I. S. Hall.
 Auditor, H. A. Gidney.
 Purchasing agent, F. P. Mooney.
 Engineer, G. Johnson.
 Manager, C. E. Paige.
 Superintendent, R. S. Carter.
 Process manufacture, Coal and Lowe (W. Gas Con. Co.)
 Price coal per ton, delivered, \$4.48.
 Price oil per gal., delivered, 5.82c.
 Candle-power, 15.8.
 Calorific value, 562 B. t. u.
 Annual prod., coal gas, 302,772,000 c. f.; water gas, 693,869,000 c. f.
 By-products made: Coke, 16,145 tons; tar, 686,263 gals.; ammonia, 124,034 lbs.
 Gas purchased, 1,377,700 c. f.
 Total gas holders capacity, 3,725,000 c. f.
 Holder pressure, 12.75 in.
 Max. day's send out, 3,744,000 c. f.
 Miles of mains, approx., 240.
 Street main pres., max., 5.5 in.; min., 4.5 in.
 High pressure mains, miles, 3; pressure, 4 to 30 lbs.
 Annual sales, approx., 954,341,994 c. f.
 Gas unaccounted for, 3.9 p. c.
 By-products sold: Coke, 329 tons; tar, 2,073 gals.; ammonia, 122,414 lbs.
 Pop. dist. supplied, 153,032; of city, 47,000.
 No. meters, reg., 11,575; prepay, 21,026.
 No. consumers, 33,760.
 Price gas, 1st 35,000 c. f., gross, \$1; next 10,000 c. f., gross, 90c.; all in excess of 45,000 c. f., 70c. net. Price at Reading, gross, \$1.60; net, \$1.50.
 Ranges in use, 17,365; heaters, 2,642; water heaters, 3,568.
 Supplies Malden, Melrose, Medford, Everett, Stoneham and Reading.

Marlboro-Hudson Gas Co., Marlboro.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.: Ad.; N. Y. & B.; Nat.; B. L.; B. & N.

(For capitalization, etc., see Appendix.)
 Treasurer's office, 78 Devonshire St., Boston, Mass.
 Vice-pres., Bowen Tufts.
 Vice-pres., E. G. Loomis.



THE LARGEST INDUSTRIAL GAS CONSUMERS are getting wonderful results in economy and increasing the efficiency of their industrial furnaces by the aid of the **NEEDHAM HIGH PRESSURE GAS SYSTEM.**

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Treasurer and gen. mgr., Paul B. Webber.
 Clerk, E. C. Mason.
 Local manager, C. A. Davis.
 Pur. agent, M. B. Webber.
 Engineer, F. B. Saunders.
 Supt. and new bus. mgr., E. F. Goggin.
 Indus. fuel engineer, R. H. Jameson.
 Gas purchased from West Boston Gas Co., Framingham.
 Candle-power, 19.
 Avg. day's send out, 218,662 c. f.
 Gas holder capacity, 200,000 c. f.
 Holder pressure, 5.5 in.
 Miles of mains, approximate, 75.
 Street main pressure, max., 5.5 in.; min., 3.5 in.
 High pressure mains, 25 miles; pressure carried 10 to 20 lbs.
 Booster mains, 1 mile; pressure 10-20 lbs.
 Annual sales, approx., 63,887,946 c. f.
 Gas unaccounted for, 5.5 p. c.
 Pop. dis. supplied, 32,000; of Marlboro, 14,579; Hudson, 6,743; Maynard, 6,390; Stow, 1,115.
 No. consumers and meters, 4,404.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.40.
 Ranges in use, 4,233; heaters, approx., 1,000; water-heaters, 200.
 No. commercial gas are lamps, 235.
 Supplies Marlboro and Hudson, Stow and Maynard and Southboro.

Middleboro Gas and Electric Plant, Middleboro.

RRs.: N. Y., N. H. & H. Ex.: Ad.; N. Y. & B.

(Municipal plant.)

Bonds, \$27,000, serial; int., 4 p. c.

Commissioners:

W. A. Andrews.

W. H. F. Pettee.

Harlas L. Cushman.

Treasurer, A. A. Thomas.

Mgr. and pur. agt., Geo. A. Philbrook.

Superintendent, Geo. A. Philbrook.

Process manufacture, Lowe (W. Gas Cons. Co.).

Price of coke per ton, delivered, \$7.10.

Price oil per gallon, delivered, 9c.

Candle-power, 18. Calorific value, 600 B. t. u.

Annual production, 6,000,000 c. f.

Max. day's send out, 40,000 c. f.

Total gas holder capacity, 60,000 c. f.

Holder pressure, 3 in.

Miles of mains, approx., 8.

Street main pres., 3 in.

Annual sales, approx., 5,450,000 c. f.

Gas unaccounted for, 9 p. c.

Pop. city, 8,214; of dist. supplied, 4,000.

No. consumers, 500.

No. meters, reg., 494; prepay., 42.

Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.

Ranges, 300; heaters, 15; water heaters, 45.

Supplies Middleboro.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., single phase, 7,200 alt.; power, A. C., 3-phase, 220 v.

Generating capacity: Lighting and power, 350 kw.

Miles of overhead wires, 149.

Voltage: Incand., 110; power, 220.

City lighting contract: Hours lighted per year: incand., 3,300 (all night).

No. public incand.: 3-50 watt carbon, 40-40 watt, 281-60 c. p., 3 100 c. p., 24-250, 2-400 c. p.

Commercial and domestic lighting: No. incand., approx., 20,000.

Price current per kw. hr.: First 100 kw., 13c.; next 300 kw., 11c.; all over 400 kw., 10c.; disc., ½c. per kw.

Power circuits: No. motors, 101. Price per kw. hr., 10c.; disc., 5 to 70 p. c.

Output of station, kw. hr., for year, 482,928.

Generating power used: Water, rated 150 h. p.

Power also purchased from Plymouth Electric Co., which gives 1,500 kw. additional capacity.

Cost of station boiler coal per ton, \$9.50.

Milford Gas Light Co., Milford.

RRs.: Bos. & A1.; Grafton & Upton; N. Y., N. H. & H. Ex.: Ad.; Am.; B. L.

Controlled by Mass. Lighting Companies.

Capital stock, \$72,300; annual div., 4 p. c.

President, Arthur E. Childs.

Secretary and treas., Geo. F. Howland.

Pur. agt., Gas & Electric Imp't Co. (H. L. Ogden).

Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.

Local bus. mgr., W. H. Leonard.

Com'l mgr., William Gould.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.27.

Price oil per gal., 7.2c. and 9.3c.

Candle-power, 16.7. Calorific value, 600 B. t. u.

Annual production, 22,157,500 c. f.

By-products made: Coke, 1,432 tons; tar, 23,676 gals.

Gas holder capacity, 84,000 c. f.

Holder pressure, max., 2.8 in.

Max. day's send out, 81,000 c. f.

Miles of mains, approx., 16.

Street main pressures, day and night, 2.8 in.

Annual sales, approx., 20,453,100 c. f.

Gas unaccounted for, 7.5 p. c.

By-products sold: Coke, 1,039 tons; tar, 21,505 gallons.

Pop. cities supplied, 16,350.

No. consumers, 1,261.

No. meters, reg., 1,258; prepay., 3.

Price gas: Light and Fuel: First 10,000 c. f.,

gross, \$1.50; net, \$1.45; next 10,000 c. f.,

\$1.45-\$1.35; next 10,000 c. f., \$1.35-\$1.25;

next 10,000 c. f., \$1.25-\$1.15; next 10,000

c. f., \$1.15-\$1.05; all over 50,000 c. f., 95c.

Gas appliances in use: Ranges, 512; water heaters, 153.

No. commercial gas are lamps, 118.

Supplies Milford and Hopedale.

RELIABLE

HOT SPOT

COPPER REFLECTOR

GAS HEATERS

By adopting the "HOT SPOT" heater as his leader,

the live new business man will increase his sales and exclude from his territory heating appliances of inferior kinds, thus increasing the popularity of gas for heating purposes. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Citizens Gas, Electric and Power Co., Nantucket.

RRs.: Nant. Cen. S. Bs.: N. B.; M. V. & N.
Co. Ex.: Adams.

Capital stock, \$40,000.

Annual dividend, 6 p. c.

Bonds, \$25,000; due 1927; int., 5 p. c.

President, John S. Gronard.

Secretary and treasurer, Albert G. Brock.

Supt. and pur. agent, H. P. Halvorson.

New bus. mgr., H. P. Halvorson.

Process manufacture, Lowe.

Price coke per ton, delivered, \$9.

Candle-power, 16.5.

Annual production, 8,000,000 c. f.

By-products made: Coke, 440 tons.

Total gas holder capacity, 12,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 50,000 c. f.

Miles of mains, approx., 6.3.

Street main pressures, max., 3 in.; min., 2 in.

Annual sales, approx., 7,000,000 c. f.

Gas unaccounted for, 12.5 p. c.

By-products sold: Coke, 200 tons; tar, 8,000 gals.

Pop. dist. supplied, 2,500; of city, 3,050.

No. consumers and meters, 558.

Price of gas: Light and Fuel, \$2.20 gross; \$2 net.

No. public gas lamps, 2; each lighted 2,190 hrs. per year. Price per year, \$48.

Price includes repairs only.

No. ranges, 200; heaters, 52; water heaters, 65.

No. commercial gas arc lamps, 14.

Supplies Nantucket.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$16,000.

System operated: Arc, A. C.; incand., A. C., 6.6 amp. nitrogen series lamps; single phase, 60 cycles.

Generating capacity: Lighting, 150 kw.

Voltage: At arcs, 75; incand., 112; power, 112.

City lighting contract: Hours lighted per year: Arc and incand., 2,400.

No. public arcs, 31; 250 c. p. Price per year, \$72.

No. public incand., 138; 40 c. p. Price per year, \$15.

Commercial lighting: No. incand., 5,000.

Price current per kw. hr., gross, 22c.; net 20c.

Output of station, kw. per year, 69,000.

Generating power used: Steam; rated h. p., 150.

Cost of station boiler coal per ton, \$9.23.

Natick Gas Light Co., Natick.

RR.: Bos. & Al. Ex.: B. L.

Capital stock, \$59,600.

President (vacant).

Sec'y and treas., Vincent Goldthwaite.

Superintendent, L. J. Dobbin.

Pur. agent, L. J. Dobbin.

Gas purchased from West Boston Gas Co.

Amt. gas purchased, 18,119,500 c. f.

Candle-power, 17.93.

Gas holder capacity, 150,000 c. f.

Miles of mains, approx., 16.

Street main pressure, max., 4 in.

Annual sales, approx., 15,764,200 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 6,000; of city, 9,866.

No. meters, 1,236.

Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.

Supplies Natick.

(No 1918 report.)

New Bedford Gas and Edison Light Co., New Bedford.

RRs.: N. Y., N. H. & H. S. Bs.: N. B.; M. V. & N. Co.; N. E. Nav. Ex.: Ad.; N. Y. & B.

Capital stock, auth. and issued, \$1,908,000.

Annual dividend, 12 p. c.

Bonds, \$1,500,000; due 1922; int., 6 p. c.

President, Oliver Prescott.

Treasurer, Charles R. Price.

Clerk, Charles R. Price.

Gen. manager, W. H. Snow.

Engineer, R. H. Barber.

Superintendent gas, Robert Lindsay.

Superintendent, elec., D. W. Beaman.

New business manager, E. E. Stevens.

Pur. agent, Ross V. Hersey.

Process manufacture, Coal and Lowe.

Price coal per ton, delivered, \$6.05.

Price oil per gal., delivered, 8c.

Candle-power, 15.4. Calorific value, 554 B. t. u.

Annual production: Coal gas, 164,598,300 c. f.; water gas, 595,388,100 c. f.

By-products made: Coke, 8,826.9 tons; tar, 504,701 gals.; ammonia, 65,818 lbs.

Total gas holders capacity, 4,180,000 c. f.

Holder pressure, 13.5 in.

Max. day's send out, 3,609,400 c. f.

Miles of mains, approx., 160.

Street main pressures, max., 7 in.; min., 3.8 in.

High pressure mains, miles, 17; pressure, 2 to 10 lbs.

Annual sales, approx., 685,063,511 c. f.

Gas unaccounted for, 5 p. c.

By-products sold: Coke, 1,533.6 tons; tar, 743,903 gals.; ammonia, 52,671.68 lbs.

Pop. cities: New Bedford, 96,652; Fairhaven, 5,122. Dist. supplied, 120,000.

No. consumers and meters, 24,322.

Price gas: Light, gross, \$1; net, 90c. In Fairhaven, gross, \$1.10; net, \$1.

No. public lamps: Welsbach incand., 1,188; price per year, \$27.60 and \$40.

Contract includes repairs, lighting and extinguishing.

No. hours lamp is lighted per year, 4,026.

No. gas appliances in use, 22,593.

No. commercial gas arc lamps, about 150.

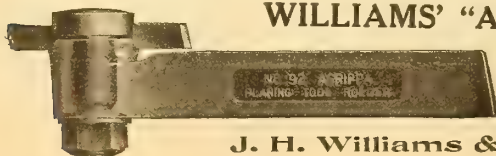
Supplies, New Bedford, Fairhaven, Dartmouth and Acushnet.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant \$1,320,000.

System operated: Arc, series A. C. and D. C.; 1 ph., 60 cycle; power, 3-phase, 7,200 alt., D. C. and A. C., single phase.

Miles of overhead wires, 1,063; underground cables, 119.

**WILLIAMS' "AGRIIPA" PLANING-TOOL HOLDER**

The Planing Tool with thirty-six angles of adjustment may be used on shapers or for heavy turning on lathes.

J. H. Williams & Co., 74 Richards St., B'klyn, N. Y.

Generating capacity: Lighting and power, 37,000 kw.
Voltage: Ares. 80; incand., 110-220; power, 110-220-550.

City lighting contract: Hours lighted per year: Ares. 4,000; incand., 4,000.

No. public ares. 576; 375 and 500 watt. Price per year, \$80 to \$90, \$150 for flame ares.
No. public incand., 1,053; 100 and 250 watt. Price per year, \$18.24 and \$44.40.

Commercial lighting: No. ares. 109 (incl. 99 mag. and 54 flame). No. incand., approx., 136,422, in 50 and 40 watt units.

Rates for commercial and dom. use, 11c. gross. Sliding scale to 3.5c. Disc., 5 p. c.

Power circuits: No. motors, 1,242. Price per kw. hr., sliding scale, 5.25 to 1.35c.; disc., 5 p. c. Over 1,000 h. p., disc., .001 per kw. hr. Min. charge, \$1.50.

Output of station, kw. for year, 30,306,662.

Generating power used, Steam; rated h. p., 28,000.

Cost of station boiler coal, per ton, \$7 avg.
Supplies New Bedford, Fairhaven, Dartmouth, Acushnet, Mattapoisett, and through transmission line to Wareham supplies current to Marion, Wareham, Plymouth and Cape Cod Canal.

Newburyport Gas and Electric Co., Newburyport.

RR.: Bos. & Me. Ex.: Am.; B. L.

Controlled by White, Weld & Co., Boston, Mass.

Capital stock, \$342,000; ann. div., 8 p. c.

President, Philip Cabot.

Sec. and treas., David Barry.

Gen. mgr. and pur. agt., Chas. S. Spaulding.

Engineer, David Barry.

Superintendent, C. S. Spaulding.

New bus. manager, Frank C. Kidder.

Process manufacture, Coal.

Price coal per ton, delivered, \$7.08.

Calorific value, 600 B. t. u.

Candle-power, 17.

Annual production, 46,000,000 c. f.

Gas holder capacity, 180,000 c. f.

Holder pressure, max., 6 in.

Miles of mains, approx., 30.

Street main pressure, max., 4 in.; min., 3 in.

Annual sales, approx., 40,000,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. dist. supplied with gas, 16,000; with electricity, 18,000; of Newburyport, 14,949.

No. consumers, 2,400

No. meters, reg., 2,500.

Price gas: Light and Fuel, gross, \$1.60; net, \$1.40.

Ranges in use, 1,200.

Supplies. Newburyport and Newbury with gas; Newburyport, Newbury and West Newbury with electricity.

ELECTRICAL DEPARTMENT.

(Business conducted under same name as gas company.)

System operated: Commercial light and power, A. C., 3-phase, 60 cycles.

Voltage: Line, 2,200; incand., 110; power, 220; 500 D. C.

Generating capacity, 4,900 kw.

City lighting contract: Hours lighted, 4,000.

No. public ares: 95, 800 c. p.; 205, 400 c. p.; 43, 100 c. p., at \$16,600 per year.

Commercial lighting: No. incand., 5,000.

Price incand., per kw. hr., 15c.; disc., 2c. per kw. hr. Commercial: Contract rates.

Power circuits: No. motors, 60; price current per kw. hr., 10c.; disc., 10 to 80 p. c.

Output of station, kw. for year, 3,568,000.

Power used: Steam; rated, 6,000 h. p.

Cost boiler fuel per ton, \$6.04.

Newton and Watertown Gas Light Co., Newton.

RRs.: Bos. & A1. Ex.: Am.; B. L.

Capital stock, \$560,000; ann. div., 12 p. c.

Chairman of Board, J. L. Richards.

President, W. A. Learned.

Clerk, A. S. Bull.

Treasurer, A. S. Bull.

Purchasing agent, A. Dunbar.

(Buy from Boston Con. Gas Co.)

Miles of mains, approx., 252.

Street main pres., max., 5 in.; min., 3 in.

High pressure mains, miles, 3; pressure, 15 lbs.

Candle-power, 18.2.

Total gas holders capacity, 1,332,000 c. f.

Max. day's send out, 2,080,000 c. f.

Annual sales, approx., 690,087,000 c. f.

Gas unaccounted for, 2 p. c.

Pop. dist. supplied, 89,515; pop. city, the same.

No. consumers, 18,859.

No. meters, reg., 11,656; prepay., 7,203.

Price gas: Light and Fuel, 95c. (after Jan. 1, 1918).

No. public lamps, 1,085 incand.

Price includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 2,250.

Ranges in use, 14,040; water heaters, 2,245.

No. commercial gas arc lamps, 1,685.

Supplies Newton, Wellesley, Watertown and part of Weston; also Waltham.

North Adams Gas Light Co., North Adams.

RRs.: Bos. & A1.; Bos. & Me. Ex.: Am.; Nat.

(Controlled by Mass Lighting Cos.)

Capital stock, \$400,000; ann. div., 13 p. c.

President, Arthur E. Childs.

Secretary and treas., Geo. F. Howland.

Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).

Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.

Local mgr., B. K. Cook.

Com'l mgr., William Gould.

Process manufacture, Lowe.

Price coal per ton, delivered, \$5.69.

Price oil per gal., 5.1c.

Candle-power, 16.8; cal. value, 600 B. t. u.

Annual prod. (water-gas), 127,873,600 c. f.

By-products made: Tar, 41,986 gals.

Max. day's send out, 524,000 c. f.

Total gas holder capacity, 413,000 c. f.

Holder pressure, 8.5 in.

Miles of mains, approximate, 34.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Street main pressures, max., 4.5 in.; min., 3.5 in.
 High pressure mains, miles, 5; pressure, 10 to 15 lbs.
 Annual sales, approx., 119,182,100 c. f.
 Gas unaccounted for, 6.5 p. c.
 By-products sold: Tar, 53,450 gals.
 Pop. dist. supplied, 23,147; of cities, same.
 No. meters, reg., 1,833; prepay., 2,383.
 No. consumers, 4,216.
 Price gas: Light and Fuel, gross, \$1.10; net, \$1.
 Gas appliances in use: Ranges, 3,728; water heaters, 718.
 Supplies North Adams and Clarksburg.
 Also supplies Adams and Williamstown Gas Companies with gas and electricity.

ELECTRICAL DEPARTMENT.

System operated, Arcs and incand., A. C., single and 3 phase, 60 cycles: power, A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting, 2,000 kw.; power, 2,000 kw. normal; 3,000 peak.
 Voltage: Arc, 78; incand., 110; power, 2,300.
 Miles of overhead wires, 235.
 City lighting contract: Hrs. lighted, 3,928.
 Public arcs, 231; 310 watt. Price per year, \$78.
 Public incand., 102; 50 watt. Price per year, \$18.
 Total price, public lighting, \$19,900.
 Commercial lighting: No. arcs, 4; incand., 62,852 (40 watt units).
 Price commercial per kw. hr.: Gross, 12c. for first 20 kw. hr. per mo.; all over 20 kw. hr., 9c.; net, 11c. and 8c.
 Power circuits: No. motors, 283.
 Price current per kw. hr.: 5c. first 2,000 kw. hr.; next 6,000 kw. hr., 2c.; next 22,000 kw. hr., 1.75c.; all over 30,000, 1.5c. net.
 Output of station, kw. hr., total per year, 6,420,445.
 Generating power: Steam; rated, 3,000 h. p.
 Cost of station boiler coal per ton, \$5.54.
 Supplies electricity to Stamford Light, Heat and Power Co., Adams Gas Light Co., and Williamstown Gas Co.

Northampton Gas Light Co., Northampton.

RRs.: Bos. & Me.; N. Y., N. H. & H. Ex.: Ad.; Am.

Controlled by Massachusetts Lighting Cos.
 Capital stock, issued, \$155,675.
 Annual dividend, 9.5 p. c.
 President, Arthur E. Childs.
 Secretary and treas., Geo. F. Howland.
 Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).
 Gen'l mgr., Guy K. Dustin.
 Engineer, R. Y. Conklin.
 Local mgr., C. B. Day.
 Com'l mgr., William Gould.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$5.30.
 Price oil per gal., delivered, 5c. and 14.5c.
 Annual prod., coal-gas, 36,808,400 c. f.; water-gas, 48,669,200 c. f.

By-products made: Coke, 2,540 tons; tar, coal gas, 40,245 gals.; water gas, 24,258 gals.
 Candle-power, 16.8; calorific value, 600 B. t. u.
 Total gas holder capacity, 390,000 c. f.
 Holder pressure, 5.5 in.
 Max. day's send out, 293,200 c. f.
 Miles of mains, approx., 43.
 Street main pressures, max., 4.4 in.; min., 3.8 in.
 High pressure mains, miles, 3; pressure, 15 lbs.
 Annual sales, approx., 77,608,200 c. f.
 Gas unaccounted for, 8.5 p. c.
 By-products sold: Coke, 715 tons; coal gas-tar, 46,894; water gas tar, 30,400 gals.
 Pop. dist. supplied, 21,654; of city, the same.
 No. consumers, 3,709.
 No. meters, 1,780; prepay., 1,929.
 Price of gas: Light, gross, \$1.10; net, \$1.
 Gas ranges in use, 2,118; water heaters, 778.
 No. commercial gas arc lamps, 102.
 Supplies Northampton.

North Attleboro Gas Light Co., North Attleboro.

R. R.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, \$68,100; ann. div., 10 p. c.
 President, H. F. Barrows.
 Secretary, E. A. Coddington.
 Treasurer, E. A. Coddington.
 Superintendent, W. B. Knight.
 Process manufacture, Coal.
 Candle-power, 16.55.
 Max. day's send out, 142,000 c. f.
 Miles of mains, approx., 22.
 Street main pressure, max., 3.5 in.
 Annual sales, approx., 39,027,809 c. f.
 Gas unaccounted for, 3.86 p. c.
 Pop. dist. supplied, 10,000; of North Attleboro, 7,000.
 No. meters, 1,649.
 Price gas: Light and Fuel, gross, \$1.25; disc., 15c.
 Public lamps in town clock, 8, free.
 Ranges in use, 705.
 Supplies North Attleboro and Plainville.
 (No 1918 report.)

Norwood Gas Co., Norwood.

RRs.: N. Y., N. H. & H. Ex.: Ad.; E. & P. B. L.

Boston office, 78 Devonshire St.
 Capital stock, \$140,000.
 President, Chauncey D. Parker.
 Secretary, Edward C. Mason.
 Treasurer, Chas. R. Adams.
 Purchasing agent, H. W. Hills.
 General manager, Paul B. Webber.
 Engineer, F. B. Saunders.
 Local mgr., A. T. Tewksbury.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.53.
 Candle-power, 16.2.
 Calorific value, 625 B. t. u.
 Annual production, coal-gas, 36,000,000 c. f.
 By-products made: Coke, 2,300 tons; tar, 40,000 gals.
 Gas holder capacity, 55,000 c. f.; press. (max.), 4 in.
 Max. day's send out, 117,000 c. f.

Progressive companies use the GOODMAN STOPPER. It does its bit and does it well.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Street mains, approximate, 26 miles; press. max., 3 in.; min., 2.7 in.

Annual sales, approximate, 34,500,000 c. f.

Gas unaccounted for, 2 p. c.

By-products sold: Coke, 1,600 tons; tar, 40,000 gals.

Pop. of city, est. 15,000; dist. supplied, 13,500.

No. consumers, 2,400.

No. meters, reg., 1,800; prepay., 600.

Price gas: Light and Fuel, gross, \$1.70; net, \$1.60.

Gas appliances in use: Ranges, 1,673; heaters, 515; water heaters, 397 (tank); 84 (auto).

No. commercial gas arc lamps, 76.

Supplies Norwood.

Vineyard Lighting Co., Oak Bluffs.

S. Bs.: N. B.; M., V. & N. Ex.: Adams.

Capital stock, \$25,000.

President, Benj. C. Cromwell.

Secretary and treas., Chas. H. Carpenter.

Superintendent, W. L. Greenleaf.

Pur. agent, Chas. H. Carpenter.

Gen. manager, Chas. H. Carpenter.

Process manufacture, Lowe.

Price coal per ton, delivered, \$5.70.

Price oil per gal., 6.3c.

Average candle-power, 17.

Calorific value, 600 B. t. u.

Max. day's send out, 18,000 c. f.

Total gas holder capacity, 35,000 c. f.

Miles of mains, approximate, 2.

Street main pres., min., 2.5 in.

Annual sales, approx., 1,469,010 c. f.

Pop. city, 1,200 (estimated).

No. meters, 324.

Price gas: Light, gross, \$3.80; net, \$1.90.

No. ranges in use, 158.

Supplies Oak Bluffs.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$77,577.

System operated: Arc and incand., 60 cycle,

A. C. and D. C.; power, D. C.

Generating capacity: Lighting, 575 kw.; power, 137 kw.

Voltage: 110-220-2,200 A. C. Power, 500 D. C.

City lighting contract: Hours lighted per year: Incand., 1,253.

No. public incand.: Oak Bluffs, 236-250; 32; 40 and 60 watt; Tisbury, 22-32 watt; Edgartown, 45-32 watt.

Commercial lighting: No. incand., 4,393.

Price current per kw. hr., 25c. and 5c.; disc., 20 p. c.

Other lamps used: Tungsten.

Other uses: Street railway.

Generating power used, Steam; rated h. p., 965.

Cost of station boiler coal, per ton, \$5.54. (No 1918 report.)

Worcester County Gas Co., Palmer.

RR.: Bos. & Al. Ex.: Am.

Controlled by Massachusetts Lighting Cos.

Capital stock, \$285,000.

President, Arthur E. Childs.

Secretary and treas., Geo. F. Howland.

Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).

Gen'l mgr., Guy K. Dustin.

Engineer, R. Y. Conklin.

Local manager, C. M. Durell.

Com'l mgr., William Gould.

Process manufacture, Lowe.

Price coal per ton, delivered, \$6.22 and \$5.31.

Price oil per gal., 5.4c.

Candle-power, 16.5; calorific value, 600 B. t. u.

Annual production, 12,985,000 c. f.

By-products made: Tar, 3,576 gals.

Gas purchased from the Spencer Gas Co., 15,987,000 c. f.

Gas holder capacity, 68,000 c. f.

Holder pressure, max., 5.5 in.

Street mains, approx., 75 miles.

High pres. mains, miles, 75; pressure, 25 lbs.

lbs. Day pressure, 15 lbs.; night, 8 lbs.

Annual sales, approx., 25,466,100 c. f.

Gas unaccounted for, 9.6 p. c.

Pop. dist. supplied, 28,356; of cities, same.

No. consumers, 1,920.

No. meters, reg., 1,611; prepay., 309.

Price gas: Gross, \$1.95; net, first 2,000 c. f.,

\$1.85; excess, 2,000 c. f., gross, \$1.85; net,

\$1.75. Industrial rate, 1st 2,000 c. f.,

\$1.95-\$1.85; next 3,000 c. f., \$1.85-\$1.75;

next 25,000 c. f., \$1.45-\$1.35; next 20,000

c. f., \$1.25; net; all over 50,000 c. f., \$1.15.

Gas appliances in use: Ranges, 1,338; water heaters, 305.

Supplies Brookfield, West Brookfield, Warren, North Brookfield, East Brookfield, Leicesters, Monson and Palmer.

Pittsfield Coal Gas Co., Pittsfield.

RRs.: Bos. & Al.; N. Y., N. H. & H. Ex.:

Ad.; Am.

Capital stock, \$396,000; ann. div., 8 p. c.

President and secretary, Wm. L. Adam.

Treasurer, H. A. Dunbar.

Manager, H. C. Crafts.

Purchasing agent, H. C. Crafts.

New bus. mgr., H. C. Crafts.

Superintendent works, D. M. Cullen, Jr.

Superintendent dis., George R. Nixon.

Process manufacture, Lowe and Coal.

Annual prod., coal-gas, 67,600,000 c. f.; water-gas, 213,600,000 c. f.

Candle-power, 18; calorific value, 590 B. t. u.

Total gas holders capacity, 1,125,000 c. f.

Holder pressure, max., 9 in.

Max. day's send out, 975,000 c. f.

Miles of mains, low pres., approx., 63.

Street main pressures, max., 4 in.; min., 2.6 in.

High pressure mains, miles, 47; pressure, 10 lbs.

Annual sales, approx., 277,000,000 c. f.

Gas unaccounted for, 2 p. c.

Pop. dist. supplied, 40,000; of city, 32,121; Dalton, 3,568.

No. consumers, 10,724.

No. meters, reg., 2,148; prepay., 8,576.

Price gas: Light and Fuel, gross, \$1.20; net, \$1.10.

Metropolitan No. 2 Argand Burners, specified for candlepower test use by the London Gas Referee. The only burner which approaches perfect combustion of any kind of gas, whether coal gas, enriched coal gas or coal gas mixed with carburetted water gas. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Ranges in use, 8,512; heaters, 2,800; water heaters, 3,293.
No. commercial gas arc lamps, 1,750.
Supplies Pittsfield, Dalton, Lenox and Lee.

Plymouth Gas Light Co., Plymouth.

RR.: N. Y., N. H. & H. S. Bs.: Nant. Beach Co. and S. Bs. from Boston. Ex.: N. Y. & B.; B. L.

Capital stock, \$148,500.
Annual dividend, 8 p. c.
President, E. P. Rowell.
Vice-pres., Bowen Tufts.
Clerk, Edward C. Mason.
Treasurer, Chas. R. Adams.
Gen'l manager, E. P. Rowell.
Engineer, P. B. Webber.
Superintendent, J. L. Murray.
Pur. agent, J. L. Murray.
New bus. mgr., J. L. Murray.
Process manufacture, Coal.
Price coal per ton, delivered, \$6.15.
Candle-power, 16.1.
Calorific value, 600 B. t. u.
Annual production, 25,000,000 c. f.
By-products made: Coke, 1,900 tons; tar, 36,000 gals.
Gas holder capacity, 104,000 c. f.
Holder pressure, 3.3 in.
Max. day's send out, 112,000 c. f.
Miles of mains, approx., 15.
Street main pressure, max., 3.3 in.; min., 3.3 in.
Annual sales, approx., 25,000,000 c. f.
Gas unaccounted for, 11 p. c.
By-products sold: Coke, 1,250 tons; tar, 36,000 gals.
Pop. of city, 14,000 est.; of dist. supplied, 9,000.
No. consumers, 2,081.
No. meters, reg., 1,005; prepay., 1,076.
Price gas: Light and Fuel, gross, \$1.75; net, \$1.65.
Gas ranges in use, 1,600; heaters, 400; water heaters, 200.
No. commercial gas arc lamps, 80.
Supplies Plymouth.

Citizens Gas Light Co., Quincy.

RRs.: N. Y., N. H. & H. Ex.: N. Y. & B.; B. L.

(Controlled by Massachusetts Gas Cos.)
Capital stock, auth. and issued, \$743,000.
Annual dividend, 4.5 p. c.
Chairman of Board, J. L. Richards.
President, W. B. Nichols.
Clerk, A. S. Bull.
Treasurer, H. C. French.
Pur. agt., A. Dunbar.
Indus. fuel eng., H. Howard Smith.
Act'g new bus. mgr., J. W. Muir.
(Purchases gas from Boston Consolidated Gas Co.)
Gas purchased, 151,591,000 c. f.
Candle-power, 16.5.
Max. day's send out, 556,000 c. f.
Total gas holder capacity, 494,000 c. f.
Holder pressure, 9 in.
Miles of mains, approx., 123.

Street main pressures, max., 3.5 in.; min., 2.8 in.

Annual sales, approx., 179,724,000 c. f.
Gas unaccounted for, 4.36 p. c.
Pop. dist. supplied, 33,000; of city, the same.
No. consumers, 9,188.
No. meters, reg., 4,466; prepay., 4,722.
Price gas: Light and Fuel, \$1.20 (Feb. 1, 1918).
No. public gas lamps, 336, incl. 331 Welsbach incand.
Contract includes repairs, care, lighting, and extinguishing.
No. hours each lamp is lighted per year, 3,950.
Ranges in use, 4,399.
No. commercial gas arc lamps, 556.
Supplies Quincy.

Suburban Gas and Electric Co., Revere.

RRs.: Bos. & Me. Ex.: Am.; B. L.

Executive office, 201 Devonshire St., Boston.
Capital stock, auth., \$834,500; issued, \$834,500;
annual div., 10 p. c.
President, Chas. H. Tenney.
Vice-pres., Albert B. Tenney.
Clerk, H. P. Wood.
Treasurer, E. A. Bradley.
Asst. treas., I. S. Hall.
Auditor, H. A. Gidney.
Purchasing agent, F. P. Mooney.
Engineer, R. J. Smith.
Local manager, C. F. Chisholm.
Superintendent, A. F. Gardella.
New bus. manager, H. M. Frank.
(Gas purchased from Malden and Melrose Gas Light Co.)
Gas purchased, approx., 240,328,237 c. f.
Calorific value, 625 B. t. u.
Max. day's send out, 1,086,666 c. f.
Gas holder capacity, 300,000 c. f.
Holder pressure, max., 5.4 in.
Miles of mains, approx., 72.2.
St. main pressures: max., 5 in.; min., 2.5 in.
High pressure mains, miles, 5.2; pressure, 40 lbs.
Booster mains, 2.5 mi.; press., 8 in.
Annual sales, approx., 231,583,650 c. f.
Gas unaccounted for, 3.66 p. c.
Pop. dist. supplied, 33,000; of cities, Revere, 18,219; Winthrop, 10,132.
No. consumers, 11,326.
No. meters, reg., 2,841; prepay., 8,485.
Price gas: Light and Fuel, gross, \$1.00; net, 95c., and sliding scale, viz.: First 35,000 c. f., \$1 gross; 95c. net; next 10,000 c. f., 90c. gross; 85c. net; excess of 45,000 c. f., 80c. gross; 75c. net.
Ranges in use, 8,194; heaters, 620; water heaters, 710.
No. commercial gas arc lamps, 117.
Supplies Revere and Winthrop.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
Capital apportioned to electric plant, approx., \$564,843.
System operated: Lighting, A. C., single phase, 7,200 alt. Power, 3 phase and 60 cycles.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road **PHILADELPHIA, PA.**
and 29th Street

Generating capacity: Lighting and power, 1,400 kw.
 Voltage: Ares. 78; incand., 110; power, 110.
 City lighting contract: Hours lighted per year, Revere, 3,147; Winthrop, 3,855.
 No. public incand., 56—600 c. p. (Winthrop); price per year, \$86.40; 106—250 c. p. (Revere); price per year, \$60; 608—50 watt at Revere; 450—50 watt at Winthrop; price per year, \$18.72.
 Commercial lighting: No. arcs, 188; incand., 83,816.
 Price com'l per kw. hr., gross, 11c.; disc., 1c. per kw. hr. for prompt payment.
 Power circuits: No. motors, 141; price current per kw. hr., 5c. to 1½c., and \$1.50 per mo. per h. p. of demand.
 Output of station, kw. hrs., total for year, 3,821,698.
 Power used, Steam; rated, 1,208 h. p. boilers; 2,050 h. p. engines and turbines.
 Cost boiler fuel per ton, \$4.55.

Salem Gas Light Co., Salem.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, com., auth., \$500,000; issued, \$499,600; annual div., 8 p. c.
 President, Henry A. Hale.
 Secretary, Benj. W. Sluman.
 Treasurer, Benj. W. Sluman.
 Manager, J. L. Tudbury.
 Process manufacture, Coal and Lowe.
 Annual production, coal gas, 155,000,000 c. f.; water gas, 102,000,000 c. f.
 Price coal per ton, delivered, \$3.80.
 Price oil per gallon, 4.5c.
 Candle-power, 16.5.
 Gas holder capacity, 760,000 c. f.
 Holder pressure, 4 in.
 Miles of mains, approx., 88.
 Street main pressures, max., 4 in.; min., 2 in.
 Annual sales, approx., 257,000,000 c. f.
 Gas unaccounted for, 6 p. c.
 By-products sold: Coke, 4,800 tons; tar, 110,000 gals.; ammonia, 120,000 gals.
 Pop. dist. supplied, 60,000; of city, 43,697.
 No. consumers, 13,776.
 No. meters, reg., 4,121; prepay., 9,655.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.10.
 Ranges in use, 6,900.
 No. commercial gas arc lamps, 1,250.
 Supplies Salem and Peabody.

Spencer Gas Co., Spencer.

RR.: Bos. & Al. Ex.: Am.

Controlled by Massachusetts Lighting Cos.
 Capital stock, \$97,500. Ann. div., 4.5 p. c.
 Bonds, \$85,000; due 1929; interest, 5 p. c.
 President, Arthur E. Childs.
 Secretary and treas., Geo. F. Howland.
 Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).
 Gen'l mgr., Guy K. Dustin.
 Engineer, R. Y. Conklin.
 Local bus. mgr., Charles M. Durell.
 Com'l mgr., William Gould.
 Process manufacture, Lowe.

Price coal per ton, delivered, \$5.73 and \$5.44.
 Price oil per gal., 5.6c.
 Candle-power, 16.5; calorific value, 600 B. t. u.
 Annual production, 28,872,000 c. f.
 Max. day's send out, 114,100 c. f.
 Total gas holders capacity, 152,600 c. f.
 Holder pressure, max., 5.5 in.
 Miles of mains, approx., 18.
 Street main pressures, max., 3 in.; min., 3 in.
 High pressure mains, 6 miles; pressure, 20 lbs.
 Annual sales, approx., 27,749,500 c. f.
 Gas unaccounted for, 6.9 p. c.
 Pop. of city, 5,994; of dist. supplied, 5,994.
 No. consumers, 908.
 No. meters, reg., 625; prepay., 283.
 Price gas: Light and Fuel, gross, \$1.95; net, first 2,000 c. f. per mo., \$1.85; all over 2,000, gross, \$1.85; net, \$1.75. Industrial: 1st 2,000 c. f., per mo., \$1.95-\$1.85; next 3,000, \$1.85-\$1.75; next 25,000, \$1.45-\$1.35; next 20,000, \$1.25 net; all over 50,000, \$1.15 net.
 Gas ranges in use, 442; water heaters, 59.
 No. commercial gas arc lamps, 100.
 Supplies Spencer; also sells gas to Worcester County Gas Co.

ELECTRICAL DEPARTMENT.

System: Lighting, A. C., single phase, 60 cycles; power, A. C., 3 phase; 60 cycles.
 Voltage: Incand., 110; power, 220.
 Miles of overhead wires, 71.
 City lighting contracts: Hours lighted, 2,270.
 No. public incand., 221-47 watt and 52-60 watt.
 Pub. incand., 14c. per kw. hr. for first 108 kw. hr. per year per fixture; all over 108 kw. hr. per fixture, 6c., per kw. hr. Minimum fixtures, 270.
 Com. lighting: No. arcs, 7; incand., 5,546 (40 watt units).
 Price arc and incand. commercial per kw. hr., 1st 100 kw. hr., gross, 18c.; net, 15c.; all over 100 kw. hr., 12c. net.
 Power circuits: No. motors, 57.
 Price current per kw. hr.: 1st 50 kw. hr., 8c.; all over, 2.5c.; and discount based on mo. max. demand.
 All electricity purchased from Central Mass. Electric Co.
 Current purchased, kw. hrs., total for year, 577,933.

Springfield Gas Light Co., Springfield.

RRs.: Bos. & Al.; N. Y., N. H. & H.; Bos. & Me.; Cen. N. E. Ex.: Ad.; Am.

Executive office, 201 Devonshire St., Boston.
 Capital stock, auth. and issued, \$1,777,200.
 Annual div., 12 p. c.
 Notes, \$500,000; due 1922; int., 6 p. c.
 President, Chas. H. Tenney.
 Clerk, Horace P. Wood.
 Treasurer, Eugene Milliken.
 Asst. treas. and local mgr., W. H. Bradley.
 Purchasing agent, F. L. Belcher.
 Auditor, H. A. Gidney.
 Superintendent, Arthur S. Hall.
 New bus. mgr., John S. Fox.

SYPHON AND "U"

American Meter Company

561 W. 47th St., New York, N. Y.

PRESSURE GAUGES. These have been improved so they can be repaired without the use of cement. We also manufacture all types of Arch Pressure Gauges and Single Tube Gauges.

Indus. fuel engineer, Edward S. Bliss.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$6.10.
 Price oil per gal., 8c.
 Candle-power, 17.4; calorific value, 528 B. t. u.
 Annual product, coal gas, 516,798,000 c. f.;
 water gas, 668,437,000 c. f.
 By-products made: Coke, 29,199 tons; coal-tar,
 589,028 gals.; water-gas tar, 523,948
 gals.; ammonia, 398,687 lbs.; retort carbon,
 99,400 lbs.

Total gas holder capacity, 3,492,000 c. f.
 Holder press., max., 13 in.
 Max. day's send out, 4,500,000 c. f.
 Miles of mains, approx., 320.
 Street main pressures, max., 4 in.; min. 3.5 in.
 High press. mains, 30 mi.; press., 40 lbs.
 Booster mains, 8 miles; press., 7 lbs.
 Annual sales, approx., 1,102,924,000 c. f.
 Gas unaccounted for, 2.59 p. c.
 By-products sold: Coke, 7,517 tons; coal-tar,
 24,621 gals.; water-gas tar, 120,384 gals.;
 ammonia, 391,818 lbs.; retort carbon,
 99,400 lbs.

Pop. dist. sup., 170,000; of city, 110,000.
 No. consumers, 42,098.
 No. meters, reg., 10,648; prepay., 31,450.
 Price gas: Light and Fuel, East Longmeadow,
 \$1.15 gross, \$1.10 net; So. Hadley Falls,
 \$1.10 gross, \$1.05 net; Springfield, etc.,
 \$1.15 gross, \$1.05 net. Discount, 5c.
 Ranges in use, 30,000; gas engines, 35; heat-
 ers, 6,000; water heaters, 11,500.
 No. commercial gas arc lamps, 4,525.
 Supplies Springfield, Ludlow, West Spring-
 field, Agawam, Longmeadow, Chicopee,
 East Longmeadow, South Hadley Falls.
 Sells to No. Conn. Lt. & Pr. Co., which
 supplies Thompsonville, Windsor Locks,
 Windsor and Enfield, Conn.

Taunton Gas Light Co., Taunton.

RRs.: N. Y., N. H. & H. Ex.: Ad.; N. Y. & B.

Capital stock, \$330,000. Annual dividend, 10%.
 President, Wm. C. Davenport.
 Secretary and pur. agent, Walter T. Soper.
 Treasurer, Walter T. Soper.
 General manager, Walter T. Soper.
 Purchasing agent, Walter T. Soper.
 Superintendent and engineer, Ralph E. Fish.
 Process manufacture, Coal and Lowe.
 Candle-power, 16; calorific value, 625 B. t. u.
 Annual production, coal gas, 223,839,000 c. f.;
 water gas, 2,517,000 c. f.
 By-products made: Coke, 16,292 tons; tar,
 284,930 gals.; ammonia, 47,225 lbs.
 Total gas holder capacity, 865,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 810,000 c. f.
 Miles of mains, approx., 120.
 Street main pressures, max., 3 in.; min., 2
 in.
 High pressure mains, miles, 53; pressure, 15
 lbs.
 Annual sales, approx., 196,505,700 c. f.
 Gas unaccounted for, 12 p. c.
 By-products sold: Coke, 8,642 tons; tar, 317,
 803 gals.; ammonia, 43,447 lbs.
 Pop. dist. supplied, 40,000; city, 34,259.

No. consumers, 7,890.
 No. meters, reg., 4,521; prepay., 3,369.
 Price gas: Light and Fuel, gross, \$1.10 and
 \$1; net, \$1 and 90c.
 Ranges in use, 4,300.
 Supplies Taunton, Dighton, Norton and Mans-
 field.

Wakefield Municipal Light Plant, Wakefield.

RRs.: Bos. & Me. Ex.: Am.; B. L.

(Municipal plant.)

Bonds outstanding, \$68,000.
 Chairman Bd. of Selectmen, J. J. Round.
 Lighting Cmmrs.: E. C. Miller, Chmn.; L.
 W. Sweetser and John M. Cameron.
 Manager and pur. agent, S. L. Cole.
 Process manufacture, Coal and Lowe.
 Annual prod., coal-gas, 34,214,000 c. f.; water-
 gas, 15,827,000 c. f.
 Price coal per ton, delivered, \$7.19.
 Price oil per gallon, 7.25c.
 Candle-power, 17.
 Max. day's send out, 187,200 c. f.
 Total gas holders capacity, 155,000 c. f.
 Holder pressure, max., 5.5 in.
 Miles of mains, approx., 37.
 Street main pressures, max., 3.6 in.; min., 2.5
 in.
 High pressure mains, miles, 18; pressure, 15
 lbs.
 Annual sales, approx., 44,537,000 c. f.
 Gas unaccounted for, 11 p. c.
 Pop. dist., supplied, 10,000; of city, 13,000 est.
 No. consumers, 2,384.
 No. meters, reg., 1,117; prepay., 1,267.
 Price gas: Light and Fuel, gross, \$1.40; net,
 \$1.20. (After April 1, 1918, \$1.55 gross.)
 Ranges in use, 1,755; heaters, 385; water
 heaters, 202.
 No. commercial gas arc lamps, 42.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 60 cycles,
 single phase; power, single or 3 phase.
 Voltage: At arc, 75; incand. and power, 2,300-
 220-110.
 City lighting contract: No. incand., 594; 50
 watts; hours lighted per year, 2,815.
 Price current per kw. hr., gross, 13c.; net, 10c.
 Power current: Price per kw. hr., sliding
 scale, 7c. to 2c.
 Output of station, kw. hrs. for year, 733,230.
 Power purchased from Edison Electric Il-
 luminating Co., of Boston.

Ware Gas Light Co., Ware.

RRs.: Bos. & Al.; Bos. & Me. Ex.: Am.

(Operated and owned by the Otis Company
 to supply its cotton mills with gas.)
 Agent, George E. Tucker.
 Process manufacture, Coal.
 Candle-power, 17.
 Miles of mains, approximate, 7.
 Annual sales, approx., 22,398,700 c. f.
 Pop. town supplied, 9,340 (1916).
 No. meters, 725.

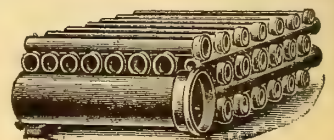
PIPE

We can meet your requirements for
 cast iron pipe promptly—we carry
 a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



Price gas, \$1.25 to \$1.75.
 Ranges in use, 575.
 No. commercial gas arc lamps, 12.
 Supplies Ware.

Webster and Southbridge Gas and Electric Co. Webster.

RRs.: Bos. & Al.; N. Y., N. H. & H. Ex.:
 Ad.; Am.

Capital stock, \$467,500; annual div., 8 p. c.
 Bonds, \$25,000; due 1929, and \$35,000, due 1921; int., 5 p. c.
 President, N. T. Hurlbut.
 Secretary, F. W. Johnson.
 Treasurer and manager, H. S. Shaw.
 Purchasing agent, F. E. Tourtellotte.
 Engineer, M. W. Cartee.
 New bus. mgr., C. W. Flagg.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$8.25.
 Price of oil per gal., delivered, 8c.
 Candle-power, 17.
 Annual production, 69,722,000 c. f.
 Total gas holders capacity, 197,000 c. f.
 Holder pressure, max., 3 in.
 Max. day's send out, 212,430 c. f.
 Miles of mains, 35.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 High pressure mains, 10 miles; pressure, 6 lbs.
 Annual sales, approx., 64,500,000 c. f.
 Gas unaccounted for, 5.1 p. c.
 Pop. dist. supplied, 30,000; of city, 13,500.
 No. consumers, 4,611.
 No. meters, reg., 1,785; prepay., 2,831.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Ranges in use, 4,029.
 Supplies Webster, Southbridge and Dudley.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C.; incand., A. C.; 1 phase; power, A. C., 3 ph. 60 cycle.
 Generating capacity: Lighting and power, 3,000 kw.
 Voltage: Arcs, 104; incand., 110; power, 220 and 550.
 City lighting contract: Hours lighted per year: 4,000.
 No. public arcs, 19; 532 watt. Price per year, \$107.
 No. public incand., 1,960; 75-100 watt. Price per year, \$17.77 and \$25, all night, every night; \$14.15 and \$12.25, moonlight.
 Commercial lighting: No. arcs, 6; No. incand., 39,028.
 Price current per kw. hr., 12c. to 6c. Disc., 10 p. c.; dom., first 15 kw. hrs., 12c. net; over 15 kw. hrs., 4c. per kw., less 1c. for prompt payment.
 Power circuits: No. of motors, 390. Price per kw. hr., 6c. to 1.7c. sliding scale.
 Output of station, kw. hr. for year, 8,500,000.
 Generating power used, Steam; rated h. p., 4,000.
 Cost of station boiler coal, per ton, \$8.

Westfield Gas and Electric Light Works, Westfield.

RRs.: Bos. & Al.; N. Y., N. H. & H. Ex.:
 Ad.; Am.

(Municipal plant.)

Bonds, \$160,000; due \$16,000 an.; int., 3.5 and 4 p. c.
 Gen'l mgr. and pur. agt., R. J. Hein.
 Supt. gas works, W. T. Lincoln.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.10.
 Candle-power, 17.
 Annual production, 55,897,600 c. f.
 By-products made: Coke, approx., 3,000 tons; tar, approx., 70,000 gals.
 Total gas holder capacity, 286,000 c. f.
 Holder pressure, max., 4.5 in.
 Max. day's send out, 206,300 c. f.
 Miles of mains, approx., 35.
 Street main pressures, max., 3.5 in.; min., 2 in.
 High pressure mains, 2 miles; pressure, 5 lbs.
 Annual sales, approx., 55,000,000 c. f.
 Gas unaccounted for, 8 p. c.
 By-products sold, approx.: Coke, 2,077 tons; tar, 68,200 gals.
 Pop. city supplied, 16,044 (1910); now est. 18,800.
 No. consumers, 2,720.
 No. meters, reg., 768; prepay., 1,977.
 Price gas: Light and Fuel, \$1.25 for all purposes. (After March 1, 1918, \$1.45.)
 No. gas ranges in use, 1,750; heaters, 200; water heaters, 300.
 No. commercial gas arc lamps, 50.
 Supplies Westfield.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C., 2 phase, 60 cycles; arcs, D. C.
 Miles of overhead wire, 125; miles of underground cables, 4.87.
 Generating capacity: Lighting and power, 1,500 kw.
 Voltage: Incand., 110-220; power, 2,300 station voltage.
 City lighting contract: Hours lighted per year, arc and incand., 4,000.
 No. public arcs, 77; 520 watts; 49-490 watts. Price per year, \$80 and \$90.
 No. public incand., 303; 60 watt. Price per year, \$20.
 Commercial lighting: No. arcs, 2.
 Price current per kw. hr., 9c.
 Power circuits: Motors, 2,000 h. p.; price current, 5.25c. to 2.5c. per kw. hr.
 Output of station, kw., for year, 2,698,326.
 Generating power used, Steam; rated h. p., 1,800.
 Cost of station boiler coal per ton, \$6.22.

Williamstown Gas Co., Williamstown

RRs.: Bos. & Me. Ex.: Nat.

Controlled by Massachusetts Lighting Cos.
 Capital stock, \$40,000; ann. div., 17 p. c.
 President, Arthur E. Childs.
 Secretary and treas., Geo. F. Howland.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY
 111 BROADWAY, NEW YORK

Pur. agts., Gas & Electric Imp't Co. (H. L. Ogden).
 Gen'l mgr., Guy K. Dustin.
 Engineer, R. Y. Conklin.
 Local mgr., B. K. Cook.
 Com'l mgr., William Gould.
 Gas purchased from No. Adams Gas Light Co., 12,362,200 c. f.
 Candle-power, 16.5; calorific value, 600 B. t. u.
 Miles of mains, approx., 13.
 Street main pressures, day, 3.5 in.; night, 3.2 in.
 High pressure mains, miles, 2; pressure, 10 to 25 lbs.
 Annual sales, approx., 10,967,800 c. f.
 Gas unaccounted for, 10.2 p. c.
 Pop. city, 3,981; dist. supplied, the same.
 No. meters, reg., 264; prepay., 248.
 No. consumers, 512.
 Price gas, gross, \$1.15; net, \$1.05.
 Ranges in use, 423; water heaters, 164.
 No. commercial gas arc lamps, 2.
 Supplies Williamstown.

ELECTRICAL DEPARTMENT.

(Current purchased from North Adams Gas Light Co.)

System Lighting, A. C.; single phase, 60 cycle; power, A. C., 3 phase, 60 cycles.
 Voltage: Arcs, 78; incand., 110; power, 2,300 primary.
 Miles of overhead wire, 70.
 City lighting contract: Hours lighted per year, 3,166.
 Pub. arcs, 35; 310 watt. Price per year, \$78.
 No. public incand., 81; 50 watt. Price per yr., \$18.
 Commercial lighting: No. incand., 14,152 (40-watt units).
 Other lamps, 4,612 tungstens in 40-watt units.
 Price arc and incand., commercial per kw hr., gross, 13c.; net, 12c. first 15 kw. hr. per mo.; all over 15 kw. hr., 8c. net.
 Disc., 2c.
 Power circuits: No. motors, 29.
 Price current per kw. hr., 5c. first 2,000 kw. per mo., gross, 4c. net; all over, 2c. net.
 Disc., 1c. Also subject to monthly load factor discount.
 Power purchased for year, kw. hrs., 458,523.

Woburn Gas Light Co., Woburn.

RRs.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, \$45,100; annual div., 9 p. c.
 President, Frank H. Monks.
 Secretary, John W. Johnson.
 Treasurer, John W. Johnson.
 Pur. agent, John W. Johnson.
 Superintendent, Walter C. Knapp.
 New bus. mgr., John W. Johnson.
 Process manufacture, Coal.
 Price coke per ton, delivered, \$7.
 Calorific value, 660.4 B. t. u.

Candle-power, 16.
 Annual production, 24,000,000 c. f.
 By-products made: Coke, 800 tons; tar, 200,000 gals.
 Max. day's send out, 90,000 c. f.
 Total gas holder capacity, 130,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 20.
 Street main pressures, max., 3 in.; min., 2.5 in.
 Annual sales, approx., 22,000,000 c. f.
 Gas unaccounted for, 7 p. c.
 By-products sold: Coke, 800 tons; tar, 200,000 gals.
 Pop. dist. supplied, 10,000; of city, 16,000 (est.).
 No. consumers and meters, 1,200.
 Price gas, gross, \$1.40; net, \$1.25.
 No. ranges, 425; heaters, 125; water heaters, 25.
 No. commercial gas arc lamps, 100.
 Supplies Woburn.

Worcester Gas Light Co., Worcester.

RRs.: Bos. & Al.; N. Y., N. H. & H.; Bos. & Me. Ex.: Ad.; Am.; Nat.; E. & P.; N. Y. & B.

Capital stock, \$1,400,000.
 Annual dividend, 8 p. c.
 President, Willard B. Osborne.
 Sec'y and treas., DeWitt Clinton.
 Purchasing agent, W. B. Osborne.
 General mgr., W. B. Osborne.
 Engineer, Carlton Warren.
 Superintendent of works, S. E. Nims.
 New bus. mgr., G. E. Stephen.
 Process manufacture, Coal and Lowe.
 Annual prod., coal-gas., 594,560,000 c. f.; water-gas, 494,626,000 c. f.
 Calorific value, 558 B. t. u.
 Gas holder capacity, 7,600,000 c. f.
 Holder pressure, 12 in.
 Max. day's send out, 3,849,000 c. f.
 Miles of mains, approx., 220.
 Street main pressures, max., 4.8 in.; min., 3 in.
 Annual sales, approx., 1,055,000,000 c. f.
 Gas unaccounted for, 3.2 p. c.
 Pop. of city supplied, 180,000.
 No. consumers, 34,000.
 No. meters, reg., 34,335; prepay., 64.
 Price gas: Light and Fuel, gross, 95c.; net, 75c. After Mar. 15, 1918: 1st 25,000 c. f., \$1.15; net; next 25,000 c. f., \$1.10 net; next 50,000 c. f., \$1.05; excess of 100,000 c. f., \$1 net.
 No. public lamps, 651, including 624 incandescents.
 No. hours each lamp is lighted per year, 3,991.
 Contract does not include repairs, care and lighting.
 No. ranges in use, 20,600.
 No. commercial gas arc lamps, 1,050.
 Supplies Worcester.

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES

METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for Review of Technical Paints. CHEESMAN & ELLIOT, 100 William St., New York



MICHIGAN.

Total population, 3,074,560.

Lenawee County Gas & Electric Co., Adrian.RRs.: L. S. & M. S.; Wabash; Tol. & West.;
D., T. & I. Ex.: Am.; U. S.; Pac.; W. F.

Controlled by Elston, Clifford & Co.

Capital stock, \$100,000.

Bonds outstanding, \$370,000; due 1927; int.,
5½ p. c.

President, I. C. Elston, Jr.

Vice-president, J. N. McCallum.

Secretary, F. A. Lane.

Treasurer, F. A. Lane.

Gen. mgr. and pur. agent, F. A. Lane.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.70.

Candle-power, 16; calorific value, 600 B.t.u.

Annual production, 78,500,000 c. f.

Max. day's send out, 275,000 c. f.

Total gas holders capacity, 166,000 c. f.

Holder pressure, 3 in.

Miles of mains, approx., 34.

Street main pressures, max., 3 in.; min., 2.5
in.

Booster mains, 1.5 miles, pressure, 8 lbs.

Annual sales, approx., 76,000,000 c. f.

Gas unaccounted for, 1 p. c.

Pop. dist. supplied, 10,763; of city, the same.

No. consumers, 2,630.

No. meters, reg., 2,480; prepay., 150.

Price gas: Light and Fuel, gross, \$1.10; net,
\$1.00.

No. public Humphrey gas lamps, 147.

Contract includes repairs, care, lighting and
extinguishing.

No. hours each lamp is lighted per year, 4,000.

Ranges in use, 2,696; heaters, 638; water
heaters, 527.

No. commercial gas arc lamps, 645.

Supplies Adrian.

Albion Gas Light Co., Albion.RRs.: L. S. & Mo. So.; Mich. Cen.; Mich.
U. (El.). Ex.: Ad.; Am.

(Owned by Am. Public Utilities Co.)

Bonds, \$150,000; due 1919; interest, 5 p. c.

President, Jos. H. Brewer.

Vice-pres., C. B. Kelsey.

Secretary and pur. agt., Blaine Gavett.

Treasurer, W. J. Ripley.

Local mgr., C. W. Beck.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.20.

Candle-power, 16.

Calorific value, 600 B. t. u.

Annual production, approx., 42,000,000 c. f.

Total gas holder capacity, 165,000 c. f.

Max. day's send out, 135,000 c. f.

Miles of mains, approximate, 20.

Street main pressures, max., 3.3; min., 2.9 in.

Annual sales, approx., 50,000,000 c. f.

Gas unaccounted for, 3 p. c.

Pop. dist. supplied, 7,500; of city, 7,500.

No. consumers, 1,640.

No. meters, reg. and prepay., 1,602.

Price gas: Light and Fuel, gross, \$1.30; net,
\$1.20 to 60c.

No. public lamps, 2.

Price per year, \$25.

Contract includes repairs, care and lighting.

Lighted to midnight, moon scale.

Ranges in use, 700; heaters, 200; water heat-
ers, 150.

No. commercial gas arc lamps, 360.

Supplies Albion.

(No 1918 report.)

Gratiot County Gas Co., Alma.

RRs.: Ann Arbor; Pere Marq. Ex. U. S.; Pac.

Controlled by Appleby-Wagner Co., Saginaw,
Mich.

Capital stock, \$40,000.

Bonds, \$150,000; due 1935; int., 6 p. c.

President and mgr., C. F. Brown.

Vice-president, Francis King.

Secretary and engineer, R. B. Wagner.

Treasurer, B. G. Appleby.

Gen'l mgr. and pur. agent, R. B. Wagner.

Superintendent, L. A. Mather.

Process manufacture, Coal and Lowe (Ten-
ney).Annual production, water-gas, 20 p. c.; coal
gas, 80 p. c.Price delivered, coal per ton, \$5.50; oil per
gallon, 8.5c.

Candle-power, 16. Calorific value, 600 B. t. u.

Gas holder capacity, 100,000 c. f. Pressure
(max.), 80 lbs.

Max. day's send out, 50,000 c. f.

Street mains, approximate, 13 miles, in Alma;
7 miles in St. Louis; 3 miles in Brecken-
ridge; 8 miles in Ithaca.High pressure mains, 18 miles. Press., 40 lbs.
Street main pressures, max., 2 lbs.; min., 1.25
lbs.

Annual sales, approx., 40,000,000 c. f.

Gas unaccounted for, 15 p. c.

Population of Alma, 2,757; St. Louis 1,940
(1910); Ithaca, 2,100; Breckenridge, 700;
of dist. supplied, 12,000.

No. consumers, 1,000.

No. meters, reg., 1,000.

Price gas: Light and Fuel, gross, \$1.35; net,
\$1.25.

No. public incand., gas lamps, 17.

Contract includes repairs, care, lighting and
extinguishing.

No. hours each lamp is lighted per year, 1,800.

Gas appliances in use: Ranges, 1,200; heat-
ers, 357; water heaters, 145.

No. commercial gas arc lamps in use, 190.

Supplies Alma, St. Louis, Ithaca and Brecken-
ridge, Mich.**THE SCIENTIFIC SAFETY GARAGE HEATER**

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of
perfection.**THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio**

Alpena Gas Co., Alpena.

RRs.: Det. & Mac. S. Bs.: Det. & Clev.
Nav.; Thomson Line. Ex.: Am.

(Not incorporated.)

Owned and operated by Estate of C. F. Young
and Leland N. Young.

Gen. office, 611 Murray Bldg., Grand Rapids.
No indebtedness.

General manager, L. N. Young.

Superintendent, Ira R. Hutchinson.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.60.

Candle-power, 17.

Calorific value, 600 B. t. u.

By-products made: Coke, 1,150 tons; tar,
18,000 gals.

Total gas holders capacity, 60,000 c. f.

Holder pressure, 4.5 in.

Max. day's send out, 67,000 c. f.

Miles of mains, approx., 17.5.

Street main pressure, max., 4.5 in.; min., 2.5
in.

Annual sales, approx., 18,000,000 c. f.

Gas unaccounted for, 11 p. c.

By-products sold: Coke, 750 tons; tar, 14,000
gals.

Pop. dist. supplied, 10,000; of city, 12,706
(1910), now est. 14,000.

No. meters, reg., 660; prepay., 70.

No. consumers, 730.

Price gas: Light, gross, \$1.50; net, \$1.30.

Fuel, gross, \$1.50; net, \$1.25.

Ranges in use, 648; heaters, 490; water heat-
ers, 134.

No. commercial gas arc lamps, 140.

Supplies Alpena.

Washtenaw Gas Co., Ann Arbor.

RRs.: Mich. Cen.; A. A.; Det. U. Ex.: Am.;
Pac.

Capital stock auth., \$1,500,000; issued,
\$300,000.

Annual dividend, 8 p. c.

Bonds, \$550,000; due 1933; int., 5 p. c.

President, Hon. E. D. Kinne.

Secretary, D. F. Zimmerman.

Treasurer, H. W. Douglas.

Purchasing agent, H. W. Douglas.

General mgr., H. W. Douglas.

Engineer, Chas. R. Henderson.

Superintendent, F. Hochrein.

New bus. mgr., E. E. Gwinner.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.70.

Candle-power, 17.

Calorific value, 615 B. t. u.

By-products made: Coke, 13,692 tons; tar,
274,258 gals.; ammonia, 80,102 lbs.

Total gas holders capacity, 718,000 c. f.

Holders pressure, 7.2 in.

Max. day's send out, 746,000 c. f.

Miles of mains, approx., 66.

Street main pressures, max., 4.5 in.; min.,
3 in.

High pressure mains, miles, 21; pressure, 10
lbs.

Annual sales, approx., 220,000,000 c. f.

Gas unaccounted for, 4.7 p. c.

By-products sold: Coke, 11,906 tons; tar,
274,258 gals.; ammonia, 80,102 lbs.

Pop. dist. supplied, 25,500; of city, 14,817.

No. consumers, 6,253.

No. meters, reg., 4,453; prepay., 1,800.

Price gas: Light and Fuel, gross \$1.25 to
\$1.05; net, \$1 to 80c.

No. commercial gas arc lamps, 475.

Supplies Ann Arbor, Dexter and Chelsea.

Calhoun Gas Co., Battle Creek.

RRs.: Mich. Cen.; Gr. Trunk; Mich. U. (El.).
Ex.: Am.; Nat.

Capital stock, auth., \$1,500,000; issued, \$931,
500.

Bonds, \$400,000; due, 1944; int., 5 5 p. c.

President, E. Henning.

Secretary, E. B. Zimmer.

Treasurer, D. H. Frazer.

General mgr., F. W. Seymour.

Engineer, F. W. Seymour.

Superintendent, C. S. Holt.

New bus. mgr., W. O. Weekes.

Process manufacture, Coal and Lowe.

Annual production: Coal gas, 414,476,700 c. f.;
water gas, 26,973,500 c. f.

Gas holder capacity, 1,080,000 c. f.

Max. day's send out, 1,360,000 c. f.

Miles mains, approx., 72.

Annual sales, approx., 411,959,500 c. f.

Gas unaccounted for, 6.12 p. c.

Pop. city, est., 33,000; of dist. supplied, 35,000.

No. consumers, 8,150.

No. meters, reg., 8,200.

Price gas: Light and Fuel, first 1,000 c. f.,
\$1; all over first 1,000 c. f., 80c.; 10c. per
1,000 c. f. additional if paid after 15th.
Min. charge, \$6 per year.

Ranges in use, est., 6,200; heaters, 800; water
heaters, 1,400.

No. commercial gas arc lamps, 600.

Supplies Battle Creek.

Michigan Light Co., Bay City.

RRs.: Pere Marq.; Mich. Cen.; Det. & Mac.;
Gr. Trunk. S. Bs.: Det. & Clev. Nav
Ex.: Am.; Nat.

Operated by Commonwealth Pwr., Ry. & Lt.
Co.

(See report under Jackson, Mich.)

Belding Gas Works, Belding.

RR.: Pere Marq. Ex.: Ad.

Capital stock, \$50,000.

President, H. J. Leonard.

Vice-president, W. P. Hetherington.

Secretary and treas., Louis A. Leonard.

Purchasing agent, L. A. Leonard.

General manager, Louis A. Leonard.

New bus. manager, L. A. Leonard.

Superintendent, H. J. Leonard.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.78.

Candle-power, 18; calorific value, 600 B. t. u.

Annual production, approx., 13,000,000 c. f.

MacDONALD-MANN COKE QUENCHING CHUTES quench the
coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with
very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

By-products made: Coke, 760 tons; tar, 17,000 gals.

Total gas holders capacity, 50,000 c. f.

Holder pressure, 3.8 in.

Max. day's send out, 44,000 c. f.

Miles of mains, approx., 11.

Street main pres., max., 3.8 in.; min., 3 in.

Annual sales, approx., 12,150,000 c. f.

Gas unaccounted for, 7 p. c.

By-products sold: Coke, 445 tons; tar, 17,000 gals.

Pop. of dist. supplied, 4,119; of city, same.

No. consumers, 672.

No. meters, reg., 632; prepay., 40.

Price gas: Light and Fuel, gross, \$1.40; net \$1.25.

No. ranges, 580; heaters, 180; water heaters, 200.

Supplies Belding.

Benton Harbor-St. Joseph Gas and Fuel Co., Benton Harbor.

RRs.: Pere Marq.; C., C., C. & St. L.; Mich. Cen.; So. Mich. (El.) Ferry bet. B. H., Mich. and Manitowoc, Wis. S. Bs.: Graham & M. Trans.; Ben. Trans. Ex.: Am.

Operated by the Gas and Electric Improvement Co.

Capital stock, pref., \$125,000; com., \$250,000.

Annual dividend, pref., 6 p. c.

Bonds, \$600,000 1st mtge.; due 1926; interest, 5 p. c.; and \$55,600 mtge. deb. bonds; due 1926; interest, 6 p. c.

President, E. C. Beach.

Secretary, C. V. Clark.

Treasurer, E. C. Campbell.

Gen. mgr. and pur. agent, E. C. Campbell.

Superintendent, H. B. Hummell.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.55.

Calorific value, 600 B. t. u.

Gas holder capacity, 350,000 c. f.

Max. day's send out, 500,000 c. f.

Miles of mains, approx., 50.

Street main pressures, max., 4 in.; min., 2.5 in.

High pressure mains, miles, 7; pressure, 25 lbs.

Annual sales, approx., 112,000,000 c. f.

Gas unaccounted for, 11 p. c.

Population dist. supplied, 20,000.

No. consumers, 5,161.

No. meters, reg., 4,456; prepay., 705.

Price gas: Light and Fuel, gross, \$1.20; net, \$1.10 and \$1.

Gas appliances in use: Ranges, 5,077.

No. commercial gas arc lamps in use, 1,083.

Supplies Benton Harbor and St. Joseph.

Big Rapids Gas Co., Big Rapids.

RRs.: Pere Marq.; Gr. Rap. & Ind. Ex.: Ad.

Capital stock, \$50,000.

Bonds outstanding, \$50,000; due 1933; int. rate, 5 p. c.

President, B. O. Tippy.

Vice-pres., C. L. Robertson.

Secretary and manager, R. Shacklette.

Pur. agent, R. Shacklette.

Treasurer, C. L. Robertson.

Engineer, B. O. Tippy.

New bus. mgr., W. B. Dye.

Superintendent, S. Troup.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.10.

Candle-power, 16.

Calorific val., 625 B. t. u.

Annual production, 10,000,000 c. f.

By-products made: Coke, 770 tons; tar, 11,000 gals.

Total gas holders capacity, 40,000 c. f.

Max. day's send out, 50,000 c. f.

Miles of mains, approx., 13.

Street main pressures, max., 3.4 in.; min., 2.5 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 9 p. c.

By-products sold: Coke, 750 tons; tar, 11,500 gals.

Pop. dist. supplied, 5,500; city, the same.

No. consumers, 650.

No. meters, reg., 440; prepay., 205.

Price gas: Light and Fuel, gross, \$1.40 to 80c net.

Ranges in use, 450; heaters, 160; water heaters, 125.

No. commercial gas arc lamps, 125.

Supplies Big Rapids.

Cadillac Gas Light Co., Cadillac.

RRs.: Gr. Rap. & Ind.; A. A. Ex.: Ad.; Am.; Pac.

(Controlled and operated by United Light and Railways Co.)

Capital stock, \$100,000.

Bonds, \$100,000; due 1925; interest, 5 p. c.

President, F. T. Hulswit.

Vice-pres., E. F. Sawyer.

Secretary, L. H. Heinke.

Treasurer, C. M. Hurd.

Pur. agent, H. F. Donahue.

Manager, H. F. Donahue.

Engineer, T. J. Weber.

New bus. mgr., H. F. Donahue.

Superintendent, H. F. Donahue.

Process manufacture, Coal.

Candle-power, 16.

Calorific value, 600 B. t. u.

Max. day's send out, 81,800 c. f.

Total gas holders capacity, 40,000 c. f.

Holder pressure, max., 3.5 in.; min., 2.5 in.

Miles of mains (3 in. basis), 12.89.

Street main pressures, max., 3.5 in.; min., 2.5 in.

Annual sales, approx., 23,548,400 c. f.

Gas unaccounted for, 13.22 p. c.

Pop. dist. supplied, 7,500; pop. city, 9,200.

No. consumers, 987.

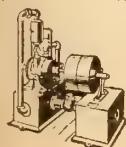
No. meters, reg. and prepay., 987.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.

Supplies Cadillac.

Calumet Gas and Coke Co., Calumet.

(See report under Laurium.)



INCREASE PRODUCTION BY EFFICIENT APPLICATION. THE NEEDHAM HIGH PRESSURE GAS SYSTEM has demonstrated by high efficiency other fuels can be permanently displaced without increasing manufacturing costs.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

New Charlotte Gas Co., Charlotte.

RRs.: Mich. Cen.; Gr. Trunk. Ex.: Am.; Nat.

Capital stock, \$75,000.
 President, H. L. Babcock.
 Secretary, E. J. Elles.
 Treasurer, E. J. Elles.
 Gen. mgr. and pur. agt., J. W. Sawyer.
 Superintendent, J. W. Sawyer.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.63.
 Candle-power, 16.
 Calorific value, 596 B. t. u.
 Annual production, 37,822,000 c. f.
 By-products made: Coke, 2,834 tons; tar, 44,662 gals.; ammonia, 68,160 lbs.
 Total gas holders capacity, 82,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 142,000 c. f.
 Miles of mains, approx., 30.
 Street main pressures, max., 4 in.; min., 3 in.
 High pressure mains, 18 miles; pressure, 10 lbs.
 Annual sales, approx., 30,600,000 c. f.
 Gas unaccounted for, 18 p. c.
 By-products sold: Coke, 2,834 tons; tar, 44,662 gals.; ammonia, 68,160 lbs.
 Pop. city, 4,886; dist. supplied, 7,500.
 No. consumers, 1,771.
 No. meters, reg., 325; prepay., 1,446.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15.
 Ranges in use, 1,500; heaters, 300; water heaters, 200.
 Supplies Charlotte and Eaton Rapids.

Cheboygan Gas Light Co., Cheboygan.

RRs.: Mich. Cen.; Det. & Mac. S. Bs.: Det. & Clev. Nav.; New Int. Route; Arnold Trans.; Island Trans.; G. B. Trans.; No. Mich. Trans. Ex.: Am.

Capital stock, \$100,000.
 Bonds, \$50,000; due 1924; int. 5 p. c.
 President, Herbert E. Reagan.
 Vice-pres., John R. MacArthur.
 Secretary, F. B. Spencer.
 Pur. agt., F. B. Spencer.
 Treasurer, N. D. Freeman.
 Process manufacture, Coal.
 Candle-power, 16.
 Price of coal per ton, delivered, \$4.55.
 Miles of mains, approx., 5.5.
 Annual sales, approx., 6,000,000 c. f.
 Pop. city supplied, 6,859.
 No. consumers, 285.
 Price gas: Light and Fuel, gross \$1.40; net \$1.26.
 Supplies Cheboygan.

Coldwater Gas Light and Fuel Co., Coldwater.

RR.: L. S. & M. S. Ex.: Am.

Operated by W. E. Moss & Co., Detroit, Mich.
 Capital stock, \$150,000; ann. div., 4 p. c.
 Bonds, \$100,000; due 1925; int., 5 p. c.
 President, L. M. Wing.
 Secretary, George C. Turner.
 Treasurer, W. E. Moss.

General mgr., B. O. Tippy.
 Local mgr., Geo. C. Turner.
 Auditor and pur. agt., H. M. Eaton.
 Process manufacture, Coal.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Total gas holders capacity, 110,000 c. f.
 Max. day's send out, 113,000 c. f.
 Miles of mains, approx., 23.
 Street main pressures, max., 5.5 in.; min., 2.5 in.
 Annual sales, approx., 31,926,800 c. f.
 Gas unaccounted for, 6.11 p. c.
 Pop. dist supplied, 5,700; of city, 5,945.
 Consumers and meters, 1,539.
 Price gas: First 1,000 c. f., gross \$1.30, net \$1.20; next 2,000 c. f., \$1.10—\$1; next 3,000 c. f., 90c.—80c.; over 6,000 c. f., 80c.—70c.
 Ranges in use, 1,300; heaters, 160; water heaters, 200.
 No. commercial gas arc lamps, 460.
 Supplies Coldwater.

Detroit City Gas Co., Detroit.

RRs.: Det. U.; D., T. & I.; L. S. & M. S.; Mich. Cen.; Pere Marq.; Wabash; Can. Pac.; Gr. Trunk. S. Bs.: Anchor Line; Put-in-Bay Route; D. & B. Co.; Det. & Clev. Nav.; White Star Line; Thomson Line; Algonia Cen.; Mer. Mont. Line; Clev. & Geo. Bay Line; Ferry to Windsor and to Walkerville, Ont. Ex.: Am.; Can.; West.; Nat.; Pac.

Practically all stock owned by American Light & Traction Co.

(For capitalization and bonds see Appendix.)

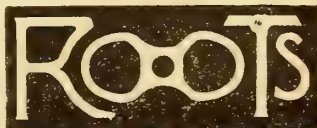
President, Emerson McMillin.
 Vice-pres., Victor F. Dewey.
 Vice-pres., Alanson P. Lathrop.
 Sec'y and treas., Charles S. Ritter.
 Gen. mgr., C. W. Bennett.
 Supt. and en'gr., J. W. Batten.
 Pur. agent, H. Hood.
 Process mfr., Coal, Lowe and Coke-oven (Solvay Ovens).
 Miles of mains, approx., 965.
 Annual sales, approx., 9,440,000,000 c. f.
 Pop. dist supplied, est., 900,000; of city, 465,766 (1910).
 No. consumers, 183,000.
 No. meters, 190,000.
 Price gas: Monthly increment rate, max., 85c.; min., 55c. For less than 50,000 c. f., 85c.; for the second 50,000, 75c.; for the next 100,000, 65c.; for all over 200,000, 55c.; for gas used in gas engines, 65c.; disc., 10c.
 Supplies Detroit, Highland Park, Grosse Pt., Hamtramck, Oakwood, Springwells, Ecorse, Ford City, Wyandotte and Trenton.

Ford Motor Co., Detroit.

Operates Semet-Solvay ovens.

GAS EXHAUSTERS

Slow Speed

**GAS BOOSTERS**

Positive Delivery

Dowagiac Light and Power Co., Dowagiac.

RR.: Mich. Cen. Ex.: Am.

(Controlled by Estate of P. D. Beckwith, inc.)
Capital stock, auth., \$75,000; issued, \$63,000.
President, F. E. Lee.

Secretary, A. B. Gardner.

Treasurer, D. H. Bishop.

Gen'l mgr. and pur. agt., G. M. White.

Engineer, F. Bass.

Supt. and new bus. mgr., G. M. White.

Process manufacture, Coal.

Annual production, 15,000,000 c. f.

Price coal per ton, delivered, \$3.40.

Candle-power, 16.

Gas holder capacity, 40,000 c. f.

Holder pressure, 3.8 in.

Max. day's send out, 40,000 c. f.

Street mains, approx., 12 miles: pressures, max., 3.3 in.; min., 2.9 in.

Annual sales, approx., 13,500,000 c. f.

Gas unaccounted for, 10 p. c.

Population of city, 5,500; of dist. supplied, 4,000.

No. consumers, 747.

No. meters, reg., 522; prepay., 225.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

Ranges, 400; heaters, 30; water heaters, 15.

Escanaba Municipal Lighting Plants, Escanaba.

RRs.: C. & No. W.; Esc. & Lake S.; M. & R. Trans.; Esc. & Glads. Trans.; G. B. Trans.; Goodrich Trans. Ex.: Am.; West.

(Municipal Plant.)

Bonds, \$26,000 4½s and \$10,000 4s: due annually.

Pres. Bd. of Pub. Works, Ed. Erickson.

Pur. agent, P. J. Groos.

Superintendent, John Roemer.

New bus. mgr., A. J. Manley.

Process manufacture, Lowe.

Price oil per gal., delivered, 8.5c.

Candle-power, 18.

Annual production, 21,000,000 c. f.

Gas holder capacity, 150,000 c. f.

Max. day's send out, 90,000 c. f.

Miles of mains, 35.

Street main pressure, max., 3.5 in.

Annual sales, 18,000,000 c. f.

Gas unaccounted for, 14 p. c.

Pop. dist. supplied, 10,000; of city, 13,194 (1910); est., 15,000.

No. consumers and meters, 1,200.

Price gas: Light, gross, \$1.25; net, \$1.12½.

Ranges in use, 825; heaters, 20; water heaters, 50.

No. commercial gas arc lamps, 8.

ELECTRICAL DEPARTMENT.

Bonds apportioned to Electric Plant, \$12,500.

System operated: Arcs and incand., A. C., power, A. C., 3 phase.

Generating capacity: Lighting and power, 400 kw.

Voltage: Arcs, 76; incand., 110; power, 110 and 220.

No. public arcs, 160; 400 watts: lighted all and every night except bright moonlight. Price arc, public, per year, \$48.

Commercial lighting: No. arcs, 18; No. incand., 8,000.

Price commercial and domestic, per kw. hr., 6.5c. Disc., 10 p. c. for cash.

Power circuits: No. motors, 20; price current per kw. hr., 6c. to 3c.

Output of station kw. for year, 2,000,000.

Current furnished by Escanaba Traction & Power Co., for lighting and power.

Michigan Light Co., Flint.

RRs.: Pere Marq.; Det. U.; Gr. Trunk. Ex.: Nat.; U. S.

Operated by Commonwealth Pwr., Ry. & Lt. Co.

(See report under Jackson, Mich.)

Grand Haven Gas Co., Grand Haven.

RRs.: Pere Marq.; G. R., G. H. & Musk. (El.); Gr. Trunk. S. Bs.: Crosby Trans.; Goodrich Trans. Ex.: Am.; Nat.; U. S.

Operated by W. E. Moss & Co., Detroit, Mich. Capital stock, auth., \$75,000; issued, \$50,000.

Bonds, \$128,000; due 1930; int., 5 p. c.

President, DeWitt H. Taylor.

Vice-pres., J. W. Thompson.

Treasurer, W. E. Moss.

Secretary, B. O. Tippey.

Gen'l mgr., B. O. Tippy.

Auditor and pur. agent, H. M. Eaton.

Local mgr., G. H. Hubbard.

Process manufacture, Coal.

Candle-power, 16.

Calorific value, 600 B. t. u.

Total gas holders capacity, 100,000 c. f.

Max. day's send out, 129,800 c. f.

Miles of mains, approx., 22.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 30,112,500 c. f.

Gas unaccounted for, 8.87 p. c.

Pop. dist. supplied: Grand Haven, 5,856; Spring Lake, 802; Ferrysburg, approx., 500.

No. consumers and meters, 1,759.

Price gas: Light and Fuel, gross \$1.35, net \$1.25.

No. ranges, 1,400; heaters, 80; water heaters, 115.

Supplies Grand Haven, Spring Lake and Ferrysburg.

Grand Ledge Gas Co., Grand Ledge.

RR.: Pere Marq. Ex.: Ad.

Capital stock, \$37,000.

Bonds, \$30,000; due 1929; int., 6 p. c.

President, J. D. Summers.

Secretary, Cassius Alexander.

Treasurer, Cassius Alexander.

Pur. agent, Cassius Alexander.

Process manufacture, Coal.

Candle-power, 18.

Calorific value, 432 B. t. u.

Gas holder capacity, 35,000 c. f.

Max. day's send out, 30,000 c. f.

WASH OIL PUMPS*Dependable Operation***P.H. & F.M. ROOTS CO.**

Connersville

Indiana

New York

Chicago

Miles of mains, approx., 10.
 Street main pressure, max., 3 in.; min., 2.4 in.
 Annual sales, approx., 6,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city supplied, est. 3,500.
 No. consumers and meters, 425.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.
 No. public gas lamps, 30.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 300; water heaters, 50.
 No. commercial gas arc lamps, 30.
 Supplies Grand Lodge.

Grand Rapids Gas Light Co., Grand Rapids.

RRs.: Pere Marq.; Gr. Rap. & Ind.; Mich. Cen.; G. R., G. H. & Musk.; N. Y. Cen.; Gr. Trunk; Mich. Ex.: Ad.; Nat.; Am.; U. S.

Practically all stock owned by American Light and Traction Co. (For capitalization and bonds, see Appendix.)

President, Emerson McMillin.
 Vice-pres. and gen. mgr., J. T. Young.
 Vice-president, Alanson P. Lathrop.
 Secretary and new bus. mgr., Glenn R. Chamberlain.
 Treasurer, John A. Hulswit.
 Asst. secy. and assist. treas., C. N. Jelliffe.
 Purchasing agent, A. G. Schroeder.
 Supt. of manufacture, J. E. Spindle.
 Supt. of distribution, John Hellen.
 Process manufacture, Coal and Lowe.
 Miles of mains, approx., 232.25.
 Annual sales, approx., 1,144,177,900 c. f.
 Pop. dist. supplied, 128,000; of city, est., 125,000; East Grand Rapids, est. 1,000.
 No. consumers, 34,177.
 No. meters, 37,017.
 Price gas: Light and Fuel, monthly increment, 80c. to 50c.; 1st 50 M., net 80c.; next 50 M., net 70c.; next 100 M., 60c.; all over 200 M., net 50c. Min. bill charge runs from 25c. per mo. for 3 lt. meter to \$7.50 for 150 lt. meter.
 Supplies Grand Rapids and East and South Grand Rapids.

Michigan Gas and Electric Co., Hancock.

RRs.: Min. Range; Copper Range. S. Bs., Anchor Line; Mutual Trans.; W. Trans.; White Line; C. & D. Trans. Ex.: West.

(Successor to Houghton County Gas and Coke Co. For capitalization, bonds, officers, etc., see Parent Companies.)

Superintendent, J. L. West.
 New bus. mgr., A. J. Wyeness.
 Process manufacture, Coal and Lowe.
 Annual prod., coal gas, 50,000,000 c. f.; water gas, 1,000,000 c. f.
 Price coal per ton, delivered, \$6.75.
 Price oil per gal., 7c.
 Candle-power, 17; calorific value, 600 B. t. u.
 By-products made: Coke, 3,000 tons; tar, 50,000 gals.
 Total gas holders capacity, 50,000 c. f.

Holder pressure, 3.5 in.
 Max. day's send-out, 170,000 c. f.
 High pressure mains, 20 miles; pressure, 15 lbs.
 Annual sales, approx., 51,000,000 c. f.
 Gas unaccounted for, 13 p. c.
 By-products sold: Coke, 3,200 tons; tar, 50,000 gals.
 Pop. dist. supplied, 18,000; of city, 8,981.
 No. consumers, 1,709.
 No. meters, reg., 1,200; prepay., 500.
 Price gas: Light and Fuel, gross \$1.30; net \$1.20.
 Ranges in use, 1,304; heaters, 250; water heaters, 319.
 No. commercial gas arc lamps, 600.
 Supplies Houghton, Hancock and Ripley.

Thornapple Gas and Electric Co., Hastings.

RRs.: Mich. Cen.; C., Kal. & Sag. Ex.: Am.

Operated by J. G. White Management Corporation.
 Capital stock, \$445,000.
 President, J. T. Pratt.
 Vice-pres., Edward Harding.
 Vice-pres., C. A. Greenidge.
 Secretary and treasurer, T. W. Moffat.
 Manager, H. M. Mason.
 Operating mgrs. and pur agts., J. G. White Management Corp., New York, N. Y.
 Process manufacture, Coal and Lowe.
 Mixture, 100 p. c. coal.
 Candle-power, 20.
 Price coal per ton, delivered, \$4.87 to \$5.43.
 Total gas holder capacity, 25,000 c. f.
 Max. day's send out, 67,880 c. f.
 Miles of mains, approx., 9.96.
 Street main pressures, avg., 3 in.
 Annual sales, approx., 16,882,000 c. f.
 Gas unaccounted for, 11 p. c.
 Pop. dist. supplied, 4,500; of city, the same.
 No. consumers and meters, 812.
 Price gas: Light, gross, \$1.75; net, \$1.35.
 Fuel, gross, \$1.60; net, \$1.20.
 Ranges in use, 680; water heaters, 134.
 Supplies Hastings.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$80,000.
 System operated: Alt., 3 ph. and single phase, 66 cycles.
 Voltage: Incand., 110; power, 440-220-110.
 City lighting contract: Hours lighted per year, moonlight schedule.
 No. public incand., 985; 50 watt.
 Commercial lighting: No. incand., 21,700; 50 watt equiv.
 Price current per kw. hr., gross, 12 to 3c.; disc., 10 p. c.
 Power circuits: No. motors, 310; price per kw. hr., 4c. to 1c.
 Output of station, kw. for year, 2,233,680.
 Generating power used, Water and Steam; rated h. p., 1,700.
 Cost of station boiler coal, per ton, \$5.43.
 Supplies Hastings, Nashville, Middleville, Lake Odessa, La Barge, Vermontville and Caledonia.

COMPRESSOR FOR AIR OR GAS, direct connected gas engines driven with high speed "Biplane" Valves exceedingly compact, efficient and economical.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Hillsdale Gas Light Co., Hillsdale.

RR.: L. S. & Mo. S. Ex.: Am.

Operated by W. E. Moss & Co., Detroit, Mich.
 Capital stock, \$100,000; ann. div., 4 p. c.
 Bonds, \$95,000; due 1927; int., 5 p. c.
 President, J. W. Thompson.
 Vice-pres., Dewitt Taylor.
 Treasurer, W. E. Moss.
 Secretary, B. O. Tippy.
 Gen'l mgr., B. O. Tippy.
 Local manager, G. W. Dresser.
 Auditor and pur. agent, H. M. Eaton.
 Process manufacture, Coal.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Total gas holder capacity, 104,000 c. f.
 Gas holder pressure, 4 in.
 Max. day's send out, 116,000 c. f.
 Miles of mains, approx., 17.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 27,333,400 c. f.
 Gas unaccounted for, 15.37.
 Pop. dist. supplied, 5,001; of city, the same.
 Consumers and meters, 1,169.
 Price gas: Light, gross, \$1.40; net, \$1.25;
 Fuel, gross, \$1.15; net, \$1.
 No. ranges, 1,100; heaters, 51; water heaters,
 125.
 No. commercial gas arc lamps, 168.
 Supplies Hillsdale.

Holland City Gas Co., Holland.RRs.: Pere Marq.; G. R., Hol. & Chi. S. Bs.:
Graham & M. Trans. Ex.: Ad.; Am.

Bonds (Holland City Gas Co.), \$303,500; due
 1925; interest, 5 p. c.
 Receiver, Grand Rapids Trust Co.
 President, J. H. Brewer.
 Vice-pres., Chas. B. Kelsey.
 Secretary, Blaine Gavett.
 Treasurer, W. J. Ripley.
 Manager, E. P. Davis.
 Chief engineer, L. B. Andrus.
 Engineer, gas, G. R. Horning.
 Pur. agent, Blaine Gavett.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.40.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Annual production, 48,000,000 c. f.
 Max. day's send out, 210,000 c. f.
 Total gas holders capacity, 207,000 c. f.
 Miles of mains, approximate, 24.
 Street main pressures, max., 3.5 in.; min.,
 2.5 in.
 Annual sales, approx., 45,000,000 c. f.
 Gas unaccounted for, 5.1 p. c.
 Pop. dist. supplied, 10,000; of cities, 13,000.
 Consumers and meters, 1,995.
 Price gas: Light and Fuel, \$1.25.
 Ranges in use, 1,750; heaters, 187; water
 heaters, 190.
 Supplies Holland and Zeeland.

Ionia Gas Light and Coke Co., Ionia.

RRs.: Pere Marq.; Gr. Trunk. Ex.: Nat.

Capital stock, auth., \$75,000; common, \$50,000.
 Annual dividend paid, 8 p. c.
 Bonds, \$50,000; due 1921; interest, 5 p. c.
 President, H. B. Webber.
 Sec'y and treas., J. H. Smith.
 Gen'l mgr. and pur. agt., E. F. Gallagher.
 Superintendent, Wm. Whitlock.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.90.
 Candle-power, 17.
 Calorific value, 600 B. t. u.
 Annual production, 40,000,000 c. f.
 By-products made: Coke, 2,500 tons; tar,
 40,000 gals.
 Max. day's send out, 135,000 c. f.
 Total gas holder capacity, 100,000 c. f.
 Holder pressure, max., 6.5 in.
 Miles of mains, approximate, 13.5.
 Street main pressure, max., 4 in.; min., 3 in.
 Annual sales, approx., 36,500,000 c. f.
 Gas unaccounted for, 8.75 p. c.
 By-products sold: Coke, 1,500 tons; tar,
 40,000 gals.
 Pop. city, est., 7,000; dist. supplied, 6,000.
 Consumers and meters, 1,461.
 Price gas: Light and Fuel, \$1.05 to \$1.35; net,
 95c. to \$1.25.
 Ranges in use, 1,000; heaters, 255; water heat-
 ers, 245.
 No. commercial gas arc lamps, 400.
 Supplies Ionia.

Iron Mountain Light and Fuel Co., Iron Mountain.RRs.: C. & No. W.; C., M. & St. P.; Wis.
& Mich. Ex.: Am.

This property has been purchased by Mr. H.
 Lindale Smith, 1123 Illuminating Build-
 ing, Cleveland, O.
 Process manufacture, Lowe.
 Average candle-power, 19.
 Calorific value, 625 B. t. u.
 Price of coke per ton, delivered, \$6.25.
 Price of oil per gal., 4.40c.
 Max. day's send out, 38,000 c. f.
 Total gas holders capacity, 40,000 c. f.
 Miles of mains, approx., 9.
 Street main pressures, max., 3.5 in.
 Annual sales, approx., 10,000,000 c. f.
 Pop. dist. supplied, 5,000; of city, 9,216.
 No. consumers, 400.
 No. meters, reg., 352; prepay., 48.
 Price gas: Light and Fuel, gross \$1.50; net
 \$1.35.
 Ranges in use, 253; heaters, 60; water heat-
 ers, 65.
 No. commercial gas arc lamps, 160.
 Supplies Iron Mountain.
 (No 1918 report.)

Ironwood Gas Co., Ironwood.RRs.: C. & No. W.; Wis. Cen. Ex.: Am.;
Nat.

This property has been purchased by H. Lin-
 dale Smith, 1123 Illuminating Bldg.,
 Cleveland, O.
 Process manufacture, Lowe.



Tycos Temperature Instruments for Gas Works

INDICATING-CONTROLLING-RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Candle-power, 19; calorific value, 625 B. t. u.
 Price of coke per ton, delivered, \$6.60.
 Price of oil per gal., 4.58c.
 Annual production, 15,000,000 c. f.
 Gas holder capacity, 60,000 c. f.
 Max. day's send out, 63,000 c. f.
 Miles of mains, approx., 9.
 Street main pressures, max., 3.5 in.; min., 3 in.
 Annual sales, approx., 12,000,000 c. f.
 Pop. of dist. supplied, 10,000; of Ironwood, 12,821 (Ironwood and Hurley, est. 20,000).
 No. consumers, 610.
 No. meters, reg., 420; prepay., 190.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 Ranges, 325; heaters, 210; water heaters, 133.
 No. commercial gas arc lamps, 264.
 Supplies Ironwood, Mich., and Hurley, Wis. (No 1918 report.)

Gratiot County Gas Co., Ithaca.

(See report under Alma, Mich.)

Michigan Light Co., Jackson.

RRs.: L. S. & M. S.; Mich. Cen.; Cin. N.; Det. U.; Mich. U. (El.); Gr. Trunk. Ex.: Am.; Nat.

(For capitalization, officers, etc., see Appendix.)

Operated by Commonwealth Pwr., Ry. & Lt. Co.

General mgr., B. R. Laraway.

Pur. agent, P. O. Belcher.

Engineer, J. A. Brown.

New bus. mgr., H. E. Broughton.

Indus. fuel engr., H. E. Broughton.

Process manufacture, Coal and Lowe.

Mixture 70 p. c. coal; 30 p. c. water.

Total gas holders capacity, 5,362,000 c. f.

Street mains, approx., 471.

Street main pressures, max., 4.5 in.; min., 2 in.

Max. day's send out, 7,900,000 c. f.

High pressure mains, 52 miles; pressure, 2 to 15 lbs.

Annual sales, approx., 1,916,278,400 c. f.

Gas unaccounted for, 8.67 p. c.

Pop. cities supplied, approx., 300,000.

No. consumers, 51,073.

Price gas: Light and Fuel, 85c. to \$1.18.

Supplies Bay City, Jackson, Pontiac, Flint, Kalamazoo, Saginaw, Manistee, Birmingham and Royal Oak.

Michigan Light Co., Kalamazoo.

RRs.: C., Kal. & Sag.; Gr. Rap. & Ind.; Mich. Cen.; L. S. & Mo. S.; Kal., L. S. & Chic.; Mich. U. (El.). Ex.: Am.; Ad.

Operated by Commonwealth Pur., Ry. & Lt. Co.

(See report under Jackson, Mich.)

Lansing Fuel and Gas Co., Lansing.

RRs.: Gr. Trunk; Pere Marq.; L. S. & Mo. S.; Mich. Cen.; Mich. U. (El.). Ex.: Am.; Nat.

Operated by The C. H. Geist Co.

(For capitalization and bonds, see Appendix.)

President, C. H. Geist.

Secretary, Clark R. Graves.

Treasurer, B. F. Davis.

General manager, H. S. Schutt, Phila., Pa.

Manager, Clark R. Graves. (Resigned June 1.)

Superintendent, L. B. Rogers.

Indus. fuel engineer, L. N. Chamberlain.

Process manufacture, Coal and Lowe.

Annual prod.: coal-gas, 270,000,000 c. f.; water-gas, 220,000,000 c. f.

Candle-power, 18.

Calorific value, 600 B. t. u.

Total gas holders capacity, 1,360,000 c. f.

Max. day's send out, 1,888,000 c. f.

Miles of mains, 107.

Street main pressures, max., 5 in.; min., 2.5 in.

High pressure mains, miles, 15; pressure 5 lbs.

Annual sales, approx., 460,000,000 c. f.

Gas unaccounted for, 7 p. c.

Pop. city, 53,000; of dist. supplied, 55,000.

No. consumers, 12,104.

No. meters, reg., 10,951; prepay., 1,153.

Price gas: Light and Fuel, gross, \$1.35 and \$1.00; net, \$1.25 and \$0.90.

Ranges in use, 9,300; water heaters, 1,621.

No. commercial gas arc lamps, 941.

Supplies Lansing, East Lansing, Lansing Township.

Calumet Gas and Coke Co., Laurium.

RRs.: Min. Range; Copper Range. Ex.: West.

(Successor to Calumet Gas Co.)

Main office, 207 Fifth St., Calumet, Mich.

Capital stock com. auth., \$150,000; issued \$100,000.

President, William M. Gibson.

Vice-president, John Brandettini.

Treasurer, Frederick K. Guck.

General manager, John Brandettini.

Mgr. and pur. agent, Arthur P. Eva.

New bus. mgr., Arthur P. Eva.

Process manufacture, Coal and Lowe.

Price of coal per ton, delivered, \$7.

Price of oil per gal., 11c.

Annual production, 30,000,000 c. f.

Average candle-power, 17; calorific value, 560 B. t. u.

By-products made: Coke, 2,030 tons; tar, 30,000 gals.

Gas holder capacity, 135,000 c. f.

Holder pressure, 4 in.

Max. day's send out, 100,000 c. f.

High pressure mains, miles, 8; pressure, 10 lbs.

Miles of street mains, approximate, 11.

Street main pressures, max., 4 in.; min., 3.5 in.

Annual sales, approx., 28,000,000 c. f.

Gas unaccounted for, 7 p. c.



Proof-Tested Chains

**Williams' Improved "Vulcan"
 Drop-Forged Chain Pipe Wrench**

J. H. WILLIAMS & CO., 74 Richards St.,
 BROOKLYN, N.Y.

By-products sold: Coke, 1,000 tons; tar, 30,000 gals.
Pop. dist. supplied, 16,000; of city, est., 12,000.
No. consumers, 1,150.
No. meters in service, reg., 480; prepay., 670.
Price gas: Light and Fuel, gross, \$1.75; net, \$1.60.
Ranges in use, 800; heaters, 150; water heaters, 175.
No. commercial gas arc lamps, 450.
Supplies Laurium and Red Jacket.

Ludington Gas Co., Ludington.

RRs.: Pere Marq.; Mich. Salt Trans.; No. Mich. Trans.; S. & M. Lumber Line; Nessen Trans. Ferry to Buttersville, Mich. Ex.: Am.

Capital stock, com., \$100,000; pref., \$25,000.
Bonds, \$92,000; due 1936; int., 5 p. c.
President, Chas. N. Remington, Grand Rapids.
Vice-president, Andrew Fyfe, Grand Rapids.
Secretary, Chas. A. Coye, Grand Rapids.
Treasurer, Henry L. Adzit, Grand Rapids.
General manager, Chas. N. Remington, Grand Rapids.
Superintendent, J. L. Boone, Ludington, Mich.
Pur. agt., Chas. N. Remington, Grand Rapids.
New bus. mgr., J. L. Boone, Ludington, Mich.
Process manufacture, Coal.
Price coal per ton, delivered, \$4.50.
Candle-power, 18.
Annual production, 16,351,200 c. f.
By-products made: Coke, 908 tons; tar, 15,220 gals.
Total gas holders capacity, 30,000 c. f.
Max. day's send out, 70,000 c. f.
Miles of mains, approx., 13.5.
Street main pressures, max., 8 in.; min., 2 in.
Annual sales, approx., 16,351,200 c. f.
By-products sold: Coke, 624 tons; tar, 15,220 gals.
Pop. dist. supplied, 7,500; of city, 10,637.
No. consumers, 992.
No. meters, reg., 822; prepay., 170.
Price gas: Light and Fuel, gross, \$1.35 for 1st 15,000 c. f.; next 40,000 c. f., \$1.10; next 45,000 c. f., \$1. Disc., 5 p. c., 15 days (1918 rates).
Ranges in use, 651; heaters and water heaters, 251.
No. commercial gas arc lamps, 13.
Supplies Ludington.

Michigan Light Co., Manistee.

RRs.: Pere Marq.; Man. & No. E.; Man. & G. R. S. Bs.: P. M. Line; No. Mich. Trans. Ex.: Ad.; Am.
Operated by Commonwealth Power Railway and Light Co.
(See report gas dept. under Jackson, Mich. Electric system is operated by Consumers Power Co.)

Marquette Gas Light Co., Marquette.

RRs.: Dul., So. Sh. & At.; Lake S. & Ishp.; Marq. & So. E. S. Bs.: Anchor Line; U. S. & Dom. Co. Ex.: Am.; West.

Controlled by Wm. and S. Mainland, Oshkosh, Wis.

(For capitalization and bonds, see Appendix.)

President, Wm. Mainland.
Secretary, Roy E. Chase.
Treasurer, Sinclair Mainland.
Pur. agt. and mgr., Wm. and S. Mainland.
Superintendent, H. J. Waterbury.
New bus. mgr., H. J. Waterbury.
Process manufacture, Coal. (Lowe outfit for emergency.)

Annual prod., coal gas, 30,000,000 c. f.
Price coal per ton, delivered, \$6.50.
Candle-power, 18.
Calorific value, 600 B. t. u.
Max. day's send out, 130,000 c. f.
Total gas holders capacity, 68,000 c. f.
Holder pressure, max., 4 in.
Miles of mains, approximate, 23.
Street main pressure, max., 4 in.; min., 2 in.
High pressure mains, 2 miles; pres., 3 lbs.
Annual sales, approx., 27,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 10,000; of city, 11,503.
No. consumers, 1,700.
No. meters, reg., 1,450; prepay., 300.
Price gas: Light and Fuel, gross, \$1.60.
Ranges in use, 1,228.
No. commercial gas arc lamps, 226.
Supplies Marquette.

Marshall Gas Light Co., Marshall.

RRs.: Mich. Cen.; Mich. U. (El.). Ex.: Am.

Capital stock, \$30,000.
Bonds, \$40,000; due 1923; interest, 5 p. c.
President, Carroll Collins.
Secretary, Renettia Hoffman.
Treasurer, Carroll Collins.
Pur. agent and supt., Carroll Collins.
Gen. manager, Carroll Collins.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.85.
Candle-power, 18.
Calorific value, 600 B.t.u.
Annual production, 14,000,000 c. f.
Max. day's send out, 55,000 c. f.
Gas holder capacity, 37,000 c. f.
Holder pressure, 3 in.
Miles of mains, approximate, 13.
Street main pressures, max., 3 in.
Annual sales, approx., 14,000,000 c. f.
Gas unaccounted for, 5.73 p. c.
Pop. city supplied, 4,236.
No. consumers and meters, 902.
Price gas: Light and Fuel, net \$1.15 to \$1.50.
Ranges in use, 650.
No. commercial gas arc lamps, 90.
Supplies Marshall.

Coal Gas Plants, Water and Gas Works Appliances, Hydraulic Machinery, Pumping Engines and Purifiers

R. D. WOOD & CO., PHILA., PA.



Menominee and Marinette Light and Traction Co., Menominee.

RRs.: C. & No. W.; C., M. & St. P.; Wis. & Mich. S. Bs.; M. & R. Trans.; Hills Line; G. B. Trans.; Goodrich Trans.; A. A. R. R. Lines. Ex.: Am.

(For financial data, see Appendix.)

President, Frank A. Spies.
Secretary, Edward Daniell.
Treasurer, H. J. Brown.
Purchasing agent, A. W. Raiche.
Gen. manager, Edward Daniell.
Superintendent, J. B. Shickel.
Auditor, J. A. Fallier.
New bus. mgr., E. A. Golden.
Process manufacture, Coal.
Price coal per ton, delivered, \$3.60.
Candle-power, 17. Cal. val., 600 B. t. u.
Annual production, 34,611,200 c. f.
By-products made: Coke, 2,453 tons; tar, 41,559 gals.
Gas holder capacity, 100,000 c. f.
Holder pressure, 2.75 in.
Max. day's send out, 116,910 c. f.
Miles of mains, approx., 28.
Street main pressures, max., 3 in.; min., 2.5 in.
Annual sales, approximate, 29,292,100 c. f.
Gas unaccounted for, 155 p. c.
By-products sold: Coke, 2,233 tons; tar, 50,755 gals.
Pop. of cities: Menominee, 10,507; Marinette, 14,610; dist. supplied, 25,117.
No. consumers, 1,550.
No. meters, reg., 1,275; prepay., 275.
Price gas: Light, gross, \$1.67 (1st 2,000 c. f.) and \$1.50 (next 20,000 c. f.); all over 22,000 c. f., \$1.25. Fuel, gross, \$1.11; net, \$1; 10 p. c. discount, 10 days.
Gas appliances in use, 1,550.
Supplies Menominee, Mich., and Marinette, Wis.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand., A. C., single phase, 60 cycles; power, A. C., 3 phase, 60 cycles.
Generating capacity: Lighting and power, 3,700 kw.
Voltage: Line, 2,300; incand., 110; power, 110-220-440.
City lighting contract: Hours lighted per year: Arc and incand., 3,200.
No. public arcs, 260, 400-500 watt. Price per year, \$61.50.
No. public incand., 33; 40 watt. Price per year, \$15.
Commercial lighting: Price current per kw. hr., gross, 11c. for 1st 30 hrs. use; 7c. for 2d 60 hrs. use; 4c. for each additional hrs. use. Disc., 10 p. c., 10 days. Min. charge, \$1. Optional readiness-to-serve charge, 15c. per mo. per 16 c. p. lamp demanded and 4c. per kw. hr. for current consumed.
Power circuits, H. P. of motors, 2,776.
Price per kw. hr., power, 3.5c. for 20 h. p.; 3c. 20-50 h. p.; 2.5c. 50-75 h. p.; 2c. 75-100 h. p.; 1.5c. 100-200 h. p.; 1c. 200-500 h. p.;

0.75c. over 500 h. p. Disc., 10 p. c. Bills: \$150 each mo., 2c. per kw. net. Bills, \$237.50; \$19 per h. p. connected.
Service charge, 50c. per h. p.
Output of station kw. per year, 10,818,800.
Generating power used, Water; rated h. p., 6,500.
Cost of station boiler coal, per ton, \$3.50.

Monroe Gas Light and Fuel Co., Monroe.

RRs.: Pere Marq.; L. S. & Mo. S.; Mich. Cen.; Det. U. Ex.: Am.

Operated by W. E. Moss & Co., Detroit, Mich.
Capital stock, \$150,000; ann. div., 4 p. c.
Bonds, \$125,000; due 1921; int., 5 p. c.
President, Boyez Dansard.
Secretary, B. O. Tippy.
Treasurer, W. E. Moss.
General manager, B. O. Tippy.
Auditor and pur. agent, H. M. Eaton.
Local mgr., Guy J. Kull.
Process manufacture, Coal.
Candle-power, 16.
Calorific value, 600 B. t. u.
Total gas holder capacity, 167,500 c. f.
Max. day's send out, 283,000 c. f.
Miles of mains, approx., 26.
Street main pressures, max., 6 in.; min., 3 in.
Annual sales, approx., 48,836,100 c. f.
Gas unaccounted for, 14.36 p. c.
Pop. dist. supplied, 7,000; of city, 6,893 (1910)
Consumers and meters, 1,880.
Price gas: Light and Fuel, gross \$1.20; net \$1.10.
No. ranges, 1,500; heaters, 200; water heaters, 525.
No. commercial gas arc lamps, 44.
Supplies Monroe.

Mt. Clemens Gas Light Co., Mt. Clemens.

RRs. Det. U.; Gr. Trunk. Ex.: Can.

Capital stock, \$200,000.
Bonds, 1st 5s, \$75,000; due 1921; gen'l 5s, \$108,000; due 1926.
President, John W. Lansley.
Secretary and treasurer, Roderick I. Speer.
Manager, Roderick I. Speer.
Engineer, Jos. C. Markley.
Pur. agent, Joseph C. Markley.
Process manufacture, Coal.
Candle-power, 17.
Calorific value, 625 B. t. u.
Annual production, 62,150,000 c. f.
By-products made: Coke 3,200 tons; tar, 52,000 gals.
Max. day's send out, 135,000 c. f.
Total gas holders capacity, 250,000 c. f.
Holder pressure, max., 6 in.
Miles of mains, approximate, 21.
Street main pressure, max., 3.5 in.; min., 2.6 in.
Annual sales, approx., 55,081,700 c. f.
By-products sold: Entire make.
Pop. dist. supplied, 10,000; of city, 7,707.
No. consumers, 1,614.
No. meters, reg., 1,593; prepay., 41.
Price gas: Light and Fuel, gross \$1.15; net \$1.

RELIABLE



COPPER REFLECTOR

GAS HEATERS

Let the "HOT SPOT" heater intensify the rays of golden returns which the sun of gas heater popularity spreads over your fall sales campaign. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Ranges in use, 1,625; heaters, 943; water heaters, 318.
No. commercial gas arc lamps, 87.
Supplies Mt. Clemens.

Central Gas Co., Mt. Pleasant.

RRs.: Pere Marq.; A. A. Ex.: Pac.

(Formerly Mt. Pleasant Light & Fuel Co.)
Capital stock, auth. and issued, \$75,000.
Bonds, \$125,000; due 1931; int., 5 p. c.
President, J. H. Gibbs.
Vice-president, W. B. Brown.
Sec'y treas., and gen. mgr., N. J. Brown.
Pur. agent, N. J. Brown.
Engineer and superintendent, E. M. Jefferson.
New bus. mgr., W. B. Brown.
Process manufacture, Coal and Water (Tenney).

Candle-power, 18.
Calorific value, 600 B. t. u.
Annual production, 20,000,000 c. f.
Max. day's send out, 60,000 c. f.
Gas holder capacity, 90,000 c. f.
Holder pressure, 3.3 in.
Miles of mains, approx., 14.
Street main pressures, 3 in.
High pressure mains, 20 miles; pressure, 80 lbs.

Annual sales, approx., 20,000,000 c. f.
Gas unaccounted for, 6 p. c.
Pop. city supplied, 3,972 (1910); now est., 5,000; Clare, 2,000.
No. consumers and meters, 950.
Price gas: Light and Fuel, \$1.25.
Ranges in use, 625; heaters, 300; water heaters, 150.
No. commercial gas arc lamps, 275.
Supplies Mt. Pleasant, Clare and Rosebush.

Muskegon Heights Gas Co., Muskegon Heights.

RRs.: Pere Marq.; Gr. Rap. & Ind.; G. R., G. H. & Musk. (El.) Ex.: Ad.

Capital stock, \$30,000.
Bonds, \$35,000; due 1936; int., 6 p. c.
President, A. E. Dunn.
Secretary, Adam Pyle, Jr.
Treasurer, Dr. R. I. Bussard.
General manager and pur. agent, A. E. Dunn.
Process manufacture, Water gas (Tenney).
Price coke per ton, del'd. \$10.50; oil per gallon, 7.49c.

Candle-power, 18; calorific value, 620 B. t. u.
Gas holder capacity, 60,000 c. f.
Holder pressure, 3 lbs.
High pressure mains, 15 miles; press., 2 lbs.
Max. day's send out, 64,000 c. f.
Annual sales, approx., 18,000,000 c. f.
Gas unaccounted for, 5.5 p. c.
By-products sold: Tar, 5,000 gals.
Pop. of city, est., 11,000; dist. supplied, 7,000.
No. consumers, 588.
No. meters, reg., 556; prepay., 32.
Price gas: Light, gross, \$1.35; net, \$1.25.
Fuel, gross, \$1.35; net, 90c.
Gas appliances in use: Ranges, 468; heaters, 37; water heaters, 41.
No. commercial gas arc lamps in use, 38.
Supplies Muskegon Heights.

Muskegon Traction and Lighting Co., Muskegon.

RRs.: Pere Marq.; Gr. Rap. & Ind.; G. R., G. H. & Musk.; Gr. Trunk. S. Bs.: Crosby Trans.; Goodrich Trans. Ex.: Ad.; Am.; Nat.

Practically all stock owned by American Light and Traction Co., New York City.
Capital stock, pref., auth., \$100,000; issued, \$63,000; com., \$600,000.
Annual dividend, pref., 6 p. c.
Bonds, \$600,000; due 1931; interest, 5 p. c.
President, John Q. Ross.
Vice-president, J. T. Young.
Secretary and treas., H. P. Lewis.
New bus. mgr., P. Buckley.
Gen. supt. and engineer, W. L. Eyke.
Purchasing agent, H. S. Nelson.
Process manufacture, Lowe and Coal.
Miles of mains, approx., 44.09.
Annual sales, approx., 130,231,700 c. f.
Pop. city, est., 30,000; of dist. supplied, 25,000.
No. consumers, 4,095.
No. meters, 4,186.
Price of gas: Light and Fuel, gross, \$1.20; net, \$1.
Supplies Muskegon.

Michigan Gas and Electric Co., Negaunee.

RRs.: C. & No. W.; Dul., So. Sh. & At.; Lake S. & Ishp. Ex.: Am.; West.

(Successor to Marquette County Gas and Electric Co. For capitalization, bonds, officers, etc., see Parent Cos.)
Dist. mgr., J. D. McDougall.
Process manufacture, Coal.
Price coal per ton, delivered, \$6.50.
Calorific value, 600 B.t.u.
Annual production, 29,000,000 c. f.
By-products made: Coke, 1,800 tons; tar, 30,265 gals.
Max. day's send out, 80,000 c. f.
Total gas holders capacity, 100,000 c. f.
Holder pressure, max., 8 oz.
Miles of high pressure mains, approx., 33.5; pressure, 18 lbs.
Annual sales, approx., 25,000,000 c. f.
Gas unaccounted for, 17 p. c.
By-products sold: Coke, 1,620 tons; all tar used as boiler fuel, none sold.
Pop. dist. supplied, 20,908; of cities, Ishpeming, 12,448; Negaunee, 8,460.
No. consumers, 1,417.
No. meters, reg., 1,382; prepay., 30.
Price gas: Light and Fuel, gross, \$1.75; net, \$1.60.
Ranges in use, 901; heaters, 173; water heaters, 137.
Supplies Ishpeming & Negaunee.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3-phase, 60 cycles.
Generating capacity: Lighting and power, 1,700 kw.
Voltage: 2,300; incand., 110; power, 220-440.
City lighting contract: Hours lighted per year, arcs, 4,000; incand., 2,000 and 4,000.
No. public arcs, 60; 360 watt. Price per year, \$80 each.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

No. public incand., 195; 100 c. p.; 6.6 amp.
 Price per year, \$30.
 Other lamps, 55 street lamp-posts, 60 and 100
 watt lamps. Price per year, \$75.
 Commercial lighting: No. incand., 600.
 Price current per kw. hr., gross 11c. per kw.
 for first 50 kw., 10c. per kw. for second 50
 kw.; 9c. per kw. for all over 100 kw.;
 disc., 1c. per kw. if paid before 10th of
 month.
 No. of electric customers, 2,629.
 Power circuits: No. of motors, 90. Price per
 kw. hr., 6c. for first 25 kw.; 5c. all over.
 Output of station, kw. for year, 4,535,807.
 Generating power used. Steam.
 Cost of station boiler coal, per ton, \$6.

Niles Gas Light Co., Niles.

RRs.: C., C. & St. L.; Mich. Cen.; So.
 Mich. (El.). Ex.: Am.

Operated by United National Utilities Co.,
 Philadelphia.

Capital stock, \$150,000.
 Bonds, \$140,000; due 1935; int., 6 p. c.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.15.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Annual production, 40,007,000 c. f.
 Max. day's send out, 125,000 c. f.
 Total gas holder capacity, 100,000 c. f.
 Holder pressure, max., 6 in.
 Miles of mains, 24.93.
 Street main pressures, max., 3.5 in.; min., 2
 High pressure mains, 6 miles; pres., 10 lbs.
 Annual sales, approx., 36,114,000 c. f.
 Gas unaccounted for, 9.61 p. c.
 Pop city supplied, 5,156.
 No. consumers, 1,690.
 No. meters, reg., 1,235; prepay., 591.
 Price gas: Light and Fuel, gross, \$1; net, 95c.
 and sliding scale to 60c.
 Ranges, 945; heaters, 177; water heaters, 256.
 No. commercial gas arc lamps, 303.
 Supplies Niles and Buchanan.

Allegan County Gas Co., Otsego.

RRs.: L. S. & M. So. Ex.: Am.

Operated by Utilities Operating Co., Kalama-
 zoo, Mich.

Capital stock, \$25,000.
 Annual dividend, 6 p. c.
 Bonds, \$172,500; due 1935; interest, 6 p. c.
 President, A. C. Runyan.
 Secretary, R. C. Beebe.
 Treasurer, N. F. Hargie.
 Gen'l manager, D. F. Burritt.
 Local manager and pur. agt., R. C. Beebe.
 Engineer, W. D. Birbeck.
 New bus. mgr., R. C. Beebe.
 Process manufacture, Coal.
 Price coal delivered per ton, \$4.88.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Annual production, 44,000,000 c. f.
 By-products made: Coke, 2,817 tons; tar,
 54,489 gals.
 Gas holder capacity, 102,000 c. f.

Holder pressure, max., 4.2 in.
 Max. day's send out, 160,000 c. f.
 High pressure mains, miles, 45; pressure, 20
 to 3 lbs., outlet 4 in.
 Annual sales, approx., 39,000,000 c. f.
 Gas unaccounted for, 9 p. c.
 By-products sold: Coke, 1,332 tons; tar,
 42,678 gals.
 Pop. dist. supplied, 9,000; of Allegan, 4,500;
 Otsego, 3,000; Plainwell, 1,500.
 No. consumers, 1,850.
 No. meters, reg., 55; prepay., 1,795.
 Price gas: Light and Fuel, gross, \$1.35; net,
 \$1.25.
 No. gas ranges, 1,550; heaters, 165; water
 heaters, 120.
 No. commercial gas arc lamps, 175.
 Supplies Allegan, Otsego and Plainwell.

Owosso Gas Light Co., Owosso.

RRs.: Gr. Trunk; Mich. Cen.; A. A. Ex.:
 Am.; Nat.; Pac.

Capital stock, \$135,000; annual div., 4 p. c.
 President, Major W. C. Stevens.
 Vice-pres., D. B. Dean.
 Secretary, J. S. Scovel, Jr.
 Treasurer, J. Wade.
 Asst. treas., D. Raun.
 Purchasing agt. and supt., A. T. Birk.
 Gen'l mgr. and new bus. mgr., A. T. Birk.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.50.
 Calorific value, 600 B. t. u.
 Annual production, 36,297,511 c. f.
 By-products made: Coke, 2,302 tons; tar,
 25,785 gals.
 Total gas holders capacity, 125,000 c. f.
 Holder pressure, max., 7.5 in.
 Max. day's send out, 134,900 c. f.
 Miles of mains, approx., 19.8.
 Street main pressure, max., 4 in.; min., 2.5
 in.
 Annual sales, approx., 34,925,000 c. f.
 Gas unaccounted for, 3 p. c.
 By-products sold: Coke, 2,302 tons; tar,
 25,785 gals.
 Pop. dist. supplied, 6,775; of city, 9,639.
 No. consumers, 1,503.
 No. meters, reg., 1,329; prepay., 174.
 Price gas: Light and Fuel, gross, \$1.10; net
 \$1.05. Over 50,000 c. f., \$1; over 100,000
 c. f., 95c. net. Min., 50c.
 Ranges in use, 1,074; heaters, 492; water
 heaters, 236.
 No. commercial gas arc lamps, 315.
 Supplies Owosso.

Petoskey and Bay Shore Gas Co., Petoskey.

RRs.: Pere Marq.; Gr. Rap. & Ind. S. Bs.:
 G. B. Trans.; N. Mich. Trans.; No. Nav.
 Lines. Ex.: Ad.

Capital stock, \$140,000.
 Bonds, \$130,000; due 1945; int., 5 p. c.
 President, Henry T. Heald.
 Secretary, Norman W. Wells.
 Treasurer, Norman W. Wells.
 Mgr. and pur. agt., N. W. Wells.
 Superintendent, N. W. Wells.

It is made in the greatest city in the world, and used in almost every
 part of the world. THE GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

New bus. mgr., N. W. Wells.
 Process manufacture, Coal.
 Candle-power, 18.
 Calorific value, 640 B. t. u.
 Price coal per ton, delivered, \$3.65.
 Annual production, 16,000,000 c. f.
 By products made: Coke, 1,100 tons; tar, 16,000 gals.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, max., 4.5 in.
 Max. day's send out, 78,000 c. f.
 Miles of mains, approx., 12.
 Street main pressures, max., 4.5 in.; min., 2.5 in.
 Annual sales, approx., 15,000,000 c. f.
 Gas unaccounted for, 8 p. c.
 By-products sold: Coke, 1,100 tons; tar, 16,000 gals.
 Pop. city supplied, 5,000 in winter, 15,000 in summer (1910 census, 4,778).
 No. consumers, 857.
 No. meters, reg., 737; prepay., 120.
 Price gas: Light and Fuel, gross \$1.50; net \$1.35 to \$1.
 Ranges in use, 597; heaters, 80; water heaters, 285.
 No. commercial gas arc lamps, 200.
 Supplies Petoskey.

Plymouth and Northville Gas Co., Plymouth.

RRs.: Pere Marq. Ex.: Ad.
 Capital stock, auth., \$25,000; issued, \$24,200.
 Bonds, \$40,000; due 1935; int., 6 p. c.
 President, F. S. Harmon.
 Vice-pres., C. Hamilton.
 Secretary, C. A. Fox.
 Treasurer, C. A. Fisher.
 General manager, C. A. Fox.
 New bus. mgr. and pur. agent, C. A. Fox.
 Superintendent, Roy R. Riker.
 Process manufacture, Coal.
 Price of coal per ton, del'd, \$8.50.
 Annual production, 12,000,000 c. f.
 By-products made: Coke, 1,100 tons; tar, 15,000 gals.
 Candle power, 16.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 40,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 60,000 c. f.
 Street mains, approx., 17 miles.
 Street main pressures, max., 3 in.
 High pressure mains, 9 miles; pressure, 2 lbs.
 Annual sales approx., 9,000,000 c. f.
 By-products sold: Coke, 1,000 tons; tar, 15,000 gals.
 Population of cities (1910), 3,336; of dist. supplied, 2,000.
 No. consumers and meters, 550.
 Price of gas, gross, \$1.40; net, \$1.25.
 No. gas ranges in use, 500; heaters, 15; water heaters, 38.
 Supplies Plymouth and Northville.

Michigan Light Co., Pontiac.

RRs.: Gr. Trunk; Det. U.; Pon., Ox. & No.
 Ex.: Am.; Nat.

Operated by Commonwealth Pwr., Ry. & Lt. Co.

(For capitalization, officers, etc., see Appendix.)

See report under Jackson, Mich.

Port Huron Gas and Electric Co., Port Huron.

RRs.: Pere Marq.; Gr. Trunk; Det. U.
 S. Bs.: Anchor Line; Det. & Clev. Nav.; St.
 C. Riv. Line; White Star Line; P. H. &
 Dul. Line; Thomson Line; Clev. & Geo.
 Bay Line; Ferry to Sarnia, Ont. Ex.:
 Am.; Can.; Nat.

Operated by United National Utilities Co., Philadelphia.

Capital stock, \$700,000.

Bonds, \$900,000; due 1929; int., 6 p. c.

General manager, J. C. Sloan.

Process manufacture, Coal and Lowe.

Annual production, approx., 143,740,000 c. f.

Candle-power, 18.

Gas holder capacity, 600,000 c. f.

Miles of mains, approx., 57.

Street main pressures, max., 3.5 in.; min., 2 in.

Max. day's send out, 476,000 c. f.

Annual sales, approx., 134,079,000 c. f.

Gas unaccounted for, 6.9 p. c.

Pop. city supplied, 18,863 (1910); 21,000 (1915).

No. consumers and meters, 5,020.

Price gas: Light and Fuel, 85c.

Supplies Port Huron.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. and D. C.; in-

cand., A. C.; power, A. C. and D. C.

Generating capacity: Light and Power, 4,000 kw.

Voltage: Incand., 120; power, 1,100-240-120.

City lighting contract: Hours lighted per year, arc and incand., 4,000.

No. public arcs, 265; 450 watt. Price per year, \$65.

No. public incand., 61; 60 watt. Price per year, \$20.

Price current per kw. hr., gross, 10c., 7c., 3c.

Price power per kw. hr., 5c. to 2.25c.

Output of station, kw. per year, 5,840,464.

Generating power used, Steam; rated h. p., 2,000.

Cost of station boiler coal, per ton, \$3.

Mutual Gas Co., St. Johns.

RRs.: Gr. Trunk; Mich. U. (El.). Ex.:
 Nat.

Capital stock, \$12,500.

President, John C. Hicks.

Secretary, Edward L. Dooling.

Treasurer, Edward L. Dooling.

Purchasing agent, Edward L. Dooling.

Superintendent, Fred H. Bowles.

Process manufacture, Lowe (Springer).

Price oil per gal., delivered, 4.21c. and 6c.

Precision 3-in-1 Gauges for forced-draught indications are of the dead-beat type, and give concentrated control of draught conditions by showing in one instrument conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Candle-power, 20.
 Max. day's send out, 30,000 c. f.
 Total gas holders capacity, 45,000 c. f.
 Miles of mains, 4.
 Street main pressures, max., 2.5 in.; min., 2.5 in.
 Annual sales, approx., 8,105,000 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. city supplied, 3,500.
 No. consumers, 590.
 No. meters, reg., 267; prepay., 323.
 Price gas: Light and Fuel, gross and net \$1.50.
 Ranges, 360; water heaters, 100.
 No. commercial gas arc lamps, 60.
 Supplies St. Johns.

Michigan Light Co., Saginaw.

RRs.: Pere Marq.; Gr. Trunk; Mich. Cen.
 Ex.: Am.; Nat.; U. S.

Operated by Commonwealth Pwr., Ry. & Lt. Co.

(For capitalization and officers, see Appendix.)
 See report under Jackson, Mich.

Sault Ste. Marie Gas and Electric Co., Sault Ste. Marie.

RRs.: Dul., So. Sh. & At.; Minn., St. P. & S. S. M.; Can. Pac. S. Bs.: Anchor Line; Arnold Trans.; G. B. Trans.; C. & D. Trans.; U. S. & Dom. Co.; Alg. Nav. Co.; Geo. Bay & L. S. Line, and ferry with Sault Ste. Marie, Ont. Ex.: West.

Capital stock, pref., \$30,000; common, \$50,000 issued, \$120,000 auth.

Annual dividend, pref., 7 p. c.
 Bonds, \$125,000; due 1929; interest, 6 p. c.
 President, F. W. Little.
 Secretary and treas., R. P. Hudson.
 Purchasing agent, James Trimble.
 Manager, James Trimble.
 New business manager, James J. Trimble.
 Superintendent, P. C. Williams.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual production, 35,000,000 c. f.
 By-products made: Coke, 2,100 tons; tar, 35,000 gals.
 Total gas holders capacity, 100,000 c. f.
 Holder pressure, 7 in.
 Max. days send out, 125,000 c. f.
 Miles of mains, approx., 20.
 Street main pressure, max., 7 in.; min., 2 in.
 Annual sales, approx., 31,500,000 c. f.
 Gas unaccounted for, 11 p. c.
 By-products sold: Coke, 1,500 tons; tar, 35,000 gals.
 Pop. dist. supplied, 9,000; of city, 12,600.
 No. consumers, 1,324.
 No. meters, reg., 1,060; prepay., 264.
 Price gas: Light and Fuel, gross, \$1.20; net, \$1.10. After March 23: gross, \$1.50; net, \$1.40.
 Ranges in use, 976; heaters, 176; water heaters, 378.
 No. commercial gas arc lamps, 232.
 Supplies Sault Ste. Marie.

South Haven Gas Co., South Haven.

RRs.: Mich. Cen.; Kal., L. S. & Chi. S. Bs.: C., So. H. Line. Ex.: Am.

Operators: Utilities Operating Co., Kalamazoo, Mich.
 Capital stock, \$65,000.
 Annual dividend, 6 p. c.
 Bonds, \$120,000; due 1943; int., 5 p. c.
 President, A. C. Runyan.
 Sec'y and treas., C. A. Runyan.
 General manager, D. F. Burritt.
 Local manager, J. F. Hildebrandt.
 New business manager, D. F. Hildebrandt.
 Engineer, W. D. Birbeck.
 Purchasing agent, J. F. Hildebrandt.
 Process manufacture, Coal.
 Candle-power, 17; calorific value, 600 B. t. u.
 Price coal per ton, delivered, \$4.24.
 Annual production, 18,606,000 c. f.
 By-products made: Coke, 1,353 tons; tar, 24,000 gals.
 Max. day's send out, 100,000 c. f.
 Gas holder capacity, 82,000 c. f.
 Holder pressure, 4 in.
 Miles of mains, approx., 15.
 Street main pressure, max., 4 in.; min., 3.5 in.
 Annual sales, approx., 17,386,000 c. f.
 Gas unaccounted for, 9.3 p. c.
 By-products sold: Coke, 1,250 tons; tar, 27,443 gals.
 Pop. city, 3,577; dist. supplied, 4,500.
 No. consumers, 819.
 No. meters, reg., 774; prepay., 45.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Ranges in use, 825; heaters, 100; water heaters, 225.
 No. commercial gas arc lamps, 100.
 Supplies South Haven.

Sturgis Gas Co., Sturgis.

RRs.: Gr. Rap. & Ind.; L. S. & M. So. Ex.: Ad.; Am.

Operators: Utilities Operating Co., Kalamazoo, Mich.
 Capital stock, \$20,000.
 Annual dividend, 6 p. c.
 Bonds, \$126,500; due 1935; int., 6 p. c.
 President, A. C. Runyan.
 Vice President, L. F. Ryall.
 Secretary and treasurer, C. A. Runyan.
 General manager, D. F. Burritt.
 Local manager, D. M. McCallister.
 Engineer, W. D. Birbeck.
 Purchasing agent, D. M. McCallister.
 New bus. mgr., D. M. McCallister.
 Process manufacture: Coal.
 Price coal per ton, delivered, \$4.10.
 Candle-power, 17. Calorific value, 600 B.t.u.
 Annual production, 27,000,000 c. f.
 By-products made: Coke, 1,789 tons; tar, 31,839 gals.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, 3.7 in.
 Max. day's send out, 85,000 c. f.
 Miles of mains, approx., 12.
 Street main pressures, max., 3.7; min., 3.5 in.
 Annual sales, approx., 24,500,000 c. f.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
 and 29th Street

PHILADELPHIA, PA.

Gas unaccounted for, 9 p. c.
By-products sold: Coke, 1,700 tons; tar, 30,000 gals.
Pop. of city, 3,635; dis. supplied, 5,500.
No. consumers, 1,223.
No. meters, reg., 1,173; prepay., 50.
Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
No. ranges, 950; heaters, 95; water heaters, 110.
No. commercial gas arc lamps in use, 136.
Supplies Sturgis.

Michigan Gas and Electric Co., Three Rivers.

RRs.: L. S. & Mo. S.; Mich. Cen. Ex.: Am.

(Successor to Three Rivers Gas Co. For capitalization, bonds, officers, etc., see Parent Co.'s.)

Manager, Paul B. Simons.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.25.
Candle-power, 16.
Annual production, 18,023,600 c. f.
Gas holder capacity, 30,000 c. f.
Max. day's send out, 62,300 c. f.
Miles of mains, approx., 14.5.
Street main pressures, max., 4 in.; min., 3.5 in.
Annual sales, approx., 16,707,300 c. f.
Gas unaccounted for, 7.3 p. c.
Pop. dist. supplied, 5,072; of city, the same.
No. consumers and meters, 810.
Price gas: Light and Fuel, gross, \$1.40; net, \$1.30.
Ranges in use, 750; gas heaters, 169; water heaters, 124.
No. commercial gas arc lamps, 40.
Supplies Three Rivers.

Traverse City Gas Co., Traverse City.

RRs.: Pere Marq.; Gr. Rap. & Ind.; Man. & No. E. S. Bs.: Trav. Bay Line; N. Mich. Trans. Ex.: Ad.; Am.

Capital stock, \$50,000.
President, L. E. Greilick.
Secretary and treas., C. M. Beers.
Gen. manager, W. S. Cook.
Purchasing agent, W. S. Cook.
Engineer and supt., W. S. Cook.
New bus. mgr., W. S. Cook.
Process manufacture, Coal.
Price coke per ton, delivered, \$9.
Candle-power, 16; calorific value, 600 B. t. u.
Annual production, 28,737,300 c. f.
By-products made: Coke, 2,124 tons; tar, 31,220 gals.

Total gas holder capacity, 60,000 c. f.
Holder pressure, 2.7 in.
Max. day's send out, 90,000 c. f.
Miles of mains, 14.12.
Street main pressure, avg., 2.7 in.
Annual sales, approx., 26,200,000 c. f.
Gas unaccounted for, 8.76 p. c.
Pop. of city, 12,115; dist. supplied, 10,000.
No. consumers, 1,350.
No. meters, reg., 1,330; prepay., 20.
By-products sold: Coke, 1,000 tons; tar, 31,220 gals.
Price gas: Light and Fuel, gross \$1.50; net \$1.25.
Ranges in use, 1,250; heaters, 500; water heaters, 550.
No. commercial gas arc lamps, 130.
Supplies Traverse City.

City of Ypsilanti Gas Dept., Ypsilanti.

RRs.: L. S. & Mo. S.; Mich. Cen.; Det. U. Ex.: Am.

(Municipal plant.)
Bonds, \$127,000; due serially; int., 6 p. c.
Commissioners of Public Works—D. L. Davis, Wm. Blair and F. H. Nissley.
Purchasing agt. and supt., W. R. Caldwell.
Process manufacture, Coal and Lowe.
Price of coal per ton, del'd., \$3.40 to \$6.70; oil per gal., del'd., 8c.
Annual production, coal gas, 62,000,000 c. f.; water gas, 3,000,000 c. f.
By-products made: Coke, 3,900 tons; tar, 70,000 gals.
Candle-power, 17.
Calorific value, 600 B. t. u.
Max. day's send out, 219,000 c. f.
Total gas holders capacity, 70,000 c. f.
Holder pressure, 5.8 in.
Miles of mains, approx., 25.
Street main pressure, max., 5 in.; min., 3 in.
Annual sales, approx., 61,000,000 c. f.
Gas unaccounted for, 6.5 p. c.
By-products sold: Coke, 3,200 tons; tar, 70,000 gals.
Pop. dist. supplied, 9,000; of city, 6,230.
No. consumers, 1,840.
No. meters, reg., 1,590; prepay., 310.
Price gas: Light and Fuel, gross, \$1.25; net, \$1 for 1st 5,000 c. f.; 1.12½-90c., 2d 5,000 c. f.; \$1-80c. all over 10,000 c. f.
Ranges in use, 1,320; heaters, 630; water heaters, 360.
No. commercial gas arc lamps, 110.
Supplies Ypsilanti.

MINNESOTA

Total population, 2,296,024.

Minnesota Gas and Electric Co., Albert Lea.

RRs.: C., R. I. & P.; C., M. & St. P.; Minn. & St. L.; Ill. Cen.; Iowa Cen. Ex.: Am.; Ad.

Capital stock, auth., \$750,000; issued, \$325,000.
Bonds, \$315,000; due 1933; int., 6 p. c.
President, George C. Edwards.

Secretary and treas., H. L. Nichols.
Purchasing agent, H. L. Nichols.
General manager, H. L. Nichols.
Superintendent, E. Lee.
New bus. mgr., J. Van den Berg.
Process manufacture, Lowe.
Price coke per ton, delivered, \$12.80.
Price of oil per gal., 9c.

THERMOMETERS

American Meter Company
561 W. 47th St., New York, N. Y.

We carry in stock calorimeter, prover and condenser thermometers of the highest grade.

Annual production, 26,000,000 c. f.
 By-products made: Tar, 50 gals.
 Candle-power, 18. Calorific val., 600 B. t. u.
 Max. day's send out, 106,000 c. f.
 Total gas holders capacity, 25,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 15.
 Street main pres., max., 3 in.; min. 2.5 in.
 Annual sales, approx., 22,000,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. dist. supplied, 9,000; of city, est. 8,000.
 No. consumers, 1,150.
 No. meters, reg., 313; prepay., 837.
 Price gas: Light and Fuel, gross, \$1.39; net, \$1.25.
 No. gas ranges in use, 1,150.
 Supplies Albert Lea.

ELECTRICAL DEPARTMENT.

Capital apportioned to elec. plant., \$245,000.
 Sys. operated: Arc., series; incand. and power,
 D. C. and A. C., 3 ph., 60 cycles.
 Gen. cap.: Lighting and Power, 1,500 kw.
 Voltage: Arcs, series; incand., 110; power, 220.
 City lighting contract: Hours lighted per year:
 Arc and incand., 4,000.
 No. public incand., 401; 250, 100, 75 watts.
 Price per year, \$45, \$24, \$19.50.
 Price current per kw. hr., gross, 12.25c. Disc.,
 5 p. c. to 30 p. c.
 Power circuits: Price per kw. hr., 7.5c. to 1c.
 Output of station kw. hrs. for year, 3,500,000.
 Generating power used: Steam; rated 1,550
 h. p.
 Cost of station boiler coal, per ton, \$4.23.

Austin Gas Co., Austin.

RRs.: C. M. & St. P.; C. Gt. W. Ex.:
 W. F.
 Capital stock, auth., \$100,000; issued, \$70,000.
 Annual dividend, 6 p. c.
 Bonds, \$46,000; due 1931; int., 6 p. c.
 President, Z. T. F. Runner.
 Vice-president, F. E. Gleason.
 Secretary and treasurer, R. K. Runner.
 Pur. agent, Z. T. F. Runner.
 Gen. manager, Z. T. F. Runner.
 Engineer, Z. T. F. Runner.
 Superintendent, Wm. H. Martell.
 New bus. mgr., Wm. H. Martell.
 Process manufacture, Lowe (Gas Mach. Co.).
 Price of coal per ton, del'd, \$4.75.
 Price coke per ton, delivered, \$12.
 Price oil per gal., 7c.
 Candle-power, 18.
 Calorific value, 550-600 B.t.u.
 Annual production, 26,429,500 c. f.
 By-products made, tar which is used under
 boilers.
 Max. day's send out, 94,000 c. f.
 Gas holder capacity, 67,000 c. f.
 Holder pressure, 5 in.
 Miles of mains, approx., 17.
 Street main pressures, max., 5 in.; min., 2.5 in.
 Annual sales, 25,711,200 c. f.
 Gas unaccounted for, 3 p. c.
 Pop. of dist. supplied, 7,000; of city, 6,960.
 No. consumers, 1,145.
 No. meters, reg., 727; prepay., 418.

Price gas: Light and Fuel: Gross, \$1.40; net,
 \$1.30, first 2,000 c. f.; next 3,000 c. f.,
 \$1.35-\$1.25; next 10,000 c. f., \$1.25-\$1.15;
 next 10,000 c. f., \$1.15-\$1.05; all gas used
 per month in excess of 25,000 c. f., \$1.10
 gross, \$1 net.

Ranges in use, 1,174; heaters, 141; water heat-
 ers, 330.

No. commercial gas arc lamps, 110.
 Supplies Austin.

Bemidji Gas Co., Bemidji.

RRs.: G. N.; Minn. & Int.; Minneapolis, Red
 Lake & Manitoba.; M. St. P. & S. S.
 Marie Ry. Ex.: Gt. No.; No. Western.

(Controlled by Public Improvement Co.)
 Plant under construction.
 Capital stock, auth., \$50,000; issued, \$37,500.
 Bonds, \$25,000.
 President, W. J. Stinson.
 Secretary, D. A. Frerichs.
 Process manufacture, Lowe.
 Pop of city (est.), 7,500 (1916); of dist. sup-
 plied, 5,000.
 Price gas: Light and Fuel, gross, \$1.60; net,
 \$1.50.

Brainerd Gas and Electric Co., Brainerd.

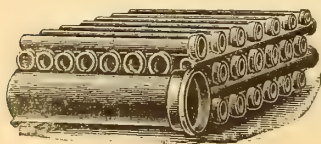
RRs.: No. Pac.; Miss. Cen. Ex.: No.

(Controlled by St. Cloud Public Utilities Co.)
 Capital stock, \$100,000.
 Bonds, \$80,000; due 1921; int., 6 p. c.
 President, A. G. Whitney.
 Treasurer, Wheelock Whitney.
 Secretary, C. A. Slaney.
 Purchasing agent, C. D. Grinols.
 General superintendent, J. H. Viereg.
 Superintendent, A. B. Willing.
 New bus. mgr., A. B. Willing.
 Process manufacture: Water-gas (Tenney).
 Candle-power, 18. Calorific value, 600 B.t.u.
 Price of coke per ton, delivered, \$10.
 Price of oil per gal., delivered, 10c.
 Annual production, 10,000,000 c. f.
 Miles of mains, approx., 12; pressure, 2 lbs.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 2 p. c.
 Pop. of city, 10,000; dist. supplied, 6,000
 (est.)
 No. consumers and meters, 475.
 Price of gas, gross, \$1.35; net, \$1.25.
 No. gas ranges in use, 450; heaters, 150;
 water heaters, 200.
 No. commercial gas arc lamps, 35.
 Supplies, Brainerd.

The Crookston Gas Co., Crookston.

RRs.: No. Pac.; G. N. Ex.: No. and G. N.

Capital stock, auth., \$100,000; issued, \$60,000.
 President, A. M. Smith.
 Secretary, Theo. Schroeder.
 Treasurer, W. E. Steinwedell.
 Manager and pur. agt., R. L. Spiering.
 Supt. and new bus. mgr., R. L. Spiering.
 Engineer, R. L. Spiering.
 Process manufacture: Lowe (Gas Mach. Co.).
 Candle-power, 16; calorific value, 600 B. t. u.



CAST IRON PIPE
 ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

Price coke per ton, delivered, \$15.
 Price of oil per gal., 9c.
 Annual production, 15,500,000 c. f.
 Gas holder capacity, 30,000 c. f.
 Holder pressure, max., 3.5 in.
 Max. day's send out, 50,000 c. f.
 Miles of mains, approx., 8.
 Street main pressure, avg., 3 in.
 Annual sales, approx., 14,500,000 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. of city, 7,559; pop. dist. supplied, 6,000.
 No. consumers, 758.
 No. meters, reg., 592; prepay., 166.
 Price gas: Light and Fuel, gross, \$1.65; net, \$1.55.
 Ranges in use, 712; heaters, 100; water heaters, 167.
 No. commercial gas arc lamps, 97.
 Supplies Crookston.

City of Duluth Water and Light Department, Duluth.

RRs.: C. & No. W.; Dul., Mis. & No.; Dul. & Iron R.; Dul., So. Sh. & At.; G. N.; No. Pac.; Minn., St. P. & S. S. M.; C. M. & St. P.; C. P.; C. N. S. Bs.; Anchor Line; Mutual Trans.; W. Trans.; P. H. & Dul. Line.; U. S. & Dom. Co.; White Line; Can. At. Trans.; No. Nav. Lines; Geo. Bay & S. S. Line; C. & D. Trans.; Bridge to Superior, Wis. Ex.: Ad.; Am.; N.; G. N.; W.

(Municipal plant.)

Bonds, \$3,252,800; due serially to 1941; int., 4 p. c. and 5 p. c.
 Comr. of Public Utilities, P. G. Phillips.
 Manager, D. A. Reed.
 Chief acct., J. E. Mannheim.
 Superintendent, D. Keefe.
 New bus. mgr., R. A. Casson.
 Process manufacture, Coke-ovens.
 (Purchase gas from Zenith Furnace Co.)
 Calorific value, 600 B. t. u.
 Gas purchased, 423,348,900 c. f.
 Gas holder capacity, 700,000 c. f.
 Holder pressure, 12 in.
 Max. day's send out, 2,225,000 c. f.
 Miles of mains, 162,827.
 Street main pressures, max., 9 in.; min., 4 in.
 Booster mains, miles, 15; pressure, max., 3.5 lbs.
 Annual sales, approx., 421,300,100 c. f.
 Gas unaccounted for, 14 p. c.
 Pop. dist. supplied 100,000; of city, 110,000 (est.)
 No. consumers, 12,388.
 No. meters, reg., 12,386; prepay., 2.
 Price gas: Light, net 75c.; all over 50,000 c. f., 50c. Fuel, heating of premises by gas furnaces, net, 50c.
 No. public Welsbach gas lamps, 16.
 No. hours each lamp is lighted per year, 4,000.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 10,284; heaters, 1,829; water heaters, 4,394.
 No. commercial gas arc lamps, 56.
 Supplies Duluth.
 (No 1918 report.)

Minnesota Steel Co., Duluth.

RRs.: Dul., Mis. & No.

(Controlled by U. S. Steel Corporation.)
 Office, Morgan Park, Duluth.
 President, E. H. Gary.
 Vice-pres. and gen. manager, Geo. L. Reis.
 Secretary, W. J. Filbert.
 Treasurer, Richard Trimble.
 Chief Engineer, K. C. Hoxie.
 Purchasing agent, R. E. Mace.
 Superintendent, S. B. Sheldon.
 90 Koppers coke ovens.
 Coke used for blast furnaces and miscellaneous purposes.
 Surplus gas all used at their own works; none sold for city use.

Northern Utilities Co., Duluth.

RRs.: See City of Duluth Water & Lt. Dept.

(Plant under construction.)
 Office, 5130 London Road.
 Capital stock, \$50,000.
 President, F. B. Meyers.
 Secretary, T. F. Lynch.
 Vice-pres. and treas., J. P. Smith.
 Process manufacture, Water-gas (Tenney).
 Price coal per ton, delivered, \$5.20.
 Candle-power, 16; calorific value, 600 B.t.u.
 Street mains, approx., 52 miles; press., 1 lb.
 High pressure mains, 28 miles; press., 50 lbs.
 Population of cities to be supplied, approx., 52,000.
 Price gas: Light and fuel, gross, \$1.50; net, \$1.40 sliding to \$1.
 Will supply Hibbing, Chisholm, Buhl, Eveleth, McKinley, Biwabik, Aurora, Gilbert, Alice, Brooklyn and 22 small towns on the Masaba iron range.

Zenith Furnace Co., Duluth.

(RRs., S. Bs. and Ex. Lines: See Water and Light Dept., Duluth).

Capital stock, auth., \$1,500,000.
 President, W. B. Castle.
 Vice-pres. and treasurer, C. W. Andrews.
 Secretary, Oscar Mitchell.
 General manager, W. B. Castle.
 Gen. supt. works, F. C. Harris.
 New bus. mgr., J. S. Hassan.
 Purchasing agent, A. E. Bennett.
 Process manufacture, United Otto-Hoffman
 Coke-oven (65 ovens; length, 33 ft.; width, 17½ in.; height, 6 ft. 6 in.).
 Price coal per ton, delivered, \$6.20.
 Coal charged per oven, 6.8 tons (net).
 Coke yield, 70 p. c.
 Grade coal used, 100 p. c. high volatile.
 Time required for coking, 19 hrs.
 Grade coke made, furnace and domestic; used for blast furnace.
 Candle power, 16.
 Cal. value: Surplus gas, 500 B. t. u.; heating gas, 600 B.t.u.
 Gas sold: For city use, 50 p. c.; for heating ovens, 50 p. c.

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

By-products made per year: Gas, 600,000,000 c. f.; tar, 1,360,000 gals.; anhydrous ammonia, 765,000 lbs.; coke, 120,000 tons.
 Max. day's send out, 2,300,000 c. f.
 Total gas holders capacity, 1,050,000 c. f.
 Holder pressure, max., 12 in.
 High pressure mains, 25 miles; pressure, 8 lbs.
 Annual sales, approx., 550,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Coke, 120,000 tons; tar, 1,500,000 gals.; ammonia, 800,000 lbs.
 Pop. dist. supplied, 90,000; of city, 78,466.
 Supplies City of Duluth Water and Light Department, and Superior Water, Light & Power Co.

Excelsior Gas Co., Excelsior.

RR.: Min. & St. L. Ex.: Ad.

Capital stock auth., \$25,000.
 President, M. B. Wheeler.
 Secretary and treasurer, C. F. Wheeler.
 Purchasing agent, C. F. Wheeler.
 General manager, C. F. Wheeler.
 Process manufacture, Oil.
 Price coal per ton, delivered, \$1.75.
 Price oil per gal, 35c.
 Max. day's send out, 20,000 c. f.
 Gas holder capacity, 40,000 c. f.
 Miles of mains, approx., 5.
 Street main pressures, max., 3.5 in.; min., 3.5 in.
 Annual sales, approx., 5,000,000 c. f.
 Pop. dist. supplied, 1,015; of city, the same.
 No. consumers, 175.
 No. meters, reg., 100; prepay., 75.
 Price gas: Gross and net, \$1.75.
 No. public Welsbach, 43.
 No. hours lamp is lighted per year, 1,200.
 Ranges in use, 50; heaters, 10.
 Supplies Excelsior.
 (No 1918 report.)

Northern States Power Co., Faribault.

RRs.: C., M. & St. P.; C. Gt. W.; C., R. I. & P. Ex.: W. F.

(For financial and officers, see Parent Companies and Appendix.)
 General managers, H. M. Bylesby & Co., Inc.
 Local manager, B. W. Cowperthwait.
 Superintendent, Edw. Chappine.
 Process manufacture, Coal.
 Annual prod., coal-gas, 42,179,300 c. f.
 By-products made: Coke, 2,640 tons; tar, 56,910 gals.
 Calorific value, 600 B. t. u.
 Max day's send out, 157,800 c. f.
 Total gas holder capacity, 80,000 c. f., including Northfield.
 Holder press., max., 4.5 in.
 Miles of mains, approx., including Northfield, 55.18.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 High pressure mains, miles, 3; pressure, 12; and 14.53 miles to Northfield; pressure, 35 lbs.
 Annual sales, approx., 40,800,000 c. f.
 Gas unaccounted for, 5.22 p. c.

By-products sold: Coke, 1,600 tons; tar, 56,910 gals.
 Pop. dist. supplied, Faribault, 10,000; of city, 9,000; Northfield dist., pop., 3,642.
 No. consumers, 1,884.
 No. meters, reg., 1,584; prepay., 300.
 Price gas: Faribault Light and Fuel, basic rate, net, \$1.21 to 94c.
 No. ranges, 1,523; heaters, 80; hot plates, 150.
 Supplies Faribault and Northfield.

ELECTRICAL DEPARTMENT.

System operated: Incand., 60 cycle, A. C.; power, 60 cycle, A. C., 3 phase.
 Generating capacity: Lighting and power, 2,700 kw.
 Miles of overhead wires, 1,419; underground cables, 3.
 Voltage: Incand., 110; power, 220.
 City lighting contract: Hours lighted per year, Moonlight schedule, 3,000 hrs.
 No. public ares, 104; 550 watt; price per year, \$60.
 No. public incand., 2,204; price per year, \$10 to \$16.50.
 Commercial lighting: No incand., 73,539; 2,672 lamps in signs.
 Price current per kw. hr., basis rate, net, 8.8c. 2.77c.
 Power circuits: No. motors, 623; price per kw. hr., basic rate, net, 5.44c. to 2.57c.
 Output of station, kw. hr. for year, approx., 7,083,107.
 Generating power used: Water; rated, 2,700 kw.
 Cost of station boiler coal, per ton, \$5.
 Above data covers Faribault, Canon Falls, Northfield, Waterville, Morristown, Janeville, Elysian, Madison Lake, Eagle Lake, St. Clair, Lakeville, Rosemont, Hampton, Zumbrota, Wamimingo, Goodhue, Pine Island, West Concord, Montorville, Byron, Dundas and Randolph.

Hopkins Municipal Gas Plant, Hopkins.

(See West Minneapolis Gas Works.)

Village of Jasper, Jasper.

RRs.: C., R. I. & P.; G. N. Ex.: G. N.

(Municipal plant.)
 President, Andrew Rae.
 Secretary, G. S. Smiley.
 Treasurer, Theo. Hallen.
 General manager, Anton Knutson.
 Purchasing agent, G. S. Smiley.
 Supt. and engineer, A. Knutson.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.60.
 Price oil per gallon, 4.75c.
 Candle-power, 16.
 Gas holder capacity, 40,000 c. f.
 Holder pressure, 2 in.
 Max. day's send out, 35,000 c. f.
 Miles of mains, approx., 2.
 Street main pressures, max., 2 in.
 Annual sales, 12,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city supplied, 804.
 No. consumers, 200.



INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



No. meters, reg., 75; prepay., 125.
 Price gas: Light and Fuel, gross, \$1.25.
 No. public lamps, 35.
 Contract includes repairs, care, lighting and extinguishing.
 Gas appliances in use: Ranges, 25; water heaters, 10.
 Supplies Jasper.

Northern States Power Co., Mankato.

RRs.: C. & No. W.; C., M. & St. P.; C. Gt. W.
 C., St. P., M. & O. Ex.: Am.; W. F.

(For financial and officers, see Parent Company.)

General managers, H. M. Bylesby & Co., Inc.
 Local manager, R. E. Brown.
 Process manufacture, Coal.
 Candle-power, 16.
 Calorific value, 600 B.t.u.
 Annual production, 61,000,000 c. f.
 By-products made: Coke, 3,145 tons; tar, 58,000 gals.
 Max. day's send out, 225,000 c. f.
 Total gas holder capacity, 150,000 c. f.
 Holder pressure, max., 6 in.
 Miles of mains, approx., 23.
 Street main pressures, max., 4.5 in.; min., 2.5 in.
 Annual sales, approx., 48,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Coke, 2,344 tons; tar, 58,000 gals.
 Pop. served, 14,100; Mankato, 12,500; North Mankato, 1,600.
 No. consumers, 2,300.
 No. meters, reg., 1,278; prepay., 1,022.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.10.
 Ranges in use, 1,962; heaters, 38; water heaters, 277.
 No. commercial gas arc lamps, 74.
 Supplies Mankato and North Mankato.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycle, 3 phase.
 Generating capacity, light and power, 2,300 kw.
 Voltage: Incand., 110; power, 110-220.
 City lighting contract: Hours lighted per year, 3,000.
 No. public arcs, 176; 7.5 amp.; price per year, \$60 (63 white way posts); 3c per kw. hr.
 Commercial lighting: No. incand., 42,000; 2,444 lamps in signs.
 Price current per kw. hr., basic rate, net, 8.9c to 2.87c.
 Power circuits: No. motors, 297; price per kw. hr., basic rate, net, 5.44c to 2.57c.
 No. of consumers, 4,116.
 Other uses, street railway power.
 Output of station, kw. hrs, total for year, approx., 5,833,000.
 Generating power used, Steam and Water; rated h. p., 3,000.
 Serves electric current to Mankato and surrounding territory (pop., approx., 44,000).

Minneapolis Gas Light Co., Minneapolis.

RRs.: C. & No. W.; C., B. & Q.; C. Gt. W.; C., R. I. & P.; C., M. & St. P.; Minn. & St. L.; Minn., St. P. & S. S. M.; No. Pac.; Wis. Cen.; G. N. Ex.: Ad.; Am.; G. N.; W. F.; No. Nat.; West.

(For capitalization and bonds, see Appendix.)
 President, A. T. Rand.

Vice-pres. and treas., Rufus R. Rand.

Asst. treasurer, A. H. Rand.

Secretary, W. H. Levings.

Purchasing agent, A. H. Rand.

Auditor, E. W. Brace.

Superintendent, F. C. Shepard.

New bus. mgr., L. F. Blyler.

Process manufacture, Lowe and Coal.

Candle-power, 15.

Calorific value, 600 B. t. u.

Annual production: Coal gas, 619,830,000 c. f.; water gas, 2,257,087,000 c. f.

By-products made: Coke, 41,699 tons; tar, 2,189,749 gals.; ammonia, 121,111 gals.

Gas holder capacity, 9,000,000 c. f.

Max day's send out, 9,744,000 c. f.

Miles of mains, approx., 582.72.

Street main pressures, max., 4 in.; min., 2 in.

Annual sales, approx., 2,804,655,000 c. f.

Gas unaccounted for, 1.7 p. c.

Pop. dist. supplied, 260,000; of city, 301,408.

No. consumers, 85,070.

No. meters, reg., 70,413; prepay., 14,657.

Price gas: Light and Fuel, gross, 92c.; net, 77c.

No. public gas lamps, 4,609, incl. 4,605 Patter-son incand.

Contract includes repairs, care, lighting and extinguishing. Lamps lighted all night and every night, 3,788 hours.

No. commercial gas arc lamps, 800.

Supplies Minneapolis.

New Ulm Gas Co., New Ulm.

RRs.: C. & No. W.; Minn. & St. L.; Ex.: Am., Ad.

Capital stock, auth., \$50,000; issued, \$38,200.

President, R. L. Griggs.

Vice-pres., J. P. Smith.

Secretary, S. R. Kirby.

Treasurer and pur. agent, C. R. Hennick.

General manager, C. R. Hennick.

New business manager, C. R. Hennick.

Engineer, Paul Borchert.

Superintendent, Peter Jorgensen.

Process manufacture, Water-gas (Tenney).

Price coke per ton, delivered, \$7.55; oil, per gallon, 4c.

Candle-power, 19; calorific value, 550 B. t. u.

Annual production, 12,600,000 c. f.

Max. day's send out, 60,000 c. f.

Gas holder capacity, 45,000 c. f.

Holder pressure, max., 80 lbs. (high pressure storage in tanks).

High pressure mains, 10 miles. Pressure, max., 1.75 lbs.; min., 1.25 lbs.

Annual sales, approx., 12,000,000 c. f.

Gas unaccounted for, 5 p. c.

Population of city, 5,648 (1910); dist. supplied 5,000.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

No. consumers and meters, 500.
 Price gas: Light, gross, \$1.50; net, \$1.40.
 Fuel, gross, \$1.50; net, \$1.25.
 Gas appliances in use: Ranges, 400; heaters,
 150; water heaters, 225.
 No. commercial gas arc lamps, 75.
 Supplies New Ulm and Sleepy Eye.

Northern States Power Co., Northfield.

(Supplied from Faribault, Minn.)

Public Service Operating Co., Owatonna.

RRs.: C. M. & St. P.; C. & N. W.; C., R. I. &
 Pac. Ex.: Am.; W. F.

Capital stock, \$150,000.
 Bonds, \$300,000.; int. rate, 6 p. c.
 President, A. J. Stahl, La Porte, Ind.
 Treasurer, A. J. Stahl.
 Gen. mgr. and pur. agt., Clyde C. Dale.
 New bus. mgr., C. C. Dale.
 Engineer, Frank Dostal.
 Process manufacture, Lowe (Ft. Wayne).
 Candle-power, 20. Cal. val. 560 B. t. u.
 Price of coke per ton, delivered, \$9.50.
 Price of oil per gallon, 7.5c.
 Annual production, 18,000,000 c. f.
 Gas holder capacity, 60,000 c. f.; press., 3.5 in.
 Max. day's send out, 65,000 c. f.
 Miles of mains, 11; press., max., 3.2 in.; min.,
 3 in.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 4 p. c.
 Pop. of city, est., 7,200; of dist. supplied, 4,400.
 No. consumers, 1,500.
 No. meters, reg., 750; prepay., 100.
 Price of gas, gross, \$1.40; discounts, 10 days,
 10c. up to 2 M.; 2 M. to 5 M., 20c.; 5 M.
 to 10 M., 35c.
 Ranges, 630; heaters, 175; water heaters, 300.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C.,
 60 cycle; power, A. C., 60 cycle, 3 phase.
 Generating capacity: Lighting, 1,000 kw.
 Voltage: Arcs, Line, 4,500; incand., 110;
 power, 220.
 City lighting contract: Hours lighted per year:
 Arc and incand., Philadelphia schedule.
 No. public arcs, 68; 4 am. magnetite. Price
 per year, \$65; 52 6.6 amp. arcs. orna-
 mental, 5c. per kw.
 No. public incand., 3 100 watt. Price \$24.
 Price, commercial, per kw. hr., gross, 12c. to
 4.8c. Discounts, 10 p. c.
 Power circuits: Price per kw. hr., 7.5c. to 3.6c.
 Disc., 10 p. c.
 Output of station, kw. hrs., for year, 950,000.
 Generating power used Steam, rated 2,500 h. p.
 Cost of station boiler coal per ton, \$4.93.

HEATING SYSTEM.

Yaryan hot-water heating system supplying
 80,000 ft. radiation.

Wisconsin-Minnesota Light and Power Co., Red Wing.

RRs.: C., M. & St. P.; C. Gt. W. S. Bs.:
 Diamond Jo. L. Ex.: Ad.; W. F.

Successor to Red Wing Gas, Light & Power
 Co.

(For detailed financial information, see Ap-
 pendix.)

(Owned by American Public Utilities Co.)

Bonds, \$250,000; due 1926; interest, 5 p. c.

President, J. H. Brewer.

Vice-presidents, W. B. Parsons, P. D. Kline.

Treasurer, C. A. Boalt.

Secretary and pur. agent, Blaine Gavett.

Asst. sec. and asst. treas., W. J. Ripley.

Local manager, F. E. Schornstein.

Process manufacture, Coal and Lowe
 (Springer).

Mixture supplied, coal 99 p. c.; water gas for
 emergency only.

Price coal per ton, delivered, \$4.97½.

Price oil per gal., delivered, 4.7c.

Candle-power, 18.

Calorific value, 600 B. t. u.

Max. day's send out, 153,000 c. f.

Total gas holders capacity, 180,000 c. f.

Miles of mains, approximate, 18.

Street main pressures, max., 5 in.; min., 2 in.

Annual sales, approx., 46,000,000 c. f.

Gas unaccounted for, 14 p. c.

Pop. of dist. supplied, 12,000; of city, 9,048.

No. consumers, 1,483.

No. meters, 1,580.

Price gas: Light and Fuel, gross, \$1.40; net,
 \$1.30 to 75c.

Ranges in use, 1,423; heaters, 161; water
 heaters, 142.

No. commercial gas arc lamps, 121.

Supplies Red Wing.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power,
 A. C., 2 ph., 60 cycles.

Generating capacity: Lighting and power, 600
 kw.

Voltage: Incand., secondary, 220-110; power,
 secondary, 220-110.

City lighting contract: Hours lighted per
 year: Arc, 4,000-2,000; incand., 1,200.

No. public arcs, 92; 450 watt. Price per year,
 \$60 and \$84.

No. public incand., 104; 55 watt. Price per
 year, \$15.

Price current per kw. hr., gross 11c.; disc.,
 down to 1c.

Other lamps used, about 30 Nernst.

Commercial lighting: No. incand., 6,250.

Power circuits: No. motors, 87; price per kw.
 hr., 3½c.; dis., 0.5c., per kw. hr.

Output of station, kw. for year, 1,150,000.

Generating power used, Water and Gas; rated
 h. p., 625.

(No report.)

City of Renville Gas Plant, Renville.

RR.: C., M. & St. P. Ex.: W. F.

(Municipal plant.)

Bonds, \$8,000; due 1918; int., 5 per cent.

Superintendent, John Clausen.

HUNT PIVOTED BUCKET CONVEYORS have been designed for
 handling coal, coke, etc., with minimum attendance and at minimum expense. Our engineers
 have made a special study of gas works problems, and will help you select equipment for
 your individual requirements. Write for Catalogue N15-4.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Manager and pur. agt., L. W. Kannenberg.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$12.
 Price oil per gal., delivered, 7.5c.
 Candle-power, 12.
 Max. day's send out, 9,000 c. f.
 Total gas holder capacity, 13,000 c. f.
 Miles of mains, approx., 3.5.
 Street main pressure, max., 3 in.
 Annual sales, approx., 3,000,000 c. f.
 Gas unaccounted for, 2 p. c.
 Pop. dist. supplied, 1,239; of city, 1,182.
 No. of consumers, 117.
 No. meters, reg., 117.
 Price gas, \$1.50.
 Ranges in use, 45.
 Supplies Renville.

Rochester Utility Co., Rochester.

RRs.: C. & No. W.; C. Gt. W. Ex.: Am.; W. F.

Operators: Utilities Operating Co., Kalamazoo, Mich.

Capital stock, pref., \$200,000; com., \$200,000.

Annual div., pref., 6 p. c.

Bonds, \$183,500; serial; int., 6 p. c.

President, C. A. Runyan.

Secretary and treasurer, L. F. Ryali.

General manager, D. F. Burritt.

Local mgr. and pur. agent, C. H. Morrish.

New business manager, C. H. Morrish.

Engineer, W. D. Birbeck.

General auditor, Frank Wheeler.

Process manufacture, Coal.

Price coal per ton, delivered, \$8.53.

Candle-power, 18. Calorific value, 600 B. t. u.

Annual production, 49,000,000 c. f.

Gas holder capacity, 174,000 c. f.

Holder pressure, 3.6 in.

Max. day's send out, 174,000 c. f.

Miles of mains, approx., 17.

Street main pressures, max., 6 in.; min., 3.6 in.

Annual sales, approx., 46,000,000 c. f.

Gas unaccounted for, 9 p. c.

Pop. city, 7,884; dist. supplied, 8,000.

No. consumers, 1,490.

No. meters, reg., 1,030; prepay., 460.

Price gas: Light, gross, \$1.60; net, \$1.50 for first 10,000 c. f.; next 10,000 c. f., \$1.50-\$1.40; next 10,000, \$1.40-\$1.30; next 30,000, \$1.30-\$1.20; all over 60,000 c. f., \$1.20-\$1.10.

Ranges in use, 1,150; heaters, 100; water heaters, 462.

No. commercial arc lamps, 232.

Supplies Rochester.

St. Cloud Public Service Co., St. Cloud.

RRs.: G. N.; No. Pac. Ex.: G. N.; Nor.

Capital stock, com., \$1,000,000; 1st pref., auth., \$700,000; issued, \$184,700; 2nd pref., \$212,000.

Annual dividend, 1st pref., 7 p. c.

Bonds, \$1,142,000; due 1935; int., 6 p. c.

President, A. G. Whitney.

Secretary, C. A. Slaney.

Treasurer, Wheelock Whitney.

Business manager, C. A. Slaney.

Pur. agent, C. D. Grinols.

Superintendent, J. H. Vierer.

New business manager, A. M. Gaddis.

Process manufacture, Coal and Lowe.

Price coke per ton, delivered, \$8 (F. O. B. plant).

Candle-power, 16.

Calorific value, 600 B. t. u.

Annual prod., coal-gas, 20,000,000 c. f.; water-gas, 5,000,000 c. f.

By-products made: Coke, 1,200 tons.

Gas holder capacity, 50,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 100,000 c. f.

Miles of mains, approx., 16.

Street main pressures, max., 3 in.; min., 3 in.

Annual sales, approx., 25,000,000 c. f.

Gas unaccounted for, 3 p. c.

By-products sold: Coke, 600 tons; tar, 8,000 gals.

Pop. city, est., 15,500; of dist. supplied, 10,000.

No. consumers and meters, 980.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.

Ranges, 950; heaters, 250; water heaters, 300.

Supplies St. Cloud.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C. lum.; incand. 1 ph., 60 cycle; power, 3 ph., 60 cycle, A. C. Generating capacity: Lighting and power, 4,300 kw.

Voltage: Arcs, 80; incand., 110; power, 110-220-2,300.

Miles of overhead wires, 500.

City lighting contract: Hours lighted per year: Arc, 4,000.

No. public arcs, 135-4 amp. luminous. Price per year, \$60.

Commercial lighting: No. arcs, 13; No. incand., 35,000.

Price current per kw. hr., gross, 11c. to 5c. Discount 1c. per kw. Cooking, 3.5c.

Other lamps used 15,000 mazda, 1,000 Type C.

Power circuits: No. motors, 150; price per kw. hr., 7c. to 4c. Disc., 1c.

Output of station, kw. hrs. per year, 8,028,450.

Generating power used, Water; rated h. p., 3,000; also 750 kw and 1,000 kw. steam turbine.

Minnesota By-product Coke Co., St. Paul.

RRs.: (See St. Paul Gas Light Co.)

Main office, Union Arcade, Pittsburgh, Pa.

President, H. B. Rust.

Gen'l manager, T. G. Janney.

Superintendent, K. G. Richards.

Pur. agent, O. B. Young.

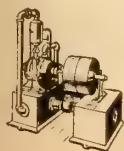
65 Koppers ovens; length, 39 ft. 6 in.; width, 18¼ in.; height, 9 ft. 10½ in.

Coal charged per oven, 12¼ net tons.

Metallurgical and domestic coke made.

Candle-power, 14. Calorific value, 610 B.t.u.

Proportion of gas sold for city use, 50 p. c.



YOUR INTEREST AND CONSUMERS' INTERESTS are IDENTICAL. Efficient service now means continuous service after the war, as it will demonstrate that gas used efficiently is the ideal fuel. Tell your customer about the NEEDHAM SYSTEM OF ECONOMY.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

St. Paul Gas Light Co., St. Paul.

RRs.: C. & No. W.; C., B. & Q.; C. Gt. W.; C., M. & St. P.; C., R. I. & P.; G. N.; Min. & St. L.; Minn., St. P. & S. S. M.; No. Pac.; Wis. Cen. S. Bs.: Diamond Jo. L. Ex.: Am.; W. F.; Ad.; West.; Nat.; Nor.; G. N.

Practically all stock owned by Am. Light & Trac. Co.

(For capitalization and bonds, see Appendix.)
President, Alanson P. Lathrop.

Second vice-pres. and gen. mgr., F. L. Cross.

Secretary and treasurer, J. P. Crowley.

Asst. sec'y and asst. treas., C. N. Jelliffe.

Purchasing agent, F. C. Hoffmann.

Engineer, H. C. Abell.

New business mgr., Geo. Steinwedell.

Superintendent gas dept., Dean W. Flowers.

Supt. elect. dept., F. A. Otto.

Process manufacture, Lowe (W. Gas Const.).

Miles of mains, approx., 388.

Annual sales, approx., 1,556,000,000 c. f.

Pop. city supplied, est., 260,000.

Consumers and meters, 44,615.

Price gas: Light and Fuel, 1st 50,000 c. f. per mo., \$1.05 gross; 85c. net; all over 50,000 c. f., gross, 95c.; net, 75c.

Supplies St. Paul.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., 60 cycles; incand., A. C., single phase and D. C.; power, 60-cycle A. C., 2-phase and D. C.
Voltage: Arcs, series; incand., 120; power, 240.

Price per kw. hr., 5.5c. to 10c. Dom. rates, 1st 30 kw., 11c.; excess, 7.3c. Disc., 10 p. c.

Power price current per kw. hr., 3c. to 7.3c. Disc., 10 p. c.

Output of station, kw. hrs. year, 32,455,672.

Generating power used, Steam.

South St. Paul Gas and Electric Co., South St. Paul

RRs.: Co. No. W.; C., Gt. W.; C., B. & Q.; C., R. I. & P.; G. N. Ex.: W. F.

Capital stock, auth., \$500,000; issued, \$30,700.

President, Alanson P. Lathrop.

Vice-pres. and manager, F. L. Cross.

Sec'y and treas., J. P. Crowley.

Purchasing agent, F. C. Hoffmann.

New bus. mgr., Geo. Steinwedell.

Street mains, 8 miles.

Pop. of city, est. 7,500; of dist. supplied, 4,500

No. consumers, 454.

No. meters, reg., 456.

Price gas: Light and Fuel, 1st 10 M., c. f. gross, \$1.25; net, \$1.15; next 40 M., gross, \$1.10; net, \$1; excess over 50 M., gross, \$1; net, 90c.

Supplies South St. Paul.

Northern States Power Co., Stillwater.

RRs.: C. & No. W.; C., M. & St. P.; No. Pac. Ex.: No.; Am.; W. F.

(For financial and officers, see Parent Companies and Appendix.)

General managers, H. M. Byllesby & Co., Inc.

Manager, B. O. Lund.

Superintendent, Chas. Clarey.

Process manufacture, Coal.

Candle-power, 16.

Calorific value, 600 B. t. u.

Annual production, coal-gas, 40,369,000 c. f.

By-products made: Coke, 2,600 tons; tar, 43,500 gals.

Max. day's send out, 100,000 c. f.

Total gas holder capacity, 150,000 c. f.

Holder pressure, max., 5.5 in.

Miles of mains, approx., 33.68.

Street main pressures, max., 3.5 in.; min., 2.5 in.

High pressure mains, 6.3 miles; pressure, 5 to 25 lbs.

Annual sales, approx., 32,332,000 c. f.

Gas unaccounted for, 19.91 p. c.

By-products sold: Coke, 1,769 tons; tar, 43,500 gals.

Pop. of city, 10,500; of dist. supplied, 12,100.

No. consumers, 1,268.

No. meters, reg., 1,204; prepay., 64.

Price of gas, basic rate, net, \$1.04 to 85c.

Ranges in use, 1.078; heaters, 71; water heaters, 124.

Supplies Stillwater and South Stillwater.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., single phase, 60 cycle; power, A. C., 3 phase, 60 cycle.
Generating capacity: Lighting and power, 1,725.

Voltage: 6.6 amp. series; incand., 110; power, 2,300-230.

City lighting contract: Hours lighted per year: All night every night.

No. public incand., 38; 400 c. p. Price per year, \$57.50.

No. public incand., 600; various size. Price per year, \$13.50 to \$42.

Commercial lighting: No. arcs, 12; No. incand., 28,461.

Price current per kw. hr., com'l lgt., basic rate, net, 8.1c. to 2.61c.

Power circuits: No. motors, 154; price per kw. hr., sliding scale, basic rate, net, 5.7c. to 2.85c.

No. of consumers, 2,055.

Output of station, kw. for year, 4,777,536.

Generating power used, Water; rated h. p., 1,300. Steam, 1,000.

Supply Stillwater, Lake Elmo, South Stillwater, Minn., and Somerset, Wisconsin.

Water and Light Department, City of Virginia, Virginia.

RRs.: Dul., Mis. & No.; Dul. & Iron R.; G. N.; Dul., R. L. & W. Ex.: Am.; G. N.

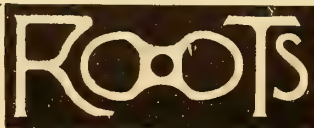
(Municipal plant.)

President, J. D. Lamont.

Secretary, Edward Wenzel.

GAS EXHAUSTERS

Write for Catalog

**GAS BOOSTERS**

Write for List of Users

Manager and pur. agt., C. T. Harding.
 Engineer, Paul Vidler.
 Superintendent, C. T. Harding.
 New bus. mgr., F. P. Johnston.
 Process manufacture, Water gas (Tenney).
 Price coke per ton, delivered, \$11.50; oil per gallon, 10c.
 Candle-power, 19.
 Calorific value, 600 B.t.u.
 Annual production, 18,000,000 c. f.
 Gas holder capacity, 80,000 c. f.; pressure, 75 lbs.
 Max. day's send out, 60,000 c. f.
 High pressure mains, 8 miles.
 Pressure, 2 lbs.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 1 p. c.
 Population city, est., 16,000; dist. supplied, est., 10,000.
 No. consumers and meters, 600.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Gas appliances in use: Ranges, 350; heaters, 30; water heaters, 150.
 Supplies Virginia.

ELECTRICAL DEPARTMENT.

System operated: 60 cycle, A. C.
 Generating capacity: Lighting, 1,000 kw.
 Voltage: Line, 2,300; incand., 110; power, 110-220.
 City lighting contract: Hours lighted per year, all night.
 No. public arcs, 130; 450 watt. Price mo., \$9.72.
 No. public incand., 50; 40-60-100 watt. Price, 5.4c. per kw.
 Price current commercial and dom., per kw. hr. gross, 5.4c. Disc., 10 p. c.
 Price power per kw. hr., 4.5c.; discount, 10 p. c.
 Output of station, kw. per year, 2,500,000.
 Generating power used, Steam; rated h. p., 1,000.
 Steam purchased from lumber mill.

West Minneapolis Gas Works, West Minneapolis.

RR.: C., M. & St. P.; Ex.: W. F.
 P. O., Hopkins.
 (Municipal plant.)
 Bonds, \$30,000; due 1936; int., 4.5 p. c.
 President, G. W. Moore.
 Secretary and pur. agt., E. A. Close.
 Treasurer, L. Lundquist.
 Supt. and manager, Alex Olson.
 Engineer, F. C. Shepard.
 New bus. mgr., J. O. Harrison.
 Process manufacture, Water-gas (Tenney).
 Annual prod., water-gas, 4,980,000 c. f.

Price coke per ton, delivered, \$8.
 Price oil per gallon, delivered, 5c.
 Candle-power, 22.
 Total gas holders capacity, 20,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 15,000 c. f.
 Miles of mains, approx., 7.
 Street main pressures, max., 4 in.; min., 2 in.
 Annual sales, approx., 4,480,700 c. f.
 Pop. city, 3,520; dist. supplied, 4,000.
 No. consumers and meters, 267.
 Price gas: Light and Fuel, gross, \$1.40; net, \$1.19.
 Ranges in use, 78; water heaters, 6.
 Supplies village of West Minneapolis.

Wisconsin-Minnesota Light and Power Co., Winona.

RRs.: C. & No. W.; C., B. & Q.; C., M. & St. P.; G. B. & West.; C. Gt. W. S. Bds.; Diamond Jo. L.; Bridge to E. Winona, Wis. Ex.: Ad.; Am.; W. F.

Successor to Winona Gas Light and Coke Co. (Owned by American Public Utilities Co.) (For detailed financial inf. see Appendix.)
 Bonds, \$300,000; due 1925; int., 5 p. c.
 President, J. H. Brewer.
 Vice-pres., W. B. Parsons, P. D. Kline.
 Treasurer, C. A. Boalt.
 Secretary, Blaine Gavett.
 Asst. sec. and asst. treas., W. J. Ripley.
 General manager, G. W. Briggs.
 Pur. agt., Blaine Gavett.
 Engineer, G. R. Horning.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.55.
 Candle-power, 16.
 Calorific value, 600 B.t.u.
 Max. day's send out, 225,000 c. f.
 Total gas holder capacity, 275,000 c. f.
 Miles of mains, approx., 37.
 Street main pressures, max., 4 in.; min., 3 in.
 High pressure mains, 3 miles; pressure, 5 lbs.
 Annual sales, approx., 84,000,000 c. f.
 Gas unaccounted for, 9.8 p. c.
 Pop. dist. supplied, 15,000; of city, 18,583.
 No. consumers, 3,153.
 No. meters, reg., 3,281; prepay., 71.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.20 to 75c.
 No. public Welsbach lamps, 160.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted, Phila. moonlight schedule.
 Ranges in use, 1,610; heaters, 362; water heaters, 601.
 No commercial gas arc lamps, 300.
 Supplies Winona.
 (No report.)

MISSISSIPPI.

Total population, 1,964,122.

Gulf Cities Gas Co., Biloxi.

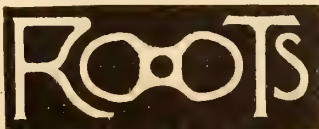
RR.: L. & N. Ex.: So.

Controlled by Dawes Bros., Chicago.
 Capital stock auth., \$400,000.
 Bonds, \$225,000; due 1936; int., 6 p. c.

President, Henry M. Dawes.
 Vice-pres. and treas., Rufus C. Dawes.
 Secretary, Harry B. Hurd.
 Manager, D. G. Skinner.
 New bus. mgr., D. G. Skinner.
 Purchasing agent, D. G. Skinner.

BLOWERS

*For Industrial
 Appliances*



P.H. & F.M. ROOTS CO.

Connersville
 Indiana

New York

Chicago

Agent at Gulfport, S. S. McCaleb.
 Agent at Pass Christian, H. Scull.
 Process manufacture, Coal.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Max. day's send out, 150,000 c. f.
 Total gas holders capacity, 227,000 c. f.
 Miles of mains, approx., 71.
 Street main pressures, max., 15 lbs.; min., 5 lbs. (high pressure distribution).
 Pop. dist. supplied, 23,000; of Biloxi, 10,000; Gulfport, 9,000; Handsboro, 907; Long Beach, 1,026; Pass Christian, 2,000.
 No. consumers, 1,979.
 No. meters, reg., 911; prepay., 1,067.
 Price gas: Light and Fuel, \$1.50 gross, \$1.40 net, for first 5,000 c. f.; \$1.20 to \$1 for second 5,000 c. f.; 80c. net for all over 10,000 c. f.
 Ranges in use, 1,539; heaters, 524; water heaters, 458.
 No. commercial gas arc lamps, 299.
 Supplies Biloxi, Gulfport and Mississippi City, Handsboro, Long Beach and Pass Christian.

Columbus Railway Light and Power Co., Columbus.

RRs.: M. & O.; So. Ex.: So.
 Capital stock, \$300,000.
 Bonds, \$292,000; due 1927; int., 6 p. c.
 President, Chas. F. Sherrod.
 Secretary, T. B. McCrary.
 Treasurer, Chas. F. Sherrod.
 New bus. mgr., Charles Hays.
 Manager, Charles Hays.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.20.
 Candle-power, 18.
 Max. day's send out, 35,000 c. f.
 Total gas holders capacity, 18,000 c. f.
 Miles of mains, approx., 20.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 12,875,000 c. f.
 Gas unaccounted for, 7.3 p. c.
 Pop. dist. supplied, 5,000; of city, 8,988.
 No. consumers, 562.
 No. meters, reg., 490; prepay., 72.
 Price gas: Light, gross \$2; net \$1.80. Fuel, gross \$2; net \$1.
 • Ranges in use, 472; heaters, 305; water heaters, 123.
 No. commercial gas arc lamps, 19.
 Supplies Columbus.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$150,000.
 System operated: A. C., 3 ph., 60 cycle.
 Generating capacity: Lighting, 765; power, 300 kw.
 Voltage: 115-220-230-2300.
 City lighting: Hours lighted per year, all night, every night.
 No. public arcs, 136; 500 watt. Price per year, \$80.
 No. public incand., 36; 100 c. p.. Price per year, \$30.
 Commercial lighting: No. arcs, 112; No. incand., 17,500.

Other lamps, 4 flaming arcs.
 Price current per kw. hr., 12c. to 5c.; heating and cooking, 10c. to 4c.
 Power circuits: No. motors, 61; price per kw. hr., 10c. to 3c.
 Output of station, kw. hrs. for year, 943,457.
 Generating power used, Steam; rated h. p., 1,050.
 Cost of station boiler coal, per ton, \$2.35.
 (No 1918 report.)

Greenville Gas Co., Greenville.

RRs.: So.; Y. & M. V. S. Bs.: Vicks. & Green. Packet; Lyon Packet; Delta Packet. Ex.: Am.; So.

(Successor to Greenville Gas and Coke Co.)
 Capital stock, auth., \$150,000; issued, \$60,000.
 Bonds, \$50,000; due 1937; int., 6 p. c.
 President, Bruce O. Tippy, Detroit, Mich.
 Vice-pres., Chas. U. Gordon, Chicago, Ill.
 Secretary, Wm. V. Delahunt, St. Louis, Mo.
 Treasurer, Wm. V. Delahunt, St. Louis, Mo.
 Mgr. and pur. agt., E. H. Collins, Greenville, Miss.
 Engineer, B. O. Tippy.
 New bus. mgr., E. H. Collins.
 Process manufacture, Coal.
 Annual production, 15,750,000 c. f.
 By-products made: Coke, 1,100 tons; tar, 20,000 gals.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Max. day's send out, 68,000 c. f.
 Total gas holders capacity, 25,000 c. f.
 Holder pressure, 4.4 in.
 Miles of mains, approx., 9.5.
 Street main pressures, max., 6 in.; min., 2.5 in.
 Annual sales, approx., 14,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Coke, 500 tons; tar, 20,000 gals.
 Pop. dist. supplied, 12,000; of city, 9,610.
 No. meters, reg., 205; prepay., 425.
 No. consumers, 630.
 Price gas: Light and Fuel, gross \$1.50, net \$1.40.
 Ranges in use, 500; heaters, 300; water heaters, 300.
 No. commercial gas arc lamps, 125.
 Supplies Greenville.

Hattiesburg Traction Co., Hattiesburg.

RRs.: N. O. & No. E.; G. & S. I.; Miss. Cen.; N. O., M. & C. Ex.: So.

Operated by Doherty Organization.
 Subsidiary of Meridian Light & Ry. Co.
 (For capitalization and bonds, see Appendix.)
 President, F. W. Frueauff.
 1st Vice-pres., H. F. Wheeler.
 2nd Vice-pres., H. H. Scott.
 Treasurer, Howard McDavid.
 Secretary, Howard McDavid.
 Asst. sec'y, E. E. McWhiney.
 Asst. treas., T. A. Wallace.
 General manager, H. F. Wheeler.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$4.
 Price of coke per ton, delivered, \$7.50.

SPECIAL WELDED PIPE FITTINGS simplify pipe line work.
 Submit your design and we shall be glad to quote.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Candle-power, 16.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 50,000 c. f.
 Max. day's send out, 123,820 c. f.
 Miles of mains, approx., 14.8.
 Street main pressure, 3 in.
 Annual sales, 13,163,100 c. f.
 Gas unaccounted for, 26.5 p. c.
 Pop. dist. supplied, 15,615; of city, 11,733.
 No. consumers, 635. No. meters, 647.
 Price gas: Light, gross \$1.50, net \$1.40.
 Ranges in use, 611; heaters, 317; water heaters, 394.
 Supplies Hattiesburg.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: Arcs, series, A. C., 7.5 amp.; incand. and power, A. C., 3 phase.
 Generating capacity, 2,075 kw.
 Voltage: Arcs, series; incand., 110; power, 220.
 City lighting contracts: Lamps lighted per moonlight schedule.
 No. public arcs, 70; 7.6 amp.
 No. public incand., 276; 100 watt.
 Price incand., Comm'l. per kw., gross, 10c. 1st 50 kw. hrs.; over 50 kw. hrs., 5c.
 Output of station, kw. hrs. for year, 2,938,058.
 Generating power, Steam.
 Cost boiler coal per ton, \$4.

Jackson Light and Traction Co., Jackson.

RRs.: Ill. Cen.; G. & S. I.; Y. & M. V.; Cin., N. O. & Tex. Pac.; N. O. Gt. No. Ex.: So.; Am.

Owned by American Public Utilities Co.
 Capital stock pref., \$1,000,000; com., \$1,000,000.
 Bonds, \$930,000; due 1922; int., 5 p. c.
 President, J. H. Brewer.
 Vice-pres., Chas. B. Kelsey.
 Secretary, Blaine Gavett.
 Treasurer, W. J. Ripley.
 General manager, L. O. Gordan.
 Purchasing agent, Blaine Gavett.
 Chief Engineer, L. B. Andrus.
 Engineer, gas, G. R. Horning.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.60.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Max. day's send out, 125,000 c. f.
 Gas holder capacity, 100,000 c. f.
 Miles of mains, approx., 10.
 Street main pressure, max., 3 in.; min., 2 in.
 Annual sales, approx., 33,500,000 c. f.
 Gas unaccounted for, 7 p. c.
 Pop. dist. supplied, 25,000; of city, 21,262.
 No. consumers, 1,134.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15.
 Ranges in use, about 1,000; heaters, 125; water heaters, 200.
 No. commercial gas arc lamps, 32.
 Supplies Jackson.
 (No report.)

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 Arc system, Gen. Elec., 300 (2,000 c. p.) arcs capac.
 Incand. sys., Gen. Elec., 10,000 lamps capac.
 Power generators, 500 kw. capac.; lighting, 1,000.
 Voltage: Arcs, 75-80; incand., 110; power, 220-550.
 City lighting contract: Hours lighted per year, 4,000.
 No. public arcs, 205; 7.5 amp. Price per year, \$95.
 Commercial lighting: No. arcs, 30; No. incand., 21,000.
 Price per kw. hr., gross 11c. to 6c. Disc., 1c.
 Power circuits: No. motors, 500 kw.; price current per kw. hr., 5 c.
 Power used, Steam: rated h. p., 1,200.
 Cost boiler fuel per ton, \$1.98.
 Also operates street railway, under same name.

Meridian Light and Railway Co., Meridian.

RRs.: So.; M. & O.; Cin., N. O. & Tex. Pac.
 Ex.: So.

Operated by Doherty Organization.
 Capital stock, auth., \$5,000,000; issued, \$2,000,000.
 Bonds, \$750,000; due 1944; int., 5 p. c. and 1 p. c. sinking fund; \$1,033,000; due 1945; int., 5 p. c.
 President, Henry L. Doherty.
 1st Vice-pres., Frank W. Frueauff.
 2d Vice-pres., H. E. Brandli.
 Secretary and treasurer, L. H. Archer.
 General mgr., H. E. Brandli.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.
 Candle-power, 16.
 Max. day's send out, 210,000 c. f.
 Total gas holders capacity, 275,000 c. f.
 Miles of mains, approx., 39.7.
 Street main pressures, max., 6 in.; min., 3.5 in.
 Annual sales, approx., 40,691,100 c. f.
 Gas unaccounted for, 20 p. c.
 Pop. dist. supplied, 18,000; of city, 23,285.
 No. consumers, 1,518.
 No. meters, reg., 1,532.
 Price gas: Light and Fuel, \$1.40 up to 3,000 c. f.; all over 3,000 c. f., \$1.
 Ranges in use, 2,006; heaters, 684; water heaters, 1,140.
 Supplies Meridian.

ELECTRICAL DEPARTMENT.

System operated: A. C. except for street railway; power, 3 phase, 60 cycle.
 Voltage: Arcs, 72; incand., 110; power, 220.
 City lighting contract: Hours lighted per year, arcs, 4,000; incand., 4,000.
 No. public arcs, 187; 430 watt: price per year, \$72.
 No. public incand., 442; 100 watt; price per year, \$24.
 Commercial lighting: Connected load, 3,103.26 kw.



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Price current per kw. hr., gross, 12c. Disc., 10 p. c.

Power circuits: Motors, 4,578 h. p.; price per kw. hr., 6 to 2.5c.; disc., 5c.

Output of station, kw. hr. for year, 9,459,950. Generating power used, Steam; rated, 5,220 kw.

Cost of station boiler coal, per ton, \$2.84.

Southern Railway and Light Co., Natchez.

RRs.: Miss. Cen. & N. E.; N. O. & N. W.; Y. & M. V. S. Bs.: N. O., N., V. & B. Packet; Nat'z. Trans.; N. & Bay Sara Packet; Nat'z. & Vicks. Packet; Ferry to Vidalia, La. Ex.: Am.; Pac.; So.

Capital stock, \$45,670.

Bonds, \$335,000; due 1953; int., 5 p. c.

President, Frank J. Duffy.

Vice-pres., E. H. Ratcliff.

General manager, Frank J. Duffy.

Process of manufacture, Coal.

Price coal per ton, delivered, \$4.00.

Candle-power, 18.

Max. day's send out, 40,000 c. f.

Gas holder capacity, 20,000 c. f.

Miles of mains, approx., 35.

Street main pressures, max., 2.7 in.; min., 2.3 in.

Annual sales, approx., 7,625,420 c. f.

Gas unaccounted for 14 p. c.

Pop. dist. supplied, 10,000; of city, 11,791.

No. consumers, 500.

No. meters, reg., 315; prepay., 185.

Price gas: Light, gross, \$1.50; net, \$1.35. Fuel, gross, \$1.50; net, \$1.35.

No. ranges, 300; heaters, 50; water heaters, 100.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.) Arc system, Gen. Elec., 125 (2,000 c. p.) arcs capacity.

Incand. system, Gen. Elec., 10,000 lamps capacity.

* No. public arcs, 125; lighted 4,000 hours.

Price arc, Public, per year, \$75.

Price incand., Com'l, per kw., gross 14c.; sliding scale to 7c.

Power circuits: Price per kw., 10c.; sliding scale to 5c.

Power used, Steam.

Cost boiler coal per ton, \$3.25.

The United Gas Improvement Co., Vicksburg.

RRs.: Cin., N. O. & Tex. Pac.; Y. & M. V. S. Bs.: Yazoo Trans.; Vicks. & Greenv. Packet; Vicks. & D. B. Line; Nat'z. Trans.; Nat'z. & Vicks. Packet; N. O., N., V. & B. Packet; Delta Packet. Ex.: Am.; So.

Pur. agent, J. A. Pearson, Philadelphia, Pa.

Superintendent, John J. Gannon.

Process manufacture, Lowe.

Candle-power, 22.26.

Miles of mains, approx., 24.39.

Annual sales, approx., 35,500,000 c. f.

Pop. dist. supplied, 12,000; of city, 21,500.

No. consumers, 1,716.

No. meters, reg., 1,100; prepay., 616.

Price gas: Light and Fuel, 1st 1 M., c. f.,

\$1.50 gross; \$1.40 net; next 2 M., \$1.45—

\$1.35; next 2 M., \$1.40—\$1.30; next 2 M.,

\$1.35—\$1.25; all in excess of 7 M., gross,

\$1.30; net, \$1.20.

Ranges, 1,024; heaters, 500; water heaters, 316.

No. commercial gas arc lamps, 100.

Supplies Vicksburg.

MISSOURI

Total population, 3,420,143.

Boonville Light, Heat & Power Co., Boonville.

RRs.: Mo., Kans. & Tex.; Mo. Pac. S. Bs.:

K. C. Trans. & S. B. Co. Ex.: Am.; Pac.

Operated by North Am. Light & Power Co., Chicago, Ill.

Capital stock, \$75,000.

President, William A. Baehr.

Vice-pres., H. L. Hanley.

Secretary, H. L. Hanley.

Treasurer, Scott Brown.

Purchasing agent, William A. Baehr.

Gen. mgr., C. B. Owens.

Engineer, William A. Baehr.

New bus. mgr., T. H. Long.

Process manufacture, Coal.

Price of coal per ton, delivered, \$5.89.

Candle-power, 20.

Calorific value, 600 B. t. u.

Annual production, 9,760,600 c. f.

Total gas holders capacity, 25,000 c. f.

Holder pressure, 2.9 in.

Max. day's send out, 37,500 c. f.

Miles of mains, approximate, 5.93.

Street main pressures, max., 2.7 in.; min., 2.2 in.

Annual sales, approx., 6,914,900 c. f.

Gas unaccounted for, 29 p. c.

Pop. dist. supplied, 4,000; of city, 5,500.

No. consumers, 419.

No. meters, reg., 415; prepay., 4.

Price gas: Light and Fuel, gross \$1.60, net \$1.50.

Supplies Boonville.

ELECTRICAL DEPARTMENT.

Operated under name of Boonville Light, Heat and Power Co.

System operated: incand., A. C.; power, single phase, 7,200 alt.

Generating capacity: Lighting 370 kw.

Voltage: incand., 110; power, 220.

City lighting contract: Hours lighted per year, 2,300.

No. public incand., 169; 32 100 watt, and 153 50 watt. Series, Tungsten

Price public incand. per year, \$22.50.



Williams' "Vulcan" Chain Pipe Vise

Portable—Broadly Adjustable—Attachable Anywhere

J. H. WILLIAMS, 74 Richards St., Brooklyn, N. Y.

Commercial lighting: No. incand., 2,500.
 Price per kw. hr., gross 12c. to 10c. Disc., 1c.
 Power circuits: No. motors, 9.
 Price per kw. hr., 12c. to 7c. Disc., 1c.
 Also optional demand rate for power.
 Generating power used, Steam; rated h. p., 300.
 Cost of station fuel per ton, \$3 (mill coal).

Brookfield Gas, Electric and Heating Co., Brookfield.
 RRs.: C., B. & Q. Ex.: Ad.

Capital stock, \$50,000.
 Annual dividend, 8 p. c.
 President, John M. Keefer.
 Secretary and treas., Albert E. Bailey.
 Manager and pur. agent, L. D. Kelsey.
 Supt. and new bus. mgr., L. D. Kelsey.
 Process manufacture, Lowe.
 Price coke, per ton, delivered, \$7.65.
 Price oil per gal., 2.85c.
 Candle-power, 22.
 Annual production, 16,500,000 c. f.
 Total gas holders capacity, 40,000 c. f.
 Holder pressure, 5 in.
 Max. day's send out, 60,000 c. f.
 Miles of mains, approx., 13.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 15,000,000 c. f.
 Gas unaccounted for, 8.25 p. c.
 Pop. dist. supplied, 5,000; of city, 5,749.
 No. consumers, 927.
 No. meters, reg., 787; prepay., 140.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Ranges in use, 820.
 No. commercial gas arc lamps, 95.
 Supplies Brookfield.

Missouri Public Utilities Co., Cape Girardeau.

R.Rs.: St. L. & S. F.; C., P. & Ste. G. S. Bs.:
 Lee Line, St. L. & Cape G. Line; St. L.
 & T. R. Packet; Eagle Packet; and by
 ferry to Thebes, Ill. Ex.: Am.; W. F.

(Owned and operated by the Light and Development Co. of St. Louis.)

President, H. Wurdack.
 Secretary, H. W. Beck.
 Treasurer, E. M. Kurtz.
 Pur. agent, Phil. Ziegenfuss.
 Local mgr., E. A. Hart.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$2.25.
 Candle-power, 16.
 Calorific value, 550 B. t. u.
 Gas holder capacity, 45,000 c. f.
 Max. day's send out, 65,000 c. f.
 Miles of mains, approx., 14.5.
 Street main pressures, max., 30 in.
 Annual sales, approx., 19,000,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. city supplied, 14,000 c. f.
 No. consumers, 1,050.
 No. meters, reg., 800; prepay., 250.
 Price gas: Light and Fuel, \$1.
 No. ranges, 1,050; heaters, 50; water heaters, 75.
 Supplies Cape Girardeau.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: A. C., 3-phase, 60-cycle, 7,200 alt.
 Generating capacity: Lighting, 2,250 kw.
 Voltage: Incand., 110; power, 220-440.
 City lighting contracts: Lamps lighted all night.
 No. public incand., 165; 60 watt; price per year, \$18; 101 ornamental posts 3 60 watt lamps in each; \$40 per year.
 No. incand., commercial, 18,000.
 Price incand., commercial, per kw., 11c.; discount, 1c.; \$1 per mo. min. domestic.
 Power circuits: Price current per kw. hr., 10c. to 3c.; discount, 1c.
 No. power motors, 50.
 Power used, Steam; rated 2,850 h. p.
 Output of station, kw. hr. for year, 3,500,000.
 Cost boiler coal per ton, \$1.59.
 This company also operates the Cape Girardeau-Jackson Interurban Ry. Co.

Peoples Gas and Electric Co., Chillicothe.

R.Rs.: C., B. & Q.; C., M. & St. P.; Wabash.
 Ex.: Ad.; Pac.

Controlled by Interstate Electric Corp'n.
 Capital stock, \$50,000.
 Bonds, \$50,000; due 1929; int., 6 p. c.
 President, Chas. M. Willis.
 Vice-pres. and treas., A. E. Fitkin.
 Secretary, B. M. Putnam.
 Pur. agent, Chas. M. Willis.
 Manager and new bus. mgr., Chas. M. Willis.
 Op. mgrs. and engineers, Gen'l Engineering & Mgt. Corp.
 Process manufacture, Lowe (Western).
 Price of coke per ton, delivered, \$12.25.
 Price oil per gal., delivered, 5.79c.
 Calorific value, 570 B. t. u.
 Gas holder capacity, 48,000 c. f.
 Holder pressure, max., 6 in.
 Miles of mains, approx., 12.25.
 Street main pres., max., 6 in.; min., 4 in.
 Annual sales, approx., 7,300,000 c. f.
 Pop. city (1910 census), 6,265; dist. supplied, est., 8,000.
 No. consumers, 437.
 No. meters, reg., 429; prepay., 9.
 Price gas: First 8,000 c. f., \$1.75 gross, \$1.50 net; over 8,000 c. f., \$1.65 and \$1.40.
 Ranges in use, 438; heaters, 50; water heaters, 86.
 Supplies Chillicothe.

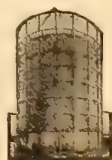
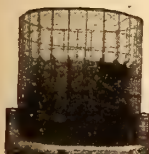
Clinton Light and Water Co., Clinton.

R.Rs.: K. C., C. & S.; Mo., Kan. & Tex.; St. L. & S. F. Ex.: Ad.; Am.; W. F.

Controlled by Morrison & McCall, 1511 Chemical Building, St. Louis, Mo.
 Capital stock, \$180,000.
 Bonds, 150,000; due 1920; int., 5 p. c.
 President, J. T. Marsh.
 Secretary, (Miss) V. F. Cole.
 Treasurer, J. L. Woolfolk.
 Pur. agent and supt., J. T. Marsh.
 General manager, J. T. Marsh.
 New bus. manager, J. T. Marsh.
 Process manufacture, Coal.

We erected the first five million foot or larger holder on the Atlantic Coast, on the Pacific Coast and in the Gulf States.

R. D. WOOD & CO., PHILA., PA.



Price coal per ton, delivered, \$2.75.
 Candle-power, 18.
 Annual production, approx., 6,000,000 c. f.
 Total gas holders capacity, 21,000 c. f.
 Holder pressure, max., 2.3 in.
 Miles of mains, approximate, 7.
 Street main pressure, max., 2.3 in.
 Annual sales, approx., 5,115,700 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 5,000; of city, 4,992.
 No. meters, reg., 378; prepay., 33.
 No. consumers, 380.
 Price gas: Light and Fuel on one meter, \$1.65.
 Ranges in use, 250; heaters, 20.
 No. commercial gas arc lamps, 81.
 Supplies Clinton.
 (No 1918 report.)

Columbia Gas Works, Columbia.

RRs.: Wabash; Mo., Kan. & Tex. Ex.: Am.; Pac.

(Owned by Watts Engineering Co., St. Louis, Mo.)

(For capitalization, officers, etc., see Parent Cos.)

Manager, William H. Watts.

Process manufacture, Lowe.

Price coal per ton, delivered, \$5.75.

Price coke per ton, delivered, 12.9c.

Price oil per gal., delivered, 6.13c.

Candle-power, 18.5.

Calorific value, 550 B. t. u.

Annual production, 16,824,000 c. f.

Gas holder capacity, 80,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 55,000 c. f.

Miles of mains, approx., 16.5.

Street main pressure, max., 3 in.; min., 2.5 in.

Annual sales, approx., 14,795,400 c. f.

Gas unaccounted for, 10.3 p. c.

Pop. dist. supplied, 10,000; of city, est., 13,000.

No. consumers, 725.

No. meters, reg., 635; prepay., 90.

Price gas: Light and Fuel, gross, \$2; net,

\$1.35; 10,000 c. f. or over, \$1.26 net.

Ranges in use, 590; heaters, 149.

Supplies Columbia.

Excelsior Springs Water, Gas and Electric Co., Excelsior Springs.

RRs.: C., M. & St. P.; Wabash. Ex.: Am.; Pac.

Controlled by Wm. Bonbright & Co., Inc.

Capital stock, pref., \$200,000; com., \$300,000.

Annual dividend, pref., 6 p. c.; com., 4 p. c.

Bonds, \$362,000; due 1932; int., 6 p. c.

President, W. A. J. Bell.

Secretary and treas., H. L. Moore.

Pur. agent, S. W. Henderson.

Manager, S. W. Henderson.

New bus. mgr., V. B. Stone.

Engineer, Geo. W. Irey.

Process manufacture, Lowe (U. G. I.).

Price coke per ton, delivered, \$13.25.

Price oil per gal., 6c.

Candle-power, 18.

Calorific value, 625 B. t. u.

Annual production, 15,238,000 c. f.

Gas holders capacity, 43,000 c. f.

Holder pressure, max., 3 in.

Max. day's send out, 60,000 c. f.

Miles of mains, approx., 6.5.

Street main pressure, max., 7 in.; min., 3 in.

Annual sales, approx., 12,263,000 c. f.

Gas unaccounted for, 20 p. c.

Pop. dist. supplied, 7,000; of city, 3,900.

No. consumers and meters, 750.

Price gas: Light, \$1.50; Fuel, \$1.25 to 55c.

No. gas ranges and heaters in use, 812.

Supplies Excelsior Springs.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated, A. C. and D. C., 3 phase, 60 cycles.

Generating capacity: Lighting, 1,050 kw.

Voltage: Incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, 3,000.

Public incand., 528; 100 and 25 watt: price per year, \$19.60 and \$7.45.

Price arc and incand., Com'l, per kw., gross, 11.5 to 7c.

Power circuits: Motors, 670 h. p. Price current per kw. hr., 7 to 4c.

Output of station for year, kw. hrs. for year, 1,984,426.

Power used, Steam; rated, 800 h. p.

Cost boiler coal per ton, \$3.50.

Citizens Gas Company of Hannibal, Hannibal.

RRs.: C., B. & Q.; Mo., Kan. & Tex.; Wabash; St. L. & Han. S. Bs.: Diamond Jo. L; Bridge to Shepherd, Ill. Ex.: Ad.; Am.; Pac.

Operated by W. E. Moss & Co., Detroit.

Capital stock, auth., \$400,000; issued, \$350,000.

Bonds outstanding, \$352,000; due 1928; int., 5 p. c.; and \$25,000; due 1925; int., 5 p. c.

President, J. W. Thompson.

Vice-president, M. C. Schofield.

Secretary, T. C. McKenzie.

Treasurer, W. E. Moss.

General manager, B. O. Tippy.

Local manager, T. C. McKenzie.

Auditor and pur. agent, H. M. Eaton.

Process manufacture, Coal.

Calorific value, 585 B. t. u.

Max. day's send out, 176,300 c. f.

Total gas holder capacity, 150,000 c. f.

Miles of mains, approx., 25.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 48,628,900 c. f.

Gas unaccounted for, 11.65 p. c.

Pop. dist. supplied, 15,000; of city, 13,341.

No. consumers and meters, 2,520.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.

Supplies Hannibal.

Jackson County Light, Heat and Power Co., Independence.

RRs.: C. & A.; K. C. So.; Mo. Pac. Ex.: Am.; Pac.; W. F.

(Controlled by Metropolitan Gas and Electric Co. (Daves Bros.), Chicago.)

Capital stock, pref., auth. \$100,000, issued \$48,100; com., auth. and issued \$200,000.

President, George F. Goodnow.

RELIABLE

ANGLIRON

RANGES

They are giving satisfactory service to thousands of housewives, and gas companies sell them with SUCCESS, PROFIT AND SATISFACTION. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Secretary, H. B. Hurd.
 Treasurer, Henry M. Dawes.
 Manager and pur. agent, D. S. Milne.
 Superintendent, A. M. Travis.
 Engineer, George F. Goodnow.
 Process manufacture, Lowe.
 Candle-power, 20. Calorific value, 600 B. t. u.
 Annual production, 50,065,000 c. f.
 Max. day's send out, 153,700 c. f.
 Total gas holder capacity, 187,000 c. f.
 Holder pressure, 6.5 in.
 Miles of mains, approx., 38.
 Street main pressures, max., 6.5 in.; min., 3 in.
 High pressure mains, miles, 18; pressure, 10 lbs.
 Annual sales, approx., 47,942,500 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. city, 16,859; of dist. supplied, 18,000.
 No. consumers, 2,061.
 No. meters, reg., 994; prepay., 1,067.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15.
 Ranges in use, 2,020; water heaters, 330.
 No. commercial gas arc lamps, 39.
 Supplies Independence, Tidswell, Norwood, Fairmount, Englewood, Maywood, Bristol, Fairland Heights, Evanston, Mount Washington, Fairmount Park, Fairland Grove, Evanston Park, Evanston Golf Lands, Ravenswood.

Jefferson City Light, Heat and Power Co., Jefferson City.

RRs.: Mo. Pac.; C. & A. S. Bs.: K. C. Trans. & S. B. Co. Bridge and transfer to No. Jefferson,—Mo., Kan. & Tex.; and Cedar City,—C. & A. Ex.: Am.; Pac.

Controlled by Illinois Traction Co.
 Capital stock pref., \$119,850; com., \$200,000.
 Annual dividend, pref., 6 p. c.
 Bonds, \$389,000; due 1925-1933; int., 5 p. c.
 President, T. H. Stearns.
 Secretary, W. H. Carnahan.
 Treasurer, W. H. Carnahan.
 General manager, H. E. Chubbuck.
 Pur. agent, H. J. Vance.
 Engineer, F. W. Bedard.
 Gen'l supt., R. F. Palmblade.
 New bus. mgr., E. V. Pryor.
 Process manufacture, Lowe.
 Price coke per ton delivered, \$10.95.
 Price oil per gal., 6.2c.
 Candle-power, 18.
 Calorific value, 580 B. t. u.
 Annual production, 46,853,000 c. f.
 By-products made: Tar, 11,000 gals.
 Gas holders capacity, 150,000 c. f.
 Holder pressure, 7 in.
 Max. day's send out, 190,000 c. f.
 Miles of mains, approx., 25.
 Street main pressures, max., 7 in.; min., 4 in.
 Annual sales, approx., 40,146,200 c. f.
 Gas unaccounted for, 14 p. c.
 By-products sold: Tar, 10,000 gals.
 Pop. dist. supplied, 10,000; of city, 13,000.
 No. consumers, 1,819.
 No. meters in service, reg., 1,698; prepay., 121.

Price gas: Light, gross, \$1.40; net, \$1.25.
 Fuel, gross, \$1.15; net, \$1.
 Ranges in use, 1,857; water heaters, 456.
 Supplies Jefferson City, Mo.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 Capital apportioned to elec. plant, \$100,000.
 System operated: Incand., A. C. 1 ph.; power, A. C., 2 phase, 60 cycle.
 Generating capacity: Lighting and power, 1,200 kw.
 Voltage: Arcs, 70; incand., 110-220; power, 220.
 City lighting: Lamps lighted from dusk till dawn.
 No. public incand., 175; 100 c. p. Price per year, \$24.
 Commercial lighting: No. incand., 16,487; 50 watt equiv.
 Price incand., 1.5c. to 7.2c.; dom., 10c. 9c., 8c.
 Disc., 10 p. m. Min. bill, 75c. per mo.
 Power circuits: Motors, 932 h. p.; price current per kw. hr., 7.2c. to 1.5c.
 Street railway operated by motor generator in plant.
 Output of station, kw. hr. for year, 2,354,520.
 Power used, Steam; rated 1,200 kw.
 Cost boiler coal per ton, \$3.95 in bins.

Kirkville Gas, Heat and Electric Co., Kirkville.

RRs.: Q., O. & K. C.; Wabash. Ex.: Ad.; Pac.

Capital stock auth., \$100,000; issued, \$100,000.
 President, B. F. Henry.
 Secretary, M. T. Warden.
 Treasurer, W. P. Foster.
 Gen'l mgr. and pur. agent, T. B. Anderson.
 New bus. mgr., T. B. Anderson.
 Superintendent, T. B. Anderson.
 Process manufacture, Lowe.
 Price coke per ton del'd \$7.65; oil, per gal. 4.3c.
 Candle-power, 18.
 Calorific value, 650 B. t. u.
 Annual production, 21,000,000 c. f.
 Gas holder capacity, 100,000 c. f.
 Holder pressure, max., 3.5 in.
 Max. day's send out, 75,000 c. f.
 Miles of mains, approximate, 12.9.
 Street main pressures, max., 3.4 in.; min., 3 in.
 Annual sales, approx., 20,500,000 c. f.
 Gas unaccounted for, 3 p. c.
 Pop. city, 6,347; of dist. supplied, 4,000.
 No. consumers, 1,005.
 No. meters, reg., 850; prepay, 155.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Ranges in use, 802; heaters, 282; water heaters, 362.
 No. commercial gas arc lamps, 149.
 Supplies Kirkville.

Missouri Gas and Electric Service Co., Lexington.

Mo. Pac.; Natchez Trans.; Ferry with No. Lexington, Mo.; A., T. & S. F. Ex.: Pac.; W. F.

(For financial, see "Parent Cos.")
 President, John F. Gilchrist.
 Secretary, R. W. Waite.
 Treasurer, Worth Bates.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Pur. agent, Worth Bates.
 Manager and supt., Worth Bates.
 Engineer, Fred F. Campbell.
 Process manufacture, Lowe (Oil).
 Price coke per ton, delivered, \$9.80.
 Price oil per gal., delivered, 6.93c.
 Candle-power, 18.
 Calorific value, 575 B. t. u.
 Annual production, 10,832,601 c. f.
 Max. day's send out, 50,000 c. f.
 Total gas holders capacity, 30,000 c. f.
 Holder pressure, max., 6 in.
 Miles of mains, approx., 7.
 Street main pres., max., 5 in.; min., 2 in.
 Annual sales, approx., 8,811,000 c. f.
 Gas unaccounted for, 18.6 p. c.
 Pop. city, 5,242; of dist. supplied, the same.
 No. consumers, 558.
 No. meters, reg., 505; prepay., 53.
 Price gas: Light and Fuel, \$1.25.
 Ranges in use, 547; heaters, 13; water heaters, 143.
 Supplies Lexington.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., single phase, 60 cycle.
 Generating capacity: Lighting and power, 562 kw.
 Voltage: Arcs, series; incand., 110; power, 110-220.
 City lighting contract: Hours lighted per year, incand., 4,000.
 No. pub. incand., 148; 100 c. p. Price per year, \$27.
 Price, commercial, per kw. hr., gross, 11c. Disc., 1c. per kw.
 Power circuits: Motors, 244 h. p.; price per kw. hr., 5c. Disc., sliding scale, 5 to 20 p. c.
 Output of station, kw. for year, 567,151.
 Generating power used, Steam.
 Cost of station boiler coal per ton (slack), \$3.

Louisiana Light, Power and Traction Co., Louisiana.

RRs.: C. & A.; C., B. & Q.; Diamond Jo. L. (Bridge to Quincy Junc., Ill.). Ex.: Ad.; Am.
 Capital stock, auth., \$200,000; issued, \$167,000.
 President, D. H. Harts, Jr.
 Secretary, A. T. Hudelson.
 Treasurer, A. T. Hudelson.
 Engineer, C. C. Keeler.
 Gen'l mgr. and new bus. mgr., Abe Vogel.
 Purchasing agent, Abe Vogel.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.10.
 Candle-power, 16.
 Max. days' send out, 32,000 c. f.
 Total gas holders capacity, 45,000 c. f.
 Holder pressure, 3.8 in.
 Miles of mains, approx., 5.5.
 Street main pres., max., 3.5 in.; min., 2 in.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. dist. supplied, 2,000; of city, 4,454.
 No. consumers and meters, 465.
 Price gas: Light and Fuel, \$1.25.

Ranges in use, 322; heaters, 58; water heaters, 85.
 No. commercial gas arc lamps, 35.
 Supplies Louisiana.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., 60 cycle, 1 ph.; incand., A. C., 60 cycle, 3 ph.; power, A. C., 60 cycle, 3 phase.
 Generating capacity: Lighting, 485 kw.; power, 175 kw.
 Voltage: Line, 2,200; arcs, 72; incand., 110; power, 110-220-440.
 City lighting contract: Hours lighted per year, arcs and incand., 4,000.
 No. public lamps, 40 posts; price per year, \$21.60. 25 100 c. p. type C; price \$27. 90 60 c. p. type C, price, \$21.
 Commercial lighting: No. incand., 4,500.
 Price current per kw. hr., net, 10c.
 Power circuits: Motors, 60; price per kw. hr., 6c.
 Other uses: Irons, fans, and heating appliances of all kinds.
 Output of station, kw. for year, 700,000.
 Generating power used, Steam; rated h. p., 425.
 Cost of station boiler coal (slack) per ton, \$3.07 in shed.
 Also lights Bowling Green: Current delivered to Pike County Electric Lt. & Pr. Co.

Macon Gas and Electric Light Co., Macon.

RRs.: C., B. & Q.; Wabash. Ex.: Ad.; Pac.
 Capital stock, \$24,000.
 President, Thomas E. Wardell.
 Secretary, Wm. C. Brown.
 Superintendent, N. S. Thompson.
 Process manufacture, Oil (Patton).
 Price oil per gal., delivered, 3c. to 7c.
 Candle-power, 60.
 Annual production, oil gas, 5,400,000 c. f.
 By-products made: Tar, 600 gals.
 Gas holder capacity, 10,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 10.
 Street main pressure, max., 3 in.; min., 2.9 in.
 Annual sales, approx., 5,000,000 c. f.
 Gas unaccounted for, 3 p. c.
 Pop. of city, 3,584 (1910); dist. supplied, 2,500.
 No. consumers, 226.
 No. meters, reg., 232.
 Price gas: Light, gross, \$2.50; net, \$1.25. Fuel, net, \$1.25.
 Ranges in use, 198; heaters, 33; water heaters, 149.
 No. commercial gas arc lamps, 16.
 Supplies Macon.

Missouri Gas and Electric Service Co., Marshall.

RRs.: C. & A.; Mo. Pac. Ex.: Am.; Pac.
 (For financial, see "Parent Cos.")
 President, John F. Gilchrist.
 Secretary, R. W. Waite.
 Treasurer, Worth Bates.
 Pur. agent, Worth Bates.
 Manager, C. C. Barnard.

If there is any doubt in your mind, send your order for GOODMAN STOPPERS on thirty days' approval.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Process of manufacture, Coal.

Price coal per ton, delivered, \$5.76 and \$7.64.

Candle-power, 17.

Calorific value, 550 B. t. u.

Annual production, 12,643,000 c. f.

By-products made: Coke, 869 tons; tar, 13,806 gals.

Max. day's send out, 55,000 c. f.

Gas holder capacity, 30,000 c. f.

Holder pressure, max., 4 in.

Miles of mains, approx., 10.

Street main pressure, max., 6 in.; min., 4 in.

Annual sales, approx., 10,749,000 c. f.

Gas unaccounted for, 17 p. c.

Pop. of city, 4,869; of dist. supplied, same.

No. consumers, 657.

No. meters, reg., 582; prepay., 75.

Price gas: Light and Fuel, gross \$1.50, net \$1.35.

Ranges in use, 569; heaters, 50; water heaters, 270.

Supplies Marshall.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System operated: A. C., 2-phase, 60 cycles; power: A. C., 60 cycles, 2 and 3 phase.

Generating capacity: Lighting and power, 650 kw.

Voltage: Arcs, 80; incand., 110; power, 110.

City lighting contract: Hours lighted, 2,000 and part 4,000.

No. public arcs, 42; 500 watt; price per year, \$55 and \$75.

No. public incand., 89; 40 and 60 watt; price per year, \$18 and \$24.

Commercial lighting: No. incand., 10,091 kw. equiv.

Price per kw. hr., gross, 10c. 1st 100 kw.; 7.5c. per pw.; 2d 100; 5c. all above 200 kw. Discount, 5 p. c. on first 100 kw.

Power circuits: Motors, 251 kw.; price current per kw. hr. max. demand, 8c. to .007.

Output of station, kw. hr. for year, 1,244,340.

Power, Steam, rated 450 h. p.

Cost of station boiler coal per ton, \$2.20-\$4.03.

Mexico Power Co., Mexico.

RRs.: C. & A.; C., B. & Q.; Wabash. Ex.: Am.; Pac.; W. F.

Capital, \$300,000.

President, S. M. Locke.

Secretary, E. R. Locke.

Treas., P. E. Locke.

Gen. mgr., E. R. Locke.

Process manufacture, Lowe.

Av. candle-power, 22 to 24.

Max. day's send out, 25,000 to 30,000 c. f.

Total gas holders capacity, 25,000 c. f.

Miles of mains, approx., 10.

Street main pressure, max., 3 in.

Annual sales, approx., 8,000,000 c. f.

Pop. of city, 8,500.

Consumers and meters, 450.

Price gas: Light and Fuel, gross \$1.50.

Min. charge, 75c. per mo. per meter. Disc.

25c. per M. for payment before 10th.

Ranges in use, 450.

Supplies Mexico.

ELECTRICAL DEPARTMENT.

Power generators, 430 kw. capacity.

City lighting contracts: Lamps lighted moon schedule.

No. public arcs, 30; and 250-60 c. p. series incand.

Power used, Steam.

Price current per kw. hr.: 1st 7½ kw. per mo., \$1.00; 8 to 100 kw., 10c. each additional; each 100 kw., 1c. less additional to 700 kw.; over 700 kw., 5c. each additional. Disc. 10 p. c. if paid before 10th.

Cost boiler coal per ton, \$3.25.

Also operate a water plant and central heating plant.

Moberly Light and Power Co., Moberly.

RRs.: Mo. Kan. & Tex.; Wabash. Ex.: Pac.; Am.

(Controlled by North American Light & Power Co.)

Capital stock, \$300,000.

President, Wm. A. Baehr.

Secretary, H. L. Hanley.

Treasurer, Scott Brown.

Pur. agent, Wm. A. Baehr.

Gen'l manager, H. M. Säubert.

Engineer, Wm. A. Baehr.

New bus. mgr., Ed. McDonald.

Superintendent, Arthur Oquest.

Process manufacture, Lowe.

Price of oil per gal., delivered, 5.67c.

Candle-power, 18.

Calorific value, 600 B.t.u.

Annual production, 34,370,560 c. f.

Total gas holders capacity, 122,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 14,700 c. f.

Miles of mains, approx., 28.7.

Street main pressures, max., 3.5 in.; min., 2 in.

Annual sales, approx., 31,102,500 c. f.

Gas unaccounted for, 9.5 p. c.

Pop. dist. supplied, 12,000; of city, est., 14,000.

No. consumers and meters, 1,733.

Price gas: Light and Fuel, gross \$1.30, first 5,000 c. f.; \$1.20 next 5,000 c. f.; \$1.10 next 5,000 c. f.; 95c. next 10,000 c. f.; 80c. next 25,000 c. f.; all over 50,000 c. f., 70c. Disc., 10c.

Ranges in use, 1,491; heaters, 205; water heaters, 684.

Supplies Moberly.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$275,000.

System operated: Arc, incand. and power, A. C., 60 cycle, 2 phase.

Generating capacity: Lighting and power, 1,400 kw.

Voltage: Line, 5,300; incand., 110; power, 220-440.

City lighting contract: Hours lighted per year: 1,950, moonlight schedule.

No. public arcs, 105; 400 watt. Price per year, 55.

Commercial lighting: No. incand., 14,000.

Price current per kw. hr., gross, 12 and 6c. (Avg. 8.9c.) Disc., 10 p. c.

Precision CO₂ Recorders automatically record the percentage of carbon-dioxide in flue gases, and are a real practical means of reducing coal bills and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Power circuits, price per kw. hr., avg. net,
3.62c. Disc., 10 p. c.
Motors, 569 h. p.
Output of station, kw. hrs. for year, 2,047,661.
Generating power, Steam: rated h. p., 2,000.
Cost of station boiler coal, per ton, \$3.00.

St. Charles Lighting Co., St. Charles.

RRs.: Mo., Kan. & Tex.; Wabash. S. Bs.: K.
C. Trans. & S. B. Co. Ex.: Am.; Pac.

Controlled by Elston & Co.
Capital stock, pref., \$75,000; com., \$75,000.
Bonds, \$150,000; due 1925; int., 5 p. c.
President, I. C. Elston, Jr.
Secretary, J. N. McCallum.
Treasurer, J. N. McCallum.
General manager and pur. agr., L. G. Stealey.
Superintendent, L. G. Stealey.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.20.
Candle-power, 18.
Calorific value, 600 B.t.u.
Annual production, 27,000,000 c. f.
Total gas holders capacity, 76,400 c. f.
Holder pressure, 3 in.
Max. day's send out, 113,000 c. f.
Miles of mains, approx., 17.
Street main pressures, max., 5 in.; min., 3 in.
Annual sales, approx., 24,000,000 c. f.
Gas unaccounted for, 9 p. c.
Pop. city supplied, 10,000.
No. consumers, 1,600.
No. meters, reg., 800; prepay, 800.
Price gas: Light and Fuel, gross, \$1.35; net
\$1.25 to 90c.
No. public gas lamps, 6; lighted 1,460 hrs. per
year.
Ranges in use, 1,003; heaters, 160; water
heaters, 80.
No. commercial gas arc lamps, 391.
Supplies St. Charles.

St. Joseph Gas Co., St. Joseph.

RRs.: A. T. & S. F.; C. R. I. & P.; C. Gt. W.;
C. B. & Q.; Mo. Pac.; St. J. & G. I. Ex.:
Ad., W. F.; Pac.

(Practically all stock owned by American
Light and Traction Co.)
Capital stock, \$1,000,000.
Bonds, \$1,000,000; due 1937; int., 5 p. c.
President, Emerson McMillan.
Vice-pres., W. A. P. McDonald.
Manager, Vincent L. Elbert.
Sec'y and treas., A. V. Schaeffer.
Pur. agent, J. W. Mitchell.
Asst. sec'y and asst. treas., C. N. Jelliffe.
Process: Coal gas and Natural gas.
Annual production, 78,998,300 c. f.
Natural gas purchased, 845,406,500 c. f.
Miles of mains, 126.42.
Pop. city supplied, 80,000.
No. consumers, 12,007.
Supplies St. Joseph.

The Laclede Gas Light Co., St. Louis.

RRs.: B. & O. S. W.; C., C., C. & St. L.; C.,
B. & Q.; C. & A.; C., R. I. & P.; C. & E.
Ill.; C., P. & St. L.; Ill. Cen.; So.; L. &
N.; Mo., Kan. & Tex.; Mo. Pac.; M. & O.;
St. L. & S. F.; St. L., Mer. Br. Term.;
St. L. So. W.; Tol., St. L. & W.; Vand.;
Wabash, S. Bs.; Lee Line; Eagle Packet;
St. L. & Cal. Packet; St. L. & I. R.
Packet; Diamond Joe Line; St. L. & Cape
G. Line; K. C. Trans. & S. B. Co.; Ferry
and Bridge with E. St. Louis, Ill. Ex.:
Ad.; Am.; Nat.; Pac.; So.; W. F.

(For capitalization, bonds, etc., see Appendix.)

President, C. L. Holman.
Vice-pres., G. H. Walker.
Sec'y and treas., W. H. Whitton.
General manager, C. L. Holman.
Asst. gen. mgr., G. B. Evans.
Pur. agent, G. H. Curry.
Supt. com. dept., John J. Burns.
Chief engineer, Geo. B. Evans.
Supt. of stations, H. C. Wehnert.
Process manufacture, Coal, Lowe and Coke-
Ovens.
Annual prod., coal gas, 2,137,054,000 c. f.;
water gas, 1,778,370,000 c. f.; coke-oven
gas, 2,211,455,000 c. f.
Gas holder capacity, 20,000,000 c. f.
Max. day's send out, 23,887,000 c. f.
Miles of mains, approx., 973.
Street main pressures, max., 4 in.; min., 2.8.
High pressure mains, miles, 40; pressure, 2
to 5 lbs.
Pop. city, 687,029 (1910); now est. 800,000.
No. consumers, 164,390.
No. meters, reg., 164,535.
Price gas: Light and Fuel, initial volume,
gross, 85c., net 75c.; secondary volume,
gross, 65c., net 55c.; all additional, gross
55c., net 45c.; up to 200 c. f. per hr. capac-
ity initial is 7,800 c. f.; 201 to 800 c. f.
hrs. capacity, initial quan. is 11,100 c. f.;
801 to 2,000 c. f. hr. capacity, initial 20,300
c. f.; 2,001 to 3,000 hr. capacity, initial
quan. 37,400 c. f. For customers demand-
ing a capacity per hour in excess of 3,000
c. f. the volume to be charged for at the
initial rate shall be 37,400 c. f. plus 1,000
c. f. for each additional 100 c. f. (or frac-
tion thereof) of hourly capacity required.
Secondary quantity, 6,800 c. f.
No. public lamps, 23,363 Welsbachs.
Price includes repairs, care, lighting and ex-
tinguishing.
No. hours lamp is lighted per year, 4,051.4.
Supplies St. Louis.

COKE OVEN OPERATIONS.

Koppers ovens, 56; length, 37 ft. 6 in.; width,
19.5 in.; height, 9 ft., 10 in.
Coal charged per oven, 13.25 tons.
Time required for coking, 18 hrs.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 60
cycle; 3 phase; power, D. C. and 3 ph., 60
cycle.
Generating capacity, 11,000 kw.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample
for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Voltage: Incand., 110; power, 220-440; D. C. power, 500.
 Commercial lighting: No. arcs, 210; No. incand., 165,443; 16 c. p. equiv.
 Price current per kw., base rate. Sc.: secondary, 6c.; tertiary, 3c.
 Power circuits: Motors D. C., 5,600 h. p.; A. C., 3,115 h. p.; price per kw. hr., Sc., 6c. and 3c.
 Output of station, kw. for year, 18,641,919.
 Generating power, Steam; rated, 4,000 h. p.

City Light and Traction Co., Sedalia.

RRs.: Mo., Kan. & Tex.; Mo. Pac. Ex.: Am.; Pac.

(Successor to Sedalia Light & Traction Co. Operated by Doherty Organization.)

Capital stock, pref., \$400,000; common, \$1,000,000.

Bonds, \$815,100; due 1952; int., 5 p. c.

President, Frank W. Frueauff.

1st Vice-pres., H. C. Feuers.

Secretary, Allen O'Bannon.

Gen. mgr. and treas., H. C. Feuers.

New bus. mgr., W. B. Malone.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.82.

Candle-power, 18.

Max. day's send out, 233,060 c. f.

Total gas holders capacity, 191,000 c. f.

Miles of mains, approx., 24.96.

Street main pressures, max., 5 in.; min., 3 in.

Annual sales, approx., 47,701,300 c. f.

Pop. dist. supplied, 18,422; of city, 17,822.

No. consumers, 1,709.

No. meters, 1,740.

Price gas: Light and Fuel, gross \$1.25; net \$1.12.

Supplies Sedalia.

ELECTRICAL DEPARTMENT.

System operated: Alt., 2 phase, 60 cycles.

Generating capacity: Lighting and power, 1,200 kw.

Voltage: Arcs, incand. and power, 110.

City lighting contract: Hours lighted per year: Arc, all night and every night.

No. public incand., 37-400 c. p.; 259-250 c. p.; 119-80 c. p. Price per year, \$60.

Commercial lighting, 2,129.25 kw. connected load.

Price current per kw. hr., gross, 10c.; residence, 10c.

Power circuits: Price per kw hr., 5 cts.

Output of station, kw. hrs. for year, 2,882,286.

Generating power used, Steam; rated, 1,550 h. p.

Cost of station boiler coal, per ton, \$3.34; oil, per bbl., \$2.

Company also operates an ice plant.

Annual sales, ice, 5,460 tons.

Springfield Gas and Electric Co., Springfield.

RRs.: St. L. & S. F.; Mo. Pac. Ex.: Ad.; So.; W. F.; Pac.

Controlled by Springfield Ry. & Lt. Co.

Operated by Federal Light & Traction Co.

President, E. N. Sanderson, New York.

Vice-pres., C. H. Nichols.

General mgr., E. C. Deal.

Asst. secy. and asst. treas., J. Dunhill.

Process manufacture, Water.

Candle-power, 18.

Max day's send out, 463,000 c. f.

Gas holder capacity, 350,000 c. f.

Miles of mains, approx., 56.

Street main pressures, max., 6 in.; min., 4 in.

Annual sales, approx., 120,000,000 c. f.

Gas unaccounted for, 3 p. c.

Pop. city, 35,201; of dist. supplied, 45,000.

No. customers and meters, 5,500.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 3 ph., 60 cycle; power, 3-phase and D. C.

Generating capacity: 3,925 k.v.a. Purchase power from Ozark Power & Water Co.

Voltage: Line, 2,300; incand., 110; power, 550.

No. public arcs, 302; 450 watt; also 65-200 c. p. type C Mazda.

Output of station, kw. hrs. for year, 13,800,000.

Generating power, Steam.

Trenton Gas and Electric Co., Trenton.

RRs.: C., R. I. & P.; Q., O. & K. C. Ex.: Ad.

Controlled by Interstate Electric Corp'n.

Capital stock, \$50,000.

Bonds, \$50,000 1st mtge. bonds due 1932; \$75,000 2d mtge. due 1942. Int. 6 p. c.

President, Chas. H. Rowland.

Secretary, Clarence P. Western.

Treasurer, A. E. Fitkin.

Gen. mgr., Chas. H. Rowland.

Process manufacture, Lowe.

Price coke per ton, delivered, \$11.55.

Price oil per gal., 6c.

Candle-power, 16; cal. value, 450 B.t.u.

Annual production, 7,500,000 c. f.

Max. day's send out, 37,000 c. f.

Gas holder capacity, 67,000 c. f.

Holder pressure, 3.25 in.

Miles of mains, approx., 12.

Street main pres., max., 3.25 in.; min., 3 in.

Annual sales, approx., 7,000,000 c. f.

Gas unaccounted for 11.8 p. c.

Pop. city supplied, 6,000.

No. consumers, 501.

No. meters, reg., 486; prepay., 15.

Price gas: Light and Fuel, gross \$1.50, net \$1.45.

Ranges, 505; water heaters, 125.

No. commercial gas arc lamps, 10.

Supplies Trenton.

ELECTRICAL DEPARTMENT.

System operated, incand. A. C. 3 phase, 60 cycle; power, A. C., 3 phase, 60 cycle.

Generating capacity: Lighting, 620 kw.

Voltage: Line, 2,300; incand., 105-210; power, 110-220-2300.

City lighting contract: Incand., all night schedule, 4,000 hrs.

No. public incand., 420, various sizes.

Commercial lighting: No. incand., 13,000.

Price current per kw. hr., gross, 10c; disc., 5 p. c.

PHOTOMETERS Among the standard bar photometers which we manufacture are the Sugg-Letheby, the American Meter Company Improved Type B and the Portable Type. 561 W. 47th St., New York, N. Y.

Other lamps used: Tungsten and Gem.
 Power circuits: No. motors, 72; total h. p., 612.
 Price power per kw. hr., 4 to 10c.; disc., 5 p. c.
 Power used also for heating.
 Generating power used, Steam; rated h. p., 850.
 Output of station, kw. for year 1,100,000.
 Cost of station boiler fuel, oil per gal., 6c.

The St. Louis County Gas Co., Webster Groves.

RRs. & S. Bs.: (See Laclede Gas Light Co.)

(Controlled by The North American Co. For capitalization, bonds, etc., see Appendix.)
 General offices, Lockwood and McClure Aves.
 Plant at Shrewsbury, Mo.
 President, J. D. Mortimer.
 Vice-pres., Louis H. Egan.
 Secretary, J. F. Fogarty.
 Treasurer, Robert Sealy.
 General manager, Louis H. Egan.
 Pur. agent, Louis R. Foster.
 Engineer and gen. supt., J. E. Hillemeyer.
 New business manager, Wm. Overing.
 Superintendent works, Frank Wills.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.30; oil per gallon, 3.58c.
 Candle-power, 20; calorific value, 602 B. t. u.
 By-products made: Tar, 75,000 gals.; drip oil, 18,726 gals.
 Annual production, 378,025,100 c. f.
 Max. day's send out, 1,392,000 c. f.
 Gas holder capacity, 1,500,000 c. f.
 Holder pressure, 9.5 in.
 Miles of mains, approximate, 276.52.

Street main pressures, max., 3.8 in.; min., 3 in.

High pressure mains (included above), 206.46 miles; pressure, 20 to 40 lbs.

Annual sales, approximate, 331,683,400 c. f.

Gas unaccounted for, 12.18 p. c.

By-products sold: Tar, approx., 75,000 gals.; drip oil, 15,000 gals.

Consumers, 10,729; meters in service, 11,947.
 Pop. dist. supplied, 56,300; of cities served, est., 46,000.

Price gas: Domestic Light and Fuel: 1st 10 M., \$1.05; next 15 M., \$1; next 25 M., 90c.; next 25 M., 80c.; next 25 M., 70c.; all over 100 M., 60c. Disc., 5 p. c., on 1st \$25; 1 p. c. on excess of \$25. Min. bill, 50c.

Industrial Fuel: Demand charge, 9c. per 100 c. f. per mo. for 1st 200 c. f. of demand; 5½c. per 100 c. f. per mo. for additional demand, plus consumption charge: 1st 40 M. c. f., 40c. per M. c. f.; next 160 M. c. f., 35c. per M. c. f.; all over 200 M. c. f., 30c. per M. c. f. Min. bill, \$18 gross. Disc., as above.

Residence Heating: \$1.05 per M for 1st 500 c. f. per mo. per 1,000 c. f. of building volume; 55c. per M. for next 20 M. c. f. 35c. per M. for next 80 M.; 30c. per M. for additional use.

War surcharge on gas bills, 10c.

No. public Welsbach lamps, 5; price, \$24 each. Price includes repairs, care, lighting, etc.

No. hours lamp is lighted per year, 4,053.

Gas appliances in use, ranges, 10,200; heaters, 1,100; water heaters, 2,200.

No. commercial gas arc lamps in use, 128.

Cities supplied: Maplewood, Webster Groves, Clayton, Kirkwood, University City, Ferguson, Glendale, Shrewsbury, Richmond Heights, Uniondale.

MONTANA.

Total population, 466,214.

Billings Gas Co., Billings.

RRs.: C., B. & Q.; No. Pac.; G. N. Ex.: Ad.; No.; G. N.

Capital stock, \$250,000.
 Bonds, \$244,500; due 1932: int., 6 p. c.
 President, T. A. Snidow.
 Secretary, G. E. Snell.
 Treasurer, Geo. Arnott, Jr.
 General mgr. and pur. agt., R. C. Cardell.
 Engineer, E. G. Pratt.
 Superintendent, R. C. Cardell.
 New business manager, D. R. Barlow.
 Process manufacture, Lowe.
 Price delivered, coke, per ton, \$9.65; oil per gallon, 3c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 52,000,000 c. f.
 Gas holder capacity, 200,000 c. f.

Holder pressure, 6.8 in.

Max. day's send out, 212,000 c. f.

Miles of mains, approx., 24.5; street main pres., max., 5.8; min., 3.4 in.

Annual sales approx., 49,000,000 c. f.

Gas unaccounted for, 5 p. c.

Pop. of city, 10,031 (1910); now est., 18,000; dist. supplied, 10,000.

No. of meters, reg., 1,613; prepay, 219.

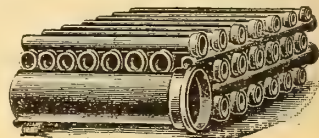
Price gas: Light and Fuel, up to 3,000 c. f., \$1.70 net; 3,000 to 5,000, \$1.50; 5,000 to 15,000, \$1.40; 15,000 to 30,000, \$1.25; over 30,000 c. f., \$1 net. Special heating rate: Up to 5,000 c. f., \$1 net; next 10,000 c. f., 90c. net; next 15,000, 80c.; next 30,000, 70c.; next 40,000, 65c.; over 100,000 c. f., 60c. net.

Gas appliances in use: Ranges, 1,639; heaters, 459; water heaters, 452.

No. commercial gas arc lamps in use, 330.

Supplies Billings.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
 R. D. WOOD & CO. : PHILADELPHIA, PA.



Gallatin Valley Gas Co., Bozeman.

RRs.: No. Pac. Ex.: Nor.

(Franchise granted: company in process of organization.)

Capital stock, pref., \$200,000; com., \$100,000.

President, S. T. Meservey.

Secretary, Harry D. Kremer.

Treasurer, Geo. Cox.

Gen'l mgr. and engineer, Robert W. Lysie.

Process manufacture, Lowe (crude oil).

High pressure mains, 10 miles.

Pop. of city, est. 8,500.

Montana Power Co., Butte.

RRs.: G. N.; No. Pac.; Ore. Short Line; B. An. & Pac.; C., M. & St. P. Ex.: No.; G. N.; Pac.; Con.

(Successor to Butte Gas Light & Fuel Co. and Butte Electric & Power Co.)

New York Office, 42 Broadway.

(For capitalization and bonds, see Appendix.)

President, John D. Ryan.

Vice-pres., F. M. Kerr.

Secy. and treas., Walter Dutton.

General manager, F. M. Kerr.

Supt. and engineer, J. E. Davidson.

Genl. supt., M. E. Buck.

Manager, J. F. Roche.

Pur. agent, Wm. T. Jackson.

Process manufacture, Coal.

Price coal per ton, delivered, \$9.50.

Calorific value, 550 B. t. u.

Annual production, 75,000,000 c. f.

Max. day's send out, 299,000 c. f.

Gas holder capacity, 410,000 c. f.

Holder pressure, 5.4 in.

Miles of mains, approximate, 32.

Street main pressures, max., 5 in.; min., 2.6 in.

Annual sales, approx., 65,000,000 c. f.

Gas unaccounted for, 14 p. c.

Pop. dist. supplied, 30,000; of city, 39,165.

No. consumers, 2,973.

No. meters, reg., 2,487; prepay., 476.

Price gas: Fuel, \$1.65 to \$1. Disc., 10 p. c., 10 days.

Sliding scale, first 25,000 c. f., \$1.65; next 15,000 c. f., \$1.50; next 15,000 c. f., \$1.35; next 15,000 c. f., \$1.20; over 70,000 c. f., \$1.

No. ranges in use, 2,387; heaters, 600; water heaters, 1,200.

Supplies Butte and Centerville.

Great Falls Gas Co., Great Falls.

RR.: G. N. Ex.: G. N.

Capital stock, pref., \$150,000; com., \$350,000.

Annual dividend, pref., 7 p. c.

President, William A. Baehr.

Vice-pres., Geo. H. Stanton.

Secretary, H. L. Hanley.

Treasurer, E. A. Potter.

Purchasing agent, Wm. A. Baehr.

Manager and supt., W. A. Bertke.

Engineer, Wm. A. Baehr.

Process manufacture, Lowe.

Price coke per ton, delivered, \$11.43.

Price of oil per gal., delivered, 7.4c.

Candle-power, 20.

Calorific value, 550 B. t. u.

Annual production, 48,546,000 c. f.

Gas holder capacity, 125,000 c. f.

Max. day's send out, 196,400 c. f.

Miles of mains, approx., 18.5; pressure, 1 lb.

Street main pressures, max., 4 in.; min., 2.5

Annual sales, approx., 43,246,000 c. f.

Gas unaccounted for, 10.9 p. c.

Pop. of city, 13,948; dist. supplied, 33,000 est.

No. consumers, 2,353.

No. meters, reg., 592; prepay., 1,756.

Price gas: Light and Fuel, gross, \$1.75 for

1st 10,000 c. f.; \$1.55 next 10,000 c. f.;

\$1.35 next 30,000 c. f.; \$1.10 all over 50,000

c. f. Disc., 10 p. c. on 1st 10,000 c. f. and

10c. per 1,000 c. f. on remainder.

Gas appliances in use: Ranges, 1,671; heaters, 654; water heaters, 456.

No. commercial gas arc lamps, 323.

Supplies Great Falls.

The Helena Light and Railway Co., Helena.

RRs.: G. N.; No. Pac. Ex.: No.; G. N.

(For capitalization and bonds, see Appendix.)

Operated by J. G. White Management Corp.

President, P. G. Gossler.

Vice-presidents, J. H. Pardee, R. B. Marchant and Arthur Coppel.

Secretary and treasurer, T. W. Moffat.

Operating managers and purchasing agents, the J. G. White Management Corporation.

New-bus. mgr., W. R. Miles.

Process manufacture, Coal and Lowe.

Mixture supplied, 81.5 p. c. coal; 18.5 p. c. water.

Price coal per ton, delivered, \$7.50; oil per gallon, 7.75c.

Candle-power, 14.1; calorific value, 640 B. t. u.

Gas holder capacity, 140,000 c. f.

Max. day's send out, 111,700 c. f.

Miles of mains, approx., 26.1.

Street main pressures, max., 4 in.; min., 2.5 in.

Annual sales, approx., 32,515,000 c. f.

Gas unaccounted for, 16.6 p. c.

Pop. city, 12,515; of dist. supplied, the same.

No. consumers, 1,642.

No. meters, reg., 1,413; prepay., 272.

Price gas: Light and Fuel, gross, \$2; net, \$1.75.

Ranges in use, 1,360; water heaters, 315.

No. commercial gas arc lamps, 84.

Supplies Helena.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; single phase, 60 cycle; power, A. C., 3 phase and single, D. C.

Voltage: Line, 2,300; incand., 110; power, 110-220-2,200 A. C.; 500 D. C.

City lighting contract: Hours lighted per year: Arc and incand., dusk to dawn.

No. street incand., 62.

No. public incand., 7,429.

Commercial lighting: No. arcs, 2; No. incand., 57,065.

ULCO LEAD WOOL FOR ECONOMY**IN ROPE FORM****UNITED LEAD COMPANY
111 BROADWAY, NEW YORK**

Price current per kw hr., gross, 11c. to 3 c.; disc., 10 p. c.

Power circuits: Price per kw. hr., 2.8c. to .45c. plus \$1 h. p. demand.

No. motors, 350.

Other uses: Operating street railway system.

Output of station, kw. per year, 3,850,000.

Generating power used, Water; rated h. p., 30,000.

(Power purchased from Montana Power Co.)

Missoula Gas Co., Missoula.

RRs.: No. Pac.; C. M. & St. P. Ex.: Nor.;
Con.: W. F.

Capital stock, \$160,000.

Bonds, \$150,000; due 1930; int., 6 p. c.

President, Geo. P. Smith.

Secretary, Helen A. Smith.

Treasurer, Helen A. Smith.

Process of manufacture, Coal.

Price coal per ton, delivered, \$7.15.

Calorific value, 525 B. t. u.

Annual production, 15,881,000 c. f.

Max. day's send out, 93,400 c. f.

Gas holder capacity, 100,000 c. f.

Holder pressure, 4.5 in.

High pressure mains, miles, 20; pressure carried, 5 lbs.

Annual sales, approx., 20,609,300 c. f.

Gas unaccounted for, 14.5 p. c.

Pop. dist. supplied, est., 10,000; city, 14,000.

No. consumers and meters, 937.

Price gas: Light and Fuel, gross, \$1.85 1st

3,000 c. f.; \$1.60 next 7,000 c. f.; next

5,000 c. f., \$1.50; 3d 5,000 c. f., \$1.40; 4th

5,000 c. f., \$1.30; 5th 5,000 c. f., \$1.20;

6th 5,000 c. f., \$1.10; all over 35,000

c. f., \$1.

No. commercial gas arc lamps, 150.

Supplies Missoula.

NEBRASKA

Total population, 1,277,750.

City of Albion Gas Plant, Albion.

(Ceased operations in March, 1918.)

Gage County Gas, Light and Power Co., Beatrice.

RRs.: C., B. & Q.; C., R. I. & P.; U. P. Ex.:
Ad.; Pac.

Operated by Continental Gas & El. Corp.,
Cleveland, O.

Capital stock, pref., auth., \$50,000; common,
auth., \$200,000; issued, \$163,000.

Bonds, \$106,500; due 1929; int., 6 p. c.

President, C. S. Eaton.

Vice-pres., W. H. Abbott.

Secretary, G. H. Harper.

Treasurer, H. B. Abels.

Pur. agent, W. H. Abbott, 505 Karbach Block,
Omaha, Neb.

General manager, Thomas Rice.

Superintendent, Frank Hadley.

Process manufacture, Coal and Lowe.

Candle-power, 19; calorific value, 600 B. t. u.

Price coke per ton, delivered, \$10; coal, \$6;
oil per gal., 5c.

Annual prod., water-gas, 48,000,000 c. f.

Gas holder capacity, 55,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 150,000 c. f.

Miles of mains, approx., 32.

Street main pressures, max., 3.5 in.; min.,
2.5 in.

Annual sales, approx., 45,000,000 c. f.

Gas unaccounted for, 6 p. c.

Pop. of city, 9,356 (1910); dist. supplied,
15,000.

No. consumers, 1,600.

No. meters, reg., 1,350; prepay., 250.

Price gas: Light and Fuel, gross, \$1.50; net,
\$1.28.

No. public Welsbach incand. lamps, 128.

Hours each lamp is lighted per year, 3,815.

Contract includes repairs, care, lighting and
extinguishing.

Ranges in use, 1,380; heaters, 235; water
heaters, 350.

No. commercial gas arc lamps in use, 200.

Supplies Beatrice.

Bertrand Gas Works, Bertrand.

(Company reported out of business.)

Blair Gas Co., Blair.

RRs.: C. & No. W. Ex.: Am.

Capital stock, \$25,000 auth.; \$20,800 issued.

President, C. H. Grimm.

Secretary and treas., Guy K. Mead.

General manager, Guy K. Mead.

Superintendent and pur. agt., Guy K. Mead.

Process manufacture, Water (Tenney).

Price coke per ton, delivered, \$12.60.

Price oil per gal., 7.5c.

Candle-power, 20.

Calorific value, 600 B. t. u.

Gas holder capacity, 50,000 c. f.

Max. day's send out, 20,000 c. f.

High pressure mains, miles, 8; pressure, 2 lbs.

Annual sales, approx., 6,012,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 3,000; of city, 3,000.

No. consumers, 444.

No. meters, reg., 360; prepay., 84.

Price gas: Light and Fuel, \$1.50. Min.
charge, \$1.

No. gas ranges, 260; heaters, 150; water
heaters, 75.

Supplies Blair.

Broken Bow Gas Co., Broken Bow.

RRs.: C., B. & Q. Ex.: Ad.

Controlled by Gas Construction Co.

Capital stock, auth. and issued, \$12,000.

Bonds, \$8,000; due 1930; int., 6 p. c.

Pres., mgr. and pur. agt., George Osten.

Vice-president, John C. Martin.

Secy. and treas., Karl E. Vogel.



SMOKE STACK AND CHIMNEY PAINTS

We have different kinds of smoke stack and chimney paints depending upon the temperature to be met with and on other conditions; write and we will submit specifications. For most service we recommend our No. 750 Smoke Stack Black.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Supt. and new bus. mgr., George Osten.
 Engineer, S. P. Bradley.
 Process manufacture, Water (Osten Compact).
 Price coke per ton, delivered, \$9.15.
 Price oil per gallon, 5c.
 Candle-power, 20. Calorific value, 600 B.t.u.
 Annual production, 2,400,000 c. f.
 Gas holder capacity, 5,000 c. f.
 Holder pressure, max., 5.5 in.
 Max. day's send out, 8,000 c. f.
 Street mains, 4 miles; pressures, max., 5.5 in.; min., 4.5 in.
 Annual sales, approx., 2,200,000 c. f.
 Gas unaccounted for, 2 p. c.
 Population of city, 2,500; of dist. supplied, 1,800.
 No. consumers, 200.
 No. meters, reg., 160; prepay, 40.
 Price gas: Light and Fuel, \$1.75.
 Ranges, 100; water heaters, 20.
 No. commercial gas arc lamps in use, 10.
 Supplies Broken Bow.

Central City Gas Co., Central City.

RRs.: C., B. & Q.; U. P. Ex.: Ad.; Pac.
 Capital stock, auth., \$25,000; issued, \$12,500.
 President, A. W. Borden.
 Secretary, E. H. Viereg.
 Treasurer, R. O. Ferris.
 General manager, A. W. Borden.
 Superintendent, T. R. Lindley.
 Process manufacture, Water (Tenney).
 Candle-power, 22; cal. val., 610 B.t.u.
 Miles of mains, approx., 9; press., max., 4.5 in.; min., 4.5 in.
 Pop. dist. supplied, 2,800; of city, 2,928.
 No. consumers and meters, 255.
 Price gas: Light, gross \$2; net \$1.80.
 Supplies Central City.

Columbus Gas Company, Columbus.

RRs.: C., B. & Q.; U. P. Ex.: Ad.; Pac.
 Capital stock, auth., \$50,000; issued, \$35,600.
 President, C. J. Garlow.
 Secretary and treasurer, G. W. Phillips.
 Manager and pur. agt., R. Y. Lisco.
 Engineer, H. M. Bartholomew.
 Process manufacture, Water gas (Tenney).
 Annual production, 8,500,000 c. f.
 Price coal per ton, delivered, \$8.15; oil per gallon, 5c.
 Candle-power, 18.
 Gas holder capacity, 43,800 c. f.
 Max. day's send out, 22,000 c. f.
 High pressure mains, 10 miles; press., 2.5 lbs.
 Annual sales, approx., 8,500,000 c. f.
 Gas unaccounted for, 10 p. c.
 Population of city, 5,014 (1910); of dist. supplied, 5,200.
 No. consumers, 470.
 No. meters, reg., 160; prepay., 310.
 Price gas: Light and Fuel, gross, \$1.75; net, \$1.58.
 Gas appliances in use: Ranges, 380; heaters, 30; water heaters, 110.
 No. commercial gas arc lamps in use, 12.
 Supplies Columbus.
 (No 1918 report.)

Fairbury Gas Co., Fairbury.

RRs.: C., R. I. & P.; C., B. & Q.; St. J. & G. I. Ex.: Ad.; W. F.
 Capital stock, auth., \$50,000; issued, \$44,000.
 Annual dividend, 4 p. c.
 Bonds, 30,000; due 1918; int., 6 p. c.
 President, B. G. Dawson.
 Secretary, H. J. Evans.
 Treasurer, J. A. Westling.
 Pur. agt. and mgr., B. G. Dawson.
 Superintendent and engineer, Wm. Singleton.
 Process manufacture, Water gas (Tenney).
 Price coal per ton, delivered, \$5.90; coke, per ton, \$13.50.
 Price oil per gal., 6.6c.
 Annual production, 17,000,000 c. f.
 Candle-power, 21.
 Calorific value, 600 B. t. u.
 By-products made: Tar, 500 gals.; holder oil, 4,000 gals.
 Gas holder capacity, 65,000 c. f.
 Max. day's send out, 80,000 c. f.
 High pressure mains, miles, 12; pressure, 2 lbs.
 Annual sales, approx., 17,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Tar, 400 gals.; holder oil, 4,000 gals.
 Pop. of city, 5,294; of dist. supplied, 5,000.
 No. consumers, 981.
 No. meters, reg., 808; prepay., 173.
 Price gas: Light and Fuel, gross \$1.50, net \$1.42; 10 to 20,000 c. f., \$1.25 net; 20,000 c. f. and over, \$1 net.
 Ranges in use, 475; heaters, 52; water heaters, 110.
 No. commercial gas arc lamps in use, 125.
 Supplies Fairbury.

Fremont Gas Electric Light and Power Co., Fremont.

RRs.: C. & No. W.; C., B. & Q.; U. P. Ex.: Am.; Ad.; Pac.
 Operated by Doherty Organization.
 Capital stock, issued, \$136,300.
 Bonds, \$41,000; due 1950; interest, 6 p. c.
 President, Henry L. Doherty.
 Vice-pres., R. W. McGinnis.
 2d Vice-pres., A. V. Wynne.
 Secretary, L. W. Phillips.
 Treasurer, A. V. Wynne.
 Asst. sec'y, E. E. McWhiney.
 Asst. treas., T. A. Wallace.
 Manager, A. V. Wynne.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.25.
 Price oil per gal., delivered, 4c.
 Candle-power, 20; calorific value, 600 B. t. u.
 Total gas holders capacity, 110,000 c. f.
 Max. day's send out, 111,811 c. f.
 Miles of mains, approx., 24.95.
 Street main pressures, max., 4 in.; min., 2 in.
 Annual sales, approx., 22,684,700 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. dist. supplied, 10,000; of city, 8,718.
 Consumers, 1,121; meters, 1,122.
 Price gas: Light, \$1.45 gross; Fuel, \$1.
 Ranges in use, 1,069; heaters, 152; water heaters, 467; other appliances, 1,034.
 Supplies Fremont.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ELECTRICAL DEPARTMENT.

System: Incand., A. C., 60 cycle: power, A. C., 60 cycle, 3 phase.
 Generating capacity: Power, 1,030 kw.
 Voltage: Incand., 110; power, 220.
 Commercial lighting: Connected load, 695.70 kw.
 Price current per kw., hr., gross, 5.5c, res.; 5.5c., commercial.
 Power circuits: 443.5 h. p.; price per kw., hr., 3c.
 Output of station, kw. hrs., total for year, 772,774.
 Generating power used, Steam; rated h. p., 700.
 Cost of station boiler coal, per ton, \$3.

Grand Island Gas Co., Grand Island.

RRs.: C., B. & Q.; U. P.; St. J. & G. I. Ex.: Ad.; Pac.; W. F.

Capital stock, \$150,000.
 President, C. J. Miles.
 Vice-pres., C. J. Ryan.
 Secretary, E. H. Vieregg.
 Treasurer, C. C. Hansen.
 Genl. mgr. and pur. agent, A. W. Borden.
 Supt. and new bus. mgr., E. H. Vieregg.
 Process manufacture, Lowe (Hanlon-Leadley).
 Price coal per ton, delivered, \$8.32.
 Price oil per gal., delivered, 5.25c.
 Candle-power, 22.
 Calorific value, 610 B.t.u.
 Annual production, 23,500,000 c. f.
 Max. day's send out, 80,000 c. f.
 Total gas holders capacity, 105,000 c. f.
 Holder pressure, 3.4 in.
 Miles of mains, approx., 21.
 Street main pressure, max., 5 in.; min., 3.4 in.
 Annual sales, approx., 22,100,000 c. f.
 Gas unaccounted for, 4.9 p. c.
 Pop. dist. supplied, 9,000; of city, 10,326.
 Consumers and meters, 1,218.
 Price gas: Light, gross \$2; net \$1.50. Fuel, gross \$2; net \$1.50.
 Ranges in use, 1,052; heaters, 172; water heaters, 266.
 No. commercial gas arc lamps, 30.
 Supplies Grand Island.

Hastings Gas Co., Hastings.

RRs.: C. & No. W.; C., B. & Q.; Mo. Pac.; St. J. & G. I. Ex.: Ad.; Am.; Pac.; W. F.

Capital stock, pref., \$50,000; com., \$50,000.
 Annual div., pref., 6 p. c.
 Bonds, \$77,000; due 1926; int., 6 p. c.
 President, James C. Fox.
 Vice-president, A. W. Borden.
 Secretary, Edward Woodman.
 Treasurer, Edward Woodman.
 Manager and pur. agent, A. W. Borden.
 Engineer, A. W. Borden.
 Works supt., John Brehm.
 New bus. mgr., C. H. Hoppe.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$11.50.
 Price oil per gal., 6.83c.
 Candle-power, 22; calorific value, 608 B. t. u.
 Annual production, 29,700,000 c. f.

By-products made: Tar, 8,000 gals.
 Total gas holders capacity, 60,000 c. f.
 Holder pressure, 5.5 in.
 Max. day's send out, 110,000 c. f.
 Miles of mains, approx., 23.5.
 Street main pressures, max., 5.5 in.; min., 2.7 in.
 Annual sales, approx., 27,572,900 c. f.
 Gas unaccounted for, 5.2 p. c.
 By-products sold: Tar, 600 gals.
 Pop. dist. supplied, 9,600; of city, 10,900
 No. consumers, 1,420.
 No. meters, reg., 1,310; prepay., 110.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.45 to \$1.35.
 Ranges in use, 1,400; heaters, 400; water heaters, 497.
 No. commercial gas arc lamps, 25.
 Supplies Hastings.

Midway Gas Co., Kearney.

RRs.: C., B. & Q.; U. P. Ex.: Ad.; Pac.

(Successors to Midway Lt., Heat & Power Co.)
 Capital stock, \$75,000.
 Bonds, \$20,000; due 1928; int., 6 p. c.
 President, C. E. Collins.
 Secretary and treas., R. F. Pfeiffer.
 General mgr., R. F. Pfeiffer.
 Superintendent, Roy Pledger.
 Pur. agent, Don Leake.
 Process manufacture, Lowe (Tenney).
 Price coke per ton, delivered, \$13.
 Price of oil per gal., delivered, 5.25c.
 Candle-power, 20. Cal. val., 600 B. t. u.
 Max. day's send out, 40,000 c. f.
 Total gas holders capacity, 60,000 c. f.
 Miles of mains, approx., 14.
 Street main pres., max., 4 in.; min., 3.5 in.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. dist. supplied, 5,000; of city, 6,202.
 No. consumers, 700.
 No. meters, reg., 690; prepay., 10.
 Price gas: Light and Fuel, gross \$1.75; net, \$1.575. Sliding scale, \$1.75 to \$1.35.
 Ranges, 375; heaters, 55; water heaters, 140.
 No. commercial gas arc lamps, 25.
 Supplies Kearney.

ELECTRICAL DEPARTMENT.

(Operated under name of Kearney Water & Elect. Powers Co.)
 Capital, electric plant, \$310,000.
 System operated: Arc, incand. and power, A. C., 3 phase, 60 cycle.
 Generating capacity: Lighting and power, 1,800 kw.
 Voltage: Line, 2,300; incand., 110; power, 220.
 (Transmission line to Gibbon, Neb., 33,000.
 Substation transformer, total 2,325 kw.; at Gibbon, 150 kw. Other lines planned.)
 City lighting contract: Hours lighted, all night and every night.
 No. public 5 ft. ornamental posts, 104; price, \$3.30 per post.
 No. public incand., 225; 75 100-watt. Price, \$2.35. 175 60-c. p. Price, \$1.75.
 Commercial lighting: No. incand., 18,000.

HUNT PIVOTED BUCKET CONVEYORS are reducing coal and coke handling costs in a great many of the largest gas works. Catalogue N15-4 describes the details of design, and shows a number of typical installations. Our engineers are at your service.
C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Price current per kw. hr., gross, 10c.; disc., 20 p. c.
 Power circuits: No. motors, 75; price per kw. hr., 6c. to 8c.; disc., 20 p. c.
 Output of station, kw. for year, 1,500,000.
 Generating power used, Water, 900 kw.; Steam turbine, 900 kw.
 Cost of station boiler coal per ton, \$6.60.

Lincoln Gas and Electric Light Co., Lincoln.

RRs.: C., B. & Q.; C. & No. W.; C., R. I. & P.; Mo. Pac.; U. P. Ex.: Ad.; Am.; Pac.

Operated by Doherty Organization.
 (For capitalization and bonds, see Appendix.)
 President, F. W. Frueauff.
 Vice-pres., J. E. Harsh.
 Secretary and treas., Ross E. Phillips.
 Asst. treas., T. A. Wallace.
 Gen. mgr., J. E. Harsh.
 Pur. agent, Ross E. Phillips.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.50.
 Price oil per gal., delivered, 3c. to 5c.
 Candle-power, 25; calorific value, 625 B. t. u.
 Annual production, 279,312,100 c. f.
 By-products made: Tar, 74,000 gals.
 Total gas holders capacity, 850,000 c. f.
 Holder pressure, 20 in.
 Max. day's send out, 1,003,449 c. f.
 Miles of mains, approx., 113.98 (3 in. basis).
 Street main pressures, max., 20 in.; min., 5.2 in.
 Annual sales, approx., 260,278,700 c. f.
 Gas unaccounted for, 6.72 p. c.
 By-products sold: Tar, 63,073 gals.
 Pop. Lincoln, 43,973; Havelock, 2,680; University Place, 3,200. Pop. dist. supplied, 54,400.
 No. consumers, 10,227.
 No. meters, reg., 10,218.
 Price gas: Light and Fuel, \$1.25.
 Ranges in use, 8,121; heaters, 529; water heaters, 3,960; other appliances, 3,952.
 Supplies Lincoln, University Place and Havelock.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 60 cycle; power, A. C. and D. C., 60 cycle, 3 phase.
 Voltage: Arcs, 80; incand., 110; power, 550 D. C., 110-220 A. C.
 Generating capacity: Lighting and power, 3,600 kw.
 Commercial lighting: Connected load, 6,058.8 kw.
 Price current per kw. hr.: First 10 kw., 5c.; next 30 kw., 4c.; next 40 kw., 3.5c.; over 500 kw., 3c. Disc., 10 p. c.
 Power circuits: No. motors, 587; price per kw. hr., 1.25c. Disc., 10 p. c.
 Output of station, kw. hrs., total for year, 7,493,160.
 Generating power used, Steam; rated h. p., 4,000.
 Cost of station boiler coal, per ton, \$3.50.

The Citizens Gas Co., McCook.

RRs.: C., B. & Q. Ex.: Ad.

Capital stock, auth. and issued, \$14,800.
 President, P. Walsh.
 Secretary, F. A. Pennell.
 Treasurer, F. A. Pennell.
 Pur. agt. and gen. mgr., F. A. Pennell.
 New bus. mgr., C. A. Leach.
 Engineer, Fred Pfeffer.
 Superintendent, F. A. Pennell.
 Process manufacture, Lowe (Oil).
 Price coke per ton, delivered, \$12.65; oil per gal., 10c.
 Candle-power, 20.
 Annual production, 8,500,000 c. f.
 High pressure mains, miles 7; pressure, 2 lbs.
 Max. day's send out, 25,000 c. f.
 Gas holder capacity, 25,000 c. f.
 Annual sales, approx., 8,468,000 c. f.
 Pop. city, 3,765; pop. dist. supplied, 4,000.
 No. consumers, 350.
 No. meters, reg., 300; prepay., 50.
 Price gas: Light and Fuel, gross, \$2; net, \$1.50.
 Gas appliances in use: Ranges, 100; heaters, 15; water heaters, 40.

Nebraska City Utilities Co., Nebraska City.

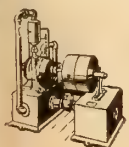
RRs.: C., B. & Q.; Mo. Pac. Ex.: Ad.; Pac

Successor to Nebraska City Gas Co.
 General office, 704 Rector Bldg., Chicago.
 Controlled by Middle West Utilities Co.
 Capital stock, \$50,000.
 Bonds, \$50,000; int., 6 p. c.
 President, E. A. Potter.
 Vice-pres., G. O. Spencer.
 Secretary, R. D. Stevenson.
 Treasurer, G. O. Spencer.
 Superintendent, C. P. Gross.
 Process manufacture, Coal and Lowe (Springer).
 Price coal per ton, delivered, \$5.40.
 Candle-power, 16; calorific value, 550 B. t. u.
 Gas holder capacity 30,000 c. f.
 Max. day's send out, 30,000 c. f.
 Miles of mains, approximate, 11.5.
 Street main pressure, 4 in.
 Annual sales, approx., 7,500,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. city, 5,488; dist. supplied, 6,000.
 No. consumers, 465.
 No. meters, reg., 451; prepay., 14.
 Price gas: Light and Fuel, \$1.50.
 No. ranges, 365; heaters, 30; water heaters, 35.
 No. commercial gas arc lamps, 94.
 Supplies Nebraska City.

Norfolk Light and Fuel Co., Norfolk.

RRs.: C. & No. W.; U. P. Ex.: Am.; Pac.

Capital stock, \$16,500.
 Bonds, \$9,000; due 1922; int., 6 p. c.
 President, J. W. Ransom.
 Sec'y and treas., H. J. Cole.
 Supt. and pur. agent, H. J. Cole.
 Engineer, Herman Dubbert.
 Process manufacture, Tenney and Springer.



EFFICIENT SERVICE MEANS CONTINUOUS SERVICE. The NEEDHAM HIGH PRESSURE GAS SYSTEM means the elimination of all gas wastes, increased efficiency and the utmost economy.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Av. candle-power, 18.
 Calorific value, 600 B. t. u.
 Annual production, 15,000,000 c. f.
 Total gas holders capacity, 10,000 c. f.
 Max. day's send out, 40,000 c. f.
 Miles of mains, approx., 15.
 Street main pressures, max., 9 in.; min., 5 in.
 Annual sales, approx., 15,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 4,000; of city, est. 8,000.
 No. meters, 600; prepay, 180.
 No. consumers, 780.
 Price gas: Light and Fuel, gross \$1.70, net \$1.60.
 Ranges in use, 450; heaters, 15; water heaters, 50.
 No. commercial gas arc lamps, 75.
 Supplies Norfolk.

North Platte Light and Power Co., North Platte.

RRs.: U. P. Ex.: Pac.

Controlled by Union Power & Light Co., 424
 First National Bank Bldg., Omaha, Neb.
 General manager, Willis Todd.
 Local manager, C. R. Morey.
 Pur. agent, Willis Todd.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$9; oil per gal., 5c.
 Miles of mains, 12.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, max., 4.2 in.
 Pop. of city, 5,000.
 No. consumers and meters, 500.
 No. ranges in use, 314; water-heaters, 38.

Omaha Gas Co., Omaha.

RRs.: C. & No. W.; C., Gt. W.; C., M. & St. L.; U. P.; C., B. & Q.; C., R. I. & P.; Mo. Pac.; Ill. Cen.; Wabash; Bridge to Council Bluffs, Ia. Ex.: Ad.; Am.; Pac.; W. F. & Co.

Capital stock, pref., \$1,250,000; com., \$2,500,000.
 Bonds, \$2,200,000; due 1918; int., 5 p. c.
 President, Frank T. Hamilton.
 Vice-pres. and sec'y, Geo. W. Clabaugh.
 Treasurer, Lewis Lillie.
 Comptroller, G. W. Curran.
 Purchasing agent, J. A. Pearson.
 Manager, W. H. Taylor.
 Process manufacture, Lowe.
 Calorific value, 628 B. t. u.
 Miles of mains, approx., 327.
 Annual sales, approx., 1,064,975,000 c. f.
 Pop. city supplied, 175,000.
 No. consumers, 37,749.
 No. meters, 33,967; prepay., 3,782.
 Price gas: Light and Fuel, gross, \$1.10; net, \$1.
 No. public incand. lamps, 895.
 No. hours lamp is lighted per year, 4,000.
 Ranges, 42,945; heaters, 6,605; water heaters, 9,195.
 No. commercial gas arc lamps, 7,613.
 Supplies Omaha.

Ord City Gas Works, Ord.

RRs.: C., B. & Q.; U. P. Ex.: Pac.; Ad.

(Private ownership.)
 Owner, Lafé Paist.
 Engineer, A. Thill.
 Process manufacture, Water (Tenney).
 Price coke per ton, delivered, \$13.
 Price oil per gal., 7c.
 Av. candle-power, 22.
 Annual production, 4,000,000 c. f.
 By-products made: Tar, 250 gals.; ammonia liquor, 400 gals.
 Gas holder capacity, 29,000 c. f.
 Holder pressure, max., 4 in.
 Max. day's send out, 15,000 c. f.
 Miles of mains, approx., 8.5.
 Street main pressures, max., 4 in.; min., 4 in.
 Annual sales, approx., 4,000,000 c. f.
 By-products sold: Tar, 250 gals.; ammonia liquor, 400 gals.
 Pop. of city supplied, 1,960.
 No. consumers, 225.
 No. meters, reg., 200; prepay., 10.
 Price of gas: Light, gross, \$2. Fuel, gross, \$1.50.
 Ranges, 220; heaters, 10; water heaters, 35.
 Supplies Ord.

Nebraska Lighting Co., Plattsmouth.

RRs.: C., B. & Q.; Mo. Pac. Ex.: Pac.; Ad.

Operated by Continental Gas & Electric Corp., Cleveland, O.
 Capital stock, pref., auth., \$15,000; issued, \$13,612.50; com., auth., \$185,000; issued, \$98,300.
 Annual dividend, pref., 6 p. c.
 Bonds, \$124,500; due 1934; int., 6 p. c.
 President, C. C. Parmele.
 Vice-pres., W. H. Abbott.
 Secretary, F. J. Salloway.
 Treasurer, C. S. Eaton.
 Pur. agent, W. H. Abbott, 505 Karbach Bldg., Omaha, Neb.
 Genl. mgr., W. H. Abbott.
 Superintendent, F. E. Smith.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$10.
 Price oil per gal., delivered, 5c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 16,500,000 c. f.
 Max. day's send out, 24,000 c. f.
 Total gas holders capacity, 25,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approx., 11.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 15,300,000 c. f.
 Gas unaccounted for, 7 p. c.
 Pop. dist. supplied, 5,000; of city, 4,287.
 No. consumers, 600.
 No. meters, reg., 525; prepay., 75.
 Price gas: Light and Fuel, gross \$1.75, net \$1.50.
 No. public Miner incand., 18.
 Contract includes repairs, care, lighting and extinguishing.
 Lamps lighted 4,000 hours per year.

GAS EXHAUSTERS

Pioneer Manufacturers



GAS BOOSTERS

For Industrial Appliances

Ranges in use, 430; heaters, 60; water heaters, 65.
No. commercial gas arc lamps, 30.
Supplies Plattsmouth.

ELECTRICAL DEPARTMENT.

System operated: Incand and power, A. C., 3 phase, 60 cycles.
Generating capacity: Lighting and power, 75 kw.
Voltage: Incand., 110; power, 220.
City lighting contract: Hours lighted per year, 4,000 and 2,000.
No. public arcs, 99; 450 watt.
No. public incand., 125; 40 c. p.
Commercial lighting: No. incand., 7,000.
Price current per kw. hr., gross 15c. Disc., 10 to 33.33 p. c.
Power circuits: No. motors, 60; price current per kw. hr., 5c. to 9c.
Generating power used, Steam; rated n. p., 200 (reserve).
Cost of station boiler coal, per ton, \$1.75.
All current purchased.

Public Service Co., York.

RRs.: C. & No. W.; C., B. & Q. Ex.: Ad.; Am.
(Successor to York Gas & Electric Co.)
Operated by Continental Gas & Electric Corp., Cleveland, O.
Capital stock, auth., \$1,000,000; issued, \$410,000.
Bonds, \$442,000; due 1936; int., 6 p. c.
President, C. S. Eaton.
Vice-pres., W. H. Abbott.
Secretary, G. W. York.
Treasurer, G. A. Coulton.
Pur. agt., W. H. Abbott, 505 Karbach Bldg., Omaha, Neb.
Engineer, elec., W. H. Abbott.
General manager, W. H. Abbott.
New bus. mgr., T. C. Messplay.
Local manager, J. B. Harvey.
Process manufacture, Lowe.
Price coke per ton, delivered, \$10.

Price of coal per ton, delivered, \$6.
Price oil per gal., delivered, 5c.
Candle-power, 22.
Calorific value, 640 B. t. u.
Annual production, 15,400,000 c. f.
Max. day's send out, 48,000 c. f.
Total gas holders capacity, 30,000 c. f.
Holder pressure, max., 4 in.
Miles of mains, approx., 12.
Street main pressures, max., 4 in.; min., 3 in.
Annual sales, approx., 14,500,000 c. f.
Gas unaccounted for, 6 p. c.
Pop. dist. supplied, 7,000; of city, 6,235 (1910).
No. consumers and meters, 800.
Price gas: Light and Fuel, gross \$1.80; net \$1.62.
No. public gas lamps, 58.
Price includes care, lighting and extinguishing.
Hours lighted per year, 2,600.
Ranges in use, 480; heaters, 105; water heaters, 90.
Supplies York.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C., power, D. C. and A. C. and 60 cycles, 3 phase.
Generating capacity: Lighting 825 kw.
Voltage: Incand., 110; power, 220.
City lighting contract: Hours lighted per year: Arc, 2,600; incand., 1,700.
No. public arcs, 7, 1,200 c. p. Price per year, \$80.
No. public incand., 441; 32 c. p. Price per year, \$12.
No. com. arcs., 3; incand, 3,500.
Commercial lighting: Price per kw. hr., gross, 15c. to 7c.; disc., 10 p. c.; Domestic, 15c. to 5c.
Power circuits: No. motors, 50; price per kw. hr., 5c. to 15c.; disc., 10 p. c.
Generating power used, Steam; rated h. p., 950.
Cost of station boiler coal, per ton, \$6.
Company owns and operates a steam-heating system, using the exhaust steam for heating public and private buildings.

NEVADA

Total population, 108,736.

Carson City Coal Gas Co., Carson City.

RR.: Va. & Truckee. Ex.: W. F.

Under management of Stone & Webster.
(Capital stock of this Company is owned by Sierra Pacific Electric Co. See Parent Companies.)
Manager, G. A. Campbell, Reno, Nev.
Process manufacture, Crude Oil.
Candle-power, 19.
Annual production, 2,769,000 c. f.
Max. day's send out, 23,400 c. f.
Gas holder capacity, 22,250 c. f.
Miles of mains, approx., 8.4.
Street main pressures, max., 4 in.; min., 2 in.
Annual sales, approx., 2,399,600 c. f.
Gas unaccounted for, 13 p. c.

Pop. city, 2,466 (1910); dist. supplied, est., 2,525.
No. meters, reg., 202; prepay., 2.
Price gas: Light, \$3; fuel, \$2.25; indus. and mfg., \$2.
Ranges in use, 132; water heaters, 46.
No. commercial gas arc lamps, 1.
Supplies Carson City.

Las Vegas Gas Co., Las Vegas.

RRs.: S. P., L. A. & S. L.; Las V. & Tonapah.
Ex.: W. F.
Capital stock, \$25,000.
Bonds, \$25,000; int., 6 p. c.
President, Ed. W. Clark.
Secretary, John S. Park.
Process manufacture, Oil.
Pop. of city supplied, est. 1,800.

WASH OIL PUMPS

Reliable Operation



P.H. & F.M. ROOTS CO.
Connersville
Indiana
New York
Chicago

Reno Power, Light and Water Co., Reno.

RRs.: Nev.-Cal.-Ore.; So. Pac.; Va. & Truckee. Ex.: W. F.

Under management of Stone & Webster.

(Capital stock of this Company is owned by Sierra Pacific Electric Co. See Parent Co.)

Manager, George A. Campbell.

Process manufacture, Lowe (crude oil).

Candle-power, 19.

Annual production, 46,207,000 c. f.

Max. day's send out, 175,700 c. f.

Gas holder capacity, 21,831 c. f.

High pressure mains, miles, 29.8.

Annual sales, approx., 41,000,300 c. f.

Gas unaccounted for, 11.9 p. c.

Pop. dist. supplied, est., 17,100; of city, 10,867.

No. meters, reg., 1,811; prepay., 273.

Price gas: Light and fuel, gross, \$2 first 10,000 c. f.; next 5,000, \$1.50; over 15,000, \$1.25. Disc., 12.5 p. c. on \$2 rate.

For industrial and mfg: \$1.60 per 1,000 c. f. on guar. mo. bill of \$8; \$1.35, bill \$13.50; \$1.10, bill \$27.50. Dis., 10c. per 1,000 c. f., 10 days.

No. gas ranges in use, 1,367; water heaters, 429.

No. commercial gas arc lamps, 36.

Supplies Reno and Sparks.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System operated: A. C., 60 cycles, 3 phase.

Voltage: Arcs, series; incand., 100; power, 110,220,440; also 600 D. C. railway.

Generating capacity, 2,200 kw.

City lighting contract: Hours lighted per year, 4,000.

No. public incand., 302; 250 watt; 400 and 600 c. p.

Commercial lighting: No. arcs, 98; incand., 4,451 kw.

Price per kw. hr., 7c. to 4.5c.

Power circuits: No. motors, 361; price per kw. hr., 5c. to 1.5c. Disc., 10 p. c. and 10 p. c. additional for current used and metered at 4,000 or 2,200 volts.

Output of station, kw. hrs. per year, 8,397,000.

Power used, Water; rated h. p., 3,660.

Nevada Gas Co., Tonopah.

RRs.: Ton. & Gold. Ex.: W. F.

(Main office, Pacific Bldg., San Francisco, Cal.)

Capital stock, \$150,000.

President, John Martin.

Secretary, M. B. Petzinger.

Treasurer, L. P. Lowe.

Engineers, California Light & Fuel Co., San Francisco, Cal.

General mgr., L. P. Lowe, San Francisco.

Local mgr., S. C. Lowe.

Process manufacture, Lowe (crude oil).

Candle-power, 19; calorific value, 600 B. t. u.

Miles of mains, 10; pressure, 2 to 7 lbs.

Pop. city, 4,000 (estimated).

No. consumers, 500 (winter); 600 (summer).

Price, sliding scale to net min., \$1.

NEW HAMPSHIRE

Total population, 443,467.

Claremont Gas Light Co., Claremont.

RRs.: Bos. & Me. Ex.: Am.

Owned and operated by Monadnock Mills.

Capital stock, \$50,000.

Annual dividend, 8 p. c.

Bonds, \$50,000; due 1925; interest, 4 p. c.

President, F. P. Maynard.

Secretary, Herbert H. Webb.

Treasurer and pur. agent, Geo. A. Tenney.

Superintendent, Fred R. Thomas.

Engineer and new bus. mgr., Fred R. Thomas.

Process manufacture, Lowe (Western Gas Cons. Co.)

Candle-power, 19.

Calorific value, 600 B. t. u.

Annual production, 30,000,000 c. f.

Gas holder capacity, 60,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 118,000 c. f.

Miles of mains, approximate, 10.

Street main pressure: max., 3 in.; min., 2.7 in.

Annual sales, approx., 26,000,000 c. f.

Gas unaccounted for, 12 p. c.

Pop. dist. supplied, 7,000; of town, 7,529.

No. consumers, 1,420.

No. meters, reg., 900; prepay., 520.

Price gas: Light and Fuel, gross \$1.80, net \$1.60, first 3,000 c. f.; next 2,000 c. f., \$1.70-\$1.50; next 10,000 c. f., \$1.55-\$1.35; next 10,000, \$1.45-\$1.25; next 100,000 c. f.,

\$1.35-\$1.15; next 100,000, \$1.25-\$1.05; balance, \$1.20-\$1. Min charge, 48c.

Ranges in use, 790; heaters, 240; water heaters, 250.

No. commercial gas arc lamps, 6.

Supplies Claremont.

Concord Light and Power Co., Concord.

RRs.: Bos. & Me. Ex.: Am.

Capital stock, \$200,000.

President, Benj. A. Kimball.

Treasurer, G. W. Curran.

Clerk, A. J. Smith.

Purchasing agent, J. A. Pearson.

Superintendent, A. J. Smith.

Process manufacture, Lowe.

Candle-power, 23.

Miles of mains, approximate, 37.9.

Annual sales, approx., 90,000,000 c. f.

Pop. dist. supplied, 17,500; of city, 21,497.

No. consumers, 4,373.

No. meters, reg., 2,355; prepay., 2,018.

Price gas: Light and Fuel, 1st 10,000 c. f., \$1.20 per 1,000; next 20,000 c. f., \$1.10; next 20,000 c. f., 95c.; over 50,000 c. f., 75c. Meter charge, 25c.

Ranges, 3,728; heaters, 1,400; water heaters, 1,000.

No. commercial gas arc lamps, 550.

Supplies Concord.

SCIENTIFIC TESTING OF NATURAL GAS for gasoline content is very essential to insure the proper plant installation. Consult our Chemical Engineering Department.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Twin State Gas and Electric Co., Dover.

RR.: Bos. & Me. Ex.: Am.; B. L.

(Controlled by National Light, Heat and Power Co., Operated by Middle West Utilities Co.)

Capital, pref., auth., \$2,500,000; issued, \$1,500,000; com., auth., \$2,500,000; issued, \$1,250,000; annual div., pref., 5 p. c.

Bonds outstanding, \$844,000; due 1926; int., 4.5 p. c.; and \$1,709,500; due 1953; int., 5 p. c.; \$625,000 underlying bonds: due 1935; int., 4.5-5 p. c.

President, Samuel Insull.

Secretary, H. H. Bechtel.

Treasurer, C. A. Forrest.

General manager, Howard L. Olds.

Pur. agent, Howard L. Olds.

Engineer, J. L. Ordway.

Superintendent, E. H. Swett.

Process manufacture, Lowe.

Price coal per ton, delivered, \$9.

Price oil per gal., delivered, 6.25c.

Annual production, 27,000,000 c. f.

Candle-power, 19.

Calorific value, 585 B. t. u.

Max. day's send out, 130,000 c. f.

Total gas holders capacity, 70,000 c. f.

Holder pressure, max., 3.3 in.

Miles of mains, approx., 17.5.

Street main press., max., 3.3 in.; min., 2 in.

Annual sales, approx., 23,000,000 c. f.

Gas unaccounted for, 14 p. c.

Pop. dist. supplied, 12,000; of city, 13,247.

No. consumers and meters, 1,874.

Price gas: Light, gross \$1.50, net \$1.38.

Ranges, 1,184; heaters, 458; water heaters, 150.

No. commercial gas arc lamps, 130.

Supplies Dover.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., Alt., 1 phase series, 60 cycle; power, Alt., 3 phase, 60 cycle.

Generating capacity: Lighting and power, 2,000 h. p.

Voltage: Arcs, 72; incand., 118; power, 550.

City lighting contract: Hours lighted per year; incand., 4,000.

Public lamps, all Mazda, various sizes.

Price current: \$60 yearly rate; 6c. per kw. hr. up to 200 kw. hrs.; 3c. for all in excess of 200 kw. hrs. Disc., 5c. 10 days. Residence rate, 8c. per kw. hr. Fixed rate, 15 c.; disc., 5 p. c.

Power circuits: Motors, 1,130 h. p.

Power rate: 10c. to 2c. Load factor discount, 2 p. c. to 40 p. c. Min. charge, \$1 per h. p. of demand.

Output of station, kw. hrs. for year, 4,300,000.

Generating power used: Water and Steam; rated h. p., 2,000.

Cost of station boiler coal per ton, \$4.95.

(Also supplies Rochester, Somersworth and Rollinsford, N. H., with electricity).

Exeter Gas Light Co., Exeter.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, auth., \$100,000; issued, \$50,000.

Ann. div., 6 p. c.

President, Odiorne Swain.

Treasurer, A. F. Cooper.

Sec'y and pur. agt., A. F. Cooper.

Superintendent, Arthur F. Cooper.

Process manufacture, Coal.

Price coal per ton, \$6.26.

Candle-power, 16.8.

Gas holder capacity, 75,000 c. f.

Miles of mains, approx., 10.

Street main pressures, max., 3 in.; min., 2.5 in.

Annual sales, approx., 12,000,000 c. f.

Pop. dist. supplied, 5,000; of city, 4,897.

No. consumers, 770.

No. meters, reg., 681; prepay., 70.

Price gas: Light, gross \$2.10; net \$2. Fuel, gross \$2.10; net \$1.50.

Franklin Light and Power Co., Franklin Falls.

RR.: Bos. & Me. Ex.: Am.

Capital stock, \$150,000; ann. div., 8 p. c.

President, A. W. Sulloway.

Treasurer and pur. agt., John P. Proctor.

Superintendent, John P. Proctor.

Process manufacture, Oil.

Miles of mains, approximate, 10.

Annual sales, approx., 1,000,000 c. f.

Candle-power, 25.

Pop. dist. supplied, 6,000; of city, 7,000.

No. meters, reg., 100.

Price gas: Light, gross \$5, or ½c. per jet per hour.

Supplies Franklin and Franklin Falls.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; power, A. C., 3 phase.

Generating capacity: Lighting and power, 525 kw.

Voltage: Incand., 110; power, 110-220.

City lighting contract: Hours lighted per year: Arc, 4,000; incand., 4,000.

No. public incand., 67. Price per year, 400 c. p., \$55; 250 c. p., \$35; 100 c. p., \$20.50; 60 c. p., \$18.

Power circuits: No. motors, 17.

Generating power used, Water; rated h. p., 900.

Keene Gas and Electric Co., Keene.

RR.: Bos. & Me. Ex.: Am.

Capital stock, \$150,000 pref.; \$150,000 com.; ann. div., 5 p. c. pref.; 9 p. c. com.

Bonds, \$184,000; due 1935; interest, 5 p. c.

President, W. H. Elliot.

Treasurer, R. D. Smith.

Asst. treas., E. L. Gay.

Gen. mgr., R. D. Smith.

New bus. mgr., C. D. Beverstock.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$10; oil per gal., 4.97c.

**Tycos Temperature Instruments**

INDICATING—CONTROLLING—RECORDING

Catalogue 600 Describes instruments especially for Gas Works

Taylor Instrument Companies Rochester N. Y.

Candle-power, 18.
 Calorific value, 565 B. t. u.
 Annual prod., 41,813,000 c. f.
 Max. day's send out, 153,000 c. f.
 Total gas holders capacity, 80,000 c. f.
 Holder pressure, 4.2 in.
 Miles of mains, approximate, 22.
 Street main pressures, max., 4.6 in.; min., 3 in.
 Annual sales, approx., 35,027,700 c. f.
 Gas unaccounted for, 16 p. c.
 Pop. dist. supplied, 10,068; of city, 10,068.
 No. consumers, 1,916.
 No. meters, reg., 1,088; prepay., 828.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.44. Disc.: 75,000, 10 p. c.; 75,000 to 175,000, 20 p. c.; 175,000 to 350,000, 25 p. c.; 350,000 to 500,000, 30 p. c.; over 500,000, 33 1-3 p. c. Min. chg., 50c.
 No. ranges in use, 1,500; water heaters, 250.
 No. commercial gas arc lamps, 25.
 Supplies Keene.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting and power, 800 kw.
 Voltage: Line, 2,300; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Incand., 4,000.
 No. public incand., 1,107. viz., 8 100 watt and 16 60 watt; price per year, \$300; 8 650 watt; price per year, \$90. 1,075 50 watt; price per year, \$20 and \$18.
 Price current per kw. hr., 14c. to 8c., sliding scale base; disc., 10 p. c.
 Power circuits: Motors, 185; price current per kw. hr., 7.5c. to 2.25c.; disc., 10 p. c.
 Output of station kw. hrs. for year, 3,522,425.
 Generating power used, Water.
 Power purchased from Connecticut River Power Co.

Laconia Gas and Electric Co., Laconia.

RR.: Bos. & Me. Ex.: Am.

Capital stock, pref., \$230,000; com., \$250,000; ann. div., 6 p. c. on pref.; 6 p. c. on com.
 Bonds, \$328,500; due 1940; interest, 5 p. c.
 President, Wallace L. Mason.
 Vice-pres., Allan Hollis.
 Treasurer, E. L. Gay.
 Clerk, F. M. Beckford.
 General manager, F. T. Brockington.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$8.50 to \$10; coke, \$5 to \$10.50.
 Price of oil, per gal., 5c.
 Calorific value, 565 B. t. u.
 Annual production, 27,000,000 c. f.
 Max. day's send out, 98,100 c. f.
 Total gas holders capacity, 83,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 17.
 Street main pressure, max., 4 in.; min., 3 in.
 Annual sales, approx., 24,795,000 c. f.
 Gas unaccounted for, 7.4 p. c.

Pop. dist. supplied, 8,900; of city, 10,183.
 No. consumers, 1,507.
 No. meters, reg., 595; prepay., 912.
 Price gas: Light and fuel, gross, \$1.75. Disc.: Over 2,000 c. f. to 5,000 c. f., 10 p. c.; 5,000 to 10,000 c. f., 15 p. c.; 10,000 to 15,000 c. f., 20 p. c.; over 15,000 c. f., 25 p. c.
 Ranges in use, 1,182; water heaters, 221.
 No. commercial gas arc lamps, 160.
 Supplies Laconia and Lakeport.

ELECTRICAL DEPARTMENT.

System operated: A. C., 2 phase, 60 cycle, 7,200 alt. Power, A. C., 60 cycle 2 and 3 phase.
 Generating capacity: Lighting, 1,550 kw.; power, 1,550 kw.
 Voltage: Incand., 110; power, 110-220-440.
 City lighting contract, hours lighted per year: Incand., 4,000.
 No. public incand.: 36, 60 c. p., price per year \$23.50; 519, 40 c. p., price per year \$18.
 Commercial lighting: No. arcs, 6 flame.
 Price current per kw. hr., gross, 15c. Disc., 5 p. c. to 46 2-3 p. c.
 Power circuits: No. motors, 88; price per kw. hr., 7.5c. to 2.25c. Disc., 10 p. c.
 Other uses: Electric ranges, 1; range rate same as power.
 Output of stations, kw. hrs. total for year, 3,143,700.
 Generating power used, Water and Oil; rated Water, 1,950 h. p.; Oil engines, 450 h. p.

Peoples Gas Light Co., Manchester.

RR.: Bos. & Me. Ex.: Am.

Capital stock, \$500,000.
 President, A. M. Heard.
 Treasurer, W. G. Africa.
 Comptroller, G. W. Curran.
 Clerk, W. G. Africa.
 Purchasing agent, J. A. Pearson.
 Manager, W. G. Africa.
 Process manufacture, Lowe and Coal.
 Calorific value, 565 B. t. u.
 Miles of mains, approx., 86.5.
 Pop. dist. supplied, 69,932; of city, 84,264.
 No. consumers, 13,645.
 No. meters, reg., 13,422; prepay., 272.
 Price gas: Light and Fuel, \$1.10 gross; \$1 net.
 Annual sales, approx., 329,464,500 c. f.
 Ranges, 12,207; heaters, 3,436; water heaters, 1,963.
 No. commercial gas arc lamps, 2,079.
 Supplies Manchester.

Nashua Light, Heat and Power Co., Nashua.

RRs.: Bos. & Me. Ex.: Am.

Controlled by Manchester Traction, Light and Power Co.
 Capital stock, \$600,000; ann. div., 8 p. c.
 President, E. C. Foster.
 Clerk, E. C. Jones.



WILLIAMS' "VULCAN" CHAIN PIPE VISE

3 sizes. Capacities 1 1/2" to 8". Stocked by Dealers.

THE RIGHT TOOL FOR SERVICE CARTS

J. H. WILLIAMS & CO., 74 Richards Street, Brooklyn, N. Y.

Treasurer, Phillip L. Saltonsall.
 General manager, W. F. Norton.
 Supt., engineer and pur. agt. gas dept., W. F. Norton.
 Engineer and pur. agt., elec. dept., G. L. Sadler.
 New bus. mgr., W. F. Norton.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$8.75.
 Price oil per gal., delivered, 8c.
 Calorific value, 600 B. t. u.
 Annual prod., coal gas, 70,000,000 c. f.; water gas, 33,000,000 c. f.
 By-products made: Coke, 5,000 tons; tar, 100,000 gals.; ammonia, 200,000 gals.
 Total gas holders capacity, 400,000 c. f.
 Holder pressure, 4.7 in.
 Max. day's send out, 385,000 c. f.
 Miles of mains, approx., 51.
 Street main pressures, max., 4.7 in.; min., 3 in.
 Annual sales, approx., 95,000,000 c. f.
 Gas unaccounted for, 6 p. c.
 By-products sold: Coke, 3,300 tons; tar, 100,000 gals.; ammonia, 200,000 gals.
 Pop. dist. supplied, 32,000; of city, Nashua, 26,005 (1910), now est. 32,000.
 No. consumers, 4,944.
 No. meters, reg., 3,878; prepay., 106.
 Price gas: Light and Fuel, gross \$1.30, net \$1.20.
 Ranges in use, 3,300; heaters, 1,900; water heaters, 900.
 No. commercial gas arc lamps, 1,200.
 Supplies Nashua and Hudson.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$300,000.
 System operated: Arc, A. C. and D. C.; incand., A. C., single ph., 7,200 alt.; power, A. C., 3 ph., 7,200 alt.
 Generating capacity: Lighting and Power, 1,500 kw.
 Voltage: At arc, 80; incand., 110-220; power, 220-550.
 City lighting contract: Hours lighted per year: Arc, 4,000 and 2,000; incand., 4,000.
 No. public ares, 53; 500 watt. Price per year, \$75 and \$125.
 No. public incand., 794; 60-250-600 c. p. Price per year, \$22, \$40 and \$80.
 Ornamental street lighting system with G. E. Luminous arcs; all night, \$125; half night, \$75.
 Commercial lighting, No. incand. (no record).
 Price com. and dom. per kw. hr., gross, 12c. first 50 hrs. of demand, balance 6c. Disc., 5 p. c.
 Power circuits: No. motors, 261; price per kw. hr., 8c. 1st 20 hrs. demand; all over 5c. per kw. hr. Discount, 5 p. c.
 Output of station, kw. hrs. for year, 4,023,599.
 Generating power, Steam; rated h. p., 2,250. and Water power purchased from Manchester Light & Power Co.
 Cost of station boiler coal, per ton, \$8.47.

Portsmouth Gas Co., Portsmouth.

RRs.: Bos. & Me.; Y. H. & B. Ferry with Kittery, Me. Ex.: Am.; B. L.

For capitalization and bonds, see Appendix.
 President, E. H. Palmer.
 Secretary, H. K. Seybolt.
 Treas. and pur. agt., E. Seybolt.
 Gen. mgr. and engr., E. Seybolt.
 New bus. mgr., R. M. Bradlee.
 Superintendent, J. N. Scott.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$8.
 Calorific value, 565 B. t. u.
 Annual production, 52,000,000 c. f.
 By-products made: Coke, 3,400 tons; tar, 70,000 gals.
 Total gas holders capacity, 150,000 c. f.
 Holder pressure, 7 in.
 Max. day's send out, 200,000 c. f.
 Miles of mains, 20.
 Street main pressure, max., 4 in.; min., 3 in.
 Annual sales, approx., 47,000,000 c. f.
 Gas unaccounted for, 8 p. c.
 By-products sold: Coke, 2,000 tons; tar, 70,000 gals.
 Pop. of city, 11,269; dist. supplied, 11,250.
 No. consumers, 2,226.
 No. meters, reg., 1,482; prepay., 744.
 Price gas: Light and Fuel, \$1.20 net 1st 10,000 c. f.; \$1 net next 20,000 c. f.; 90c. net over 30,000 c. f.; 50c. per mo. per meter additional (July 1, 1917).
 No. public lamps, 9 Welsbach incand.
 Price per year, \$24.50.
 Hours lighted per year, 4,000.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 1,048; water heaters, 510.
 No. commercial gas arc lamps, 300.
 Supplies Portsmouth.

Strafford-York Gas Co., Rochester.

RR.: Bos. & Me. Ex.: Am.; B. L.

Capital stock, pref., \$150,000; com., \$180,000.
 Ann. div., pref., 5 p. c. No bonds.
 President, Lyman T. Dyer.
 Secretary, Fitzhugh C. Speer.
 Treasurer, Fitzhugh C. Speer.
 Supt. and pur. agt., E. C. Andrew.
 Process manufacture, Coal and Lowe.
 Calorific value, 570 B. t. u.
 Annual production, water gas, 43,174,040 c. f.
 Max. day's send out, 225,000 c. f.
 Total gas holders capacity, 185,000 c. f.
 Holder pressure, 5 in.
 Miles of mains, 35.
 Street main pressures, max., 5.5 in.; min., 3.5 in.; high pressure, 5 lbs.
 Annual sales, approx., 38,133,840 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 20,000; of Rochester, 8,863; Somersworth, 6,704; Berwick, 2,500.
 Consumers and meters, 1,220.
 Price gas: Light and Fuel, gross, \$1.70; net, \$1.60.
 Ranges in use, 653; water heaters, 79.
 No. commercial gas arc lamps, 75.
 Supplies Rochester, East Rochester and Gonic, Somersworth, N. H., and Berwick, Me.



HOLDERS, WATER AND GAS WORKS APPLIANCES, PIPE

R. D. WOOD & CO., PHILA., PA.



NEW JERSEY

Total population, 2,981,105.

Atlantic City Gas Co., Atlantic City.RRs.: A. C.; A. C. & Shore (El.); W. J. & S.
S. Ex.: Ad.; Am.Operated by The C. H. Geist Co.
(For capitalization and bonds, see Appendix.)
President, C. H. Geist.
Secretary, H. A. Lang.
Treasurer, H. A. Lang.
General manager, H. S. Schutt, Philadelphia,
Pa.Manager, Carlton Geist.
Superintendent, David Henry.
New business manager, L. N. Yetter.
Process manufacture, Lowe.
Candle-power, 21.
Calorific value, 550-600 B. t. u.
Annual production, 700,400,000 c. f.
Max. day's send out, 3,050,000 c. f.
Total gas holders capacity, 2,200,000 c. f.
Miles of mains, approx., 134.
Street main pressures, max., 5 in.; min., 2.5
in.High pressure mains, 2 miles; pressure, 5 lbs.
Annual sales, approx., 653,000,000 c. f.
Gas unaccounted for, 5.6 p. c.
Pop. of city (1910 census), 46,150; dist. sup-
plied, 60,000 (summer, 300,000).
No. consumers, 16,955.
No. meters, reg., 13,660; prepay., 3,295.
Price gas: Light and Fuel, \$1; net, 90c.
No. public gas lamps, 381.
No. hours each lamp is lighted, 4,000.
No. ranges, 13,000.
No. commercial gas are lamps, 2,500.
Supplies Atlantic City, Ventnor, Margate City
and Longport.**Standard Gas Co., Atlantic Highlands.**RR.: Cen. of N. J. S. B.: Cen. of N. J. Ex.:
Am.Controlled by Union Railway Supply Co.
Capital stock, auth., \$500,000; issued, \$189,000.
Bonds, \$608,600; due 1946; int., 5 p. c.
President, Harry Stille.
Secretary and treas., P. M. Satterthwaite.
Pur. agt., Union Railway Supply Co.
General manager, R. H. Garrison.
Superintendent, H. A. Stockton, Keyport.
New bus. mgr., C. J. De Mers, Freehold, N. J.
Dist. supt., E. S. Finnegan.
Process manufacture, Lowe (U. G. I. Co.).
Price coal, delivered, per ton, \$6.35; oil per
gallon, 5c.
Calorific value, 600 B. t. u.
Candle-power, 22.
Gas holder capacity, 325,000 c. f.
High pressure mains, miles, 103; pressure, 20
lbs.
Max. day's send out, 613,000 c. f.
Annual sales, approx., 96,921,600 c. f.
Gas unaccounted for, 15 p. c.Population dist. supplied, 35,000; of Atlantic
Highlands, 1,645; Keyport, 3,554; Mata-
wan, 1,646; Freehold, 3,233.

No. consumers, 6,703.

Price gas: Light and Fuel, gross, \$1.50; net,
\$1.40.Supplies Highlands, Water Witch, Hilton,
Stone Church, Rumson, East Side Park,
Oceanic, East Oceanic, Locust, Navesink,
Hillside, Atlantic Highlands, Brevent
Park, Mardean, Ocean View, Leonardo,
Highland Park, Belford, Middletown, Port
Monmouth, New Monmouth, Keansburg,
Keansburg Beach, New Point Comfort,
Ideal Beach, Granville Park, Stone Road.
Keyport, Matawan and Freehold.**Coast Gas Co., Belmar.**

RR.: N. Y. & L. B. Ex.: Am.

Capital stock auth., \$1,000,000; issued, \$495,-
450.

Bonds, \$765,000; due 1951; int., 5 p. c.

President, Joseph Mayer.

Vice-pres. and treas., L. C. Ritchie.

Secretary, J. J. Lyons, Jr.

General manager, A. H. Osborne.

Pur. agent, A. H. Osborne.

New bus. mgr., Lewis Thorne.

Process manufacture, Lowe.

Candle-power, 22.

Calorific value, 600 B. t. u.

Price coal per ton, delivered, \$5.

Price of oil per gallon, 3.37c.

Annual production, 142,663,714 c. f.

Max. day's send out, 889,000 c. f.

Gas holder capacity, 742,000 c. f.

Holder pressure, max., 3.1 in.

Miles of dis. mains, approximate, 70.77.

High pressure mains, 18.1 miles; press., 10-30
lbs.Street main pressures, max., 3.1 in.; min., 2.2
in.

Annual sales, approx., 120,413,990 c. f.

Gas unaccounted for, 15.5 p. c.

Pop. dist. supplied: Summer, 120,000; Winter,
20,300 (1910 census, Belmar, 1,433).

No. consumers and meters, 5,546.

Price gas: Light and Fuel, net \$1.50.

No. public Welsbach lamps, 289.

Contract includes repairs, care, lighting and
extinguishing.

No. hours each lamp is lighted per year, 4,000.

No. ranges in use, 3,500; heaters, 750; water
heaters, 2,500.

No. commercial gas are lamps, 550.

Supplies Belmar, Avon, Bradley Beach, Sea
Girt, Neptune City, Como, Spring Lake,
Manasquan (The Shore Gas Co.), Wall
Township, Ocean Grove, Neptune Town-
ship, West Belmar, Villa Park, Point
Pleasant, Brielle, Bay Head, Allenwood
and Lakewood (Lakewood Gas Co.)

RELIABLE

"ANGLIRON"

RANGES

Wherever you find them, "ANGLIRON" owners are always
enthusiastic—always contented—always completely satisfied.
What more do you want a range to do? Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

The Boonton Gas Light and Improvement Co., Boonton.

RR.: D., L. & W. Ex.: Ad.

Capital stock, \$80,000.

Bonds, \$80,000; due 1952; interest, 5 p. c.

President, George Richter.

Sec. and treas., Fletcher H. Sillick.

Managing Director, W. E. Van Patten.

Engineer, W. E. Van Patten.

Pur. agent, W. E. Van Patten.

Superintendent, Griffith W. Johns.

Process manufacture, Lowe.

Annual production, 12,200,000 c. f.

Price coal per ton, delivered, \$5.15; oil per gallon, 3.21c.

Candle-power, 16.

Calorific value, 605 B. t. u.

By-products made: Tar, 11,000 gals.

Gas holder capacity, 90,000 c. f.

Holders pressure, max., 5.5 in.

Max. day's send out, 45,000 c. f.

Street mains, approx., 9 miles; pressure, max., 3.2 in.; min., 2.4 in.

Annual sales, approx., 11,350,000 c. f.

Gas unaccounted for, 7 p. c.

By-products sold: Tar, 7,000 gals.

Pop. city supplied, est., 5,300.

No. consumers, 610.

No. meters, reg., 478; prepay., 32.

Price gas: Light and Fuel, \$1.35.

No. public Welsbach incand., 26. Contract includes repairs, care, lighting and extinguishing. Price per year, \$16.

No. hrs. lamp lighted per year, 4,150.

No. ranges, 285; heaters, 62; water heaters, 205.

No. commercial gas arc lamps in use, 118.

Supplies Boonton.

Bridgeton Gas Light Co., Bridgeton.

RRs.: Cen. of N. J.; W. J. & S. S. Ex.: Am.; Ad.

Capital stock, auth., \$500,000; issued, \$155,200.

Bonds, \$60,000; due 1933; int., 5 p. c.

President, Bloomfield H. Minch.

Secretary, Wm. C. Mulford.

Treasurer, Jacob B. Jones.

Pur. agt. and supt., Jacob B. Jones.

Gen. manager, Jacob B. Jones.

New bus. mgr., Seo DuBois, Jr.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.25.

Candle-power, 16; calorific value, 600 B. t. u.

Annual production, 95,235,400 c. f.

By-products made: Coke, 6,124 tons; tar, 72,300 gals.

Total gas holder capacity, 440,000 c. f.

Holder pressure, 7.5 in.

Max. day's send out, 351,887 c. f.

Miles of mains, approx., 28.

Street main pressure, max., 4.5 in.; min., 3 in.

Annual sales, approx., 88,634,800 c. f.

Gas unaccounted for, 6 p. c.

By-products sold: Coke, 4,101 tons; tar, 72,300 gals.

Pop. dist. supplied, 13,700; of city, 14,209.

No. consumers, 3,442.

No. meters, reg., 935; prepay., 2,507.

Price gas: Light and Fuel, gross and net, \$1.

Ranges in use, 2,260; heaters, 1,410; water heaters, 760.

No. commercial gas arc lamps, 819.

Supplies Bridgeton.

Camden Coke Co., Camden.

RRs.: A. C.; Penna.; W. J. & S. S. Ferry from Phila. Ex.: Ad.; Am.

Capital stock, \$350,000.

President, Thomas N. McCarter.

Secretary, Percy Ingalls.

Treasurer, P. S. Young.

Purchasing agent, J. A. Pearson.

General manager, H. D. Whitcomb.

Superintendent, Geo. W. Curtis.

Process manufacture, 150 Otto-Hoffmann Coke-ovens.

Sells all its gas to Public Service Gas Co. at Camden.

Public Service Gas Co. (Southern Division), Camden.
(RRs.: See Camden above.)

(Controlled by Public Service Corp. of N. J.)

Lessee of Gas Properties of South Jersey Gas, Electric and Traction Co., and Princeton Light, Heat and Power Co.

For information on company officials, stocks, bonds, etc., see Appendix.)

General manager, H. D. Whitcomb, Jr.

Superintendent, Geo. W. Curtis.

New bus. agt., R. R. Young.

Gas supplied by Camden Coke Company, Otto-Hoffmann ovens; and Lowe.

Miles of mains, approx., 596.

Annual sales, approx., 1,937,000,000 c. f.

Pop. dist. supplied (1915 census), 339,806.

Meters in service, reg., 41,690; prepay., 33,252.

Price of gas: Light and Fuel, net, 90c. (for sliding scale schedule, see Essex div., Newark).

Public gas lamps, 1,693, including 1,652 Welsbachs.

Hours each lamp is lighted per year, 4,000.

(For municipal incand. gas street lighting rates, see Essex div., Newark.)

Contract includes repairs, care, lighting and extinguishing.

Supplies Camden, Collingswood, Gloucester, West Deptford, Merchantville, Audubon, Centre Twp., Haddon Heights, Haddon Twp., Oaklyn, Pensauken Twp., Woodbury, Woodlynne, Haddonfield, Deptford Twp., Trenton, Hamilton, Lawrence, West Windsor, Ewing, North Hampton Twp., West Hampton Twp., Chester Twp. (Moorestown), Riverton, Cinnaminson, Delran, Riverside, Princeton Bor., Palmyra, Princeton Twp., Burlington, Beverly City, Burlington Twp., Florence Twp., Beverly Twp., Bordentown City, Bordentown Twp., Mansfield, Fieldsboro, Westville, Lumberton Twp., Barrington Boro.

ELECTRICAL DEPARTMENT.

(Operated under name of Public Service Electric Co.)

System operated: Lighting, Arcs, 60-cycle, A.

C. series, D. C. series magnetite; incand.,

A. C., 60 cycles, single phase; power, D.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

C., 60 cycle, 500 volt; A. C., single phase 2 and 3 phase; and D. C., 220 volt.
 Station gen. capacity, 31,200 kw.
 City lighting: Hours lighted per year, 4,001.
 Public arcs, 2,124; 320 to 480 watt; price per year (Standard rates; see Newark).
 Public incand., 5,197; 25 to 500 watt; price per year (Standard rates; see Newark).
 Commercial lighting rate: 10c. per kw. hr., with discounts based on consumption.
 Commercial power rate (see Newark).

Cape May Illuminating Co., Cape May.

RRs.: W. J. & S. S.; A. C. Ex.: Ad.

Controlled by United National Utilities Co., Philadelphia.

Capital stock, \$100,000.

Bonds, \$176,000; due 1936; interest, 5 p. c.

Process manufacture, Lowe.

Price coal per ton, delivered, \$5.75.

Candle-power, 20.

Max. day's send out, 137,000 c. f.

Total gas holders capacity, 100,000 c. f.

Holder pressure, 6 in.

Miles of mains, 17.24.

Street main pressure, max., 3.5 in; min., 2 in.

Annual sales, approx., 26,638,000 c. f.

Gas unaccounted for, 13,25 p. c.

Pop. dist. supplied, 4,000 in winter; 25,000 in summer; of city (1910 census), 3,321.

No. meters, reg., 1,213.

Price gas: Light and Fuel, gross \$1.60, net \$1.50.

No. public lamps, 61.

Price includes repairs, care, lighting and extinguishing.

Lamps lighted from sunset until sunrise.

No. gas ranges in use, 801; water heaters, 210.

No. commercial gas arc lamps, 59.

Supplies Cape May and West Cape May.

ELECTRICAL DEPARTMENT.

Operated under name of Cape May Lt. & Pwr. Co.

System: Arc, incand. and power. A. C., 3 phase, 60 cycles.

Generating capacity, 1,000 kw.

Voltage: Incand., 110; power, 110-220.

City lighting contract: Hours lighted, 4,000.

No. public arcs, 80 Mazda series, 600 c. p., at \$80; 110 400 c. p., at \$62; 52 100 c. p., at \$30.

Cost of boiler fuel, per ton, \$3.64.

Cumberland County Gas Co. (Lawrence District), Cedarville.

RRs.: Cen. of N. J. Ex.: Ad.; Am.

(Successors to Millville Gas Light Co. For capitalization, officers, etc., see Parent Cos.)

General office, Millville, N. J.

Gen'l manager, S. J. Franklin.

Purchasing agent, S. J. Franklin.

Supt. and new bus. mgr., Ralph H. Lee.

High pressure gas system.

Calorific value, 600 B. t. u.

Miles of mains, 7; pressure, max., 25 lbs.; min., 4 in.

Pop. dist. supplied, 1,750; of city, 1,825.

Price of gas to consumers, \$1.50.

Supplies Cedarville.

New Jersey Gas & Electric Co., Dover.

RRs.: Cen. of N. J.; D., L. & W. Ex.: Am.

Controlled by National Utilities Co., Boston.
 Capital stock: pref., \$100,000; common, \$400,000.

Bonds, \$166,500; due 1941; int., 6 p. c.

President, E. H. Van Wyck.

Secretary, A. A. Bridgham.

Treas. and pur. agt., W. E. McClintock.

General manager, W. E. McClintock.

Engineer and supt., P. Jorgensen.

Process manufacture, Lowe.

Price coal per ton, delivered, \$1.35.

Price oil per gal., delivered, 6c.

Candle-power, 22.

Calorific value, 590 B. t. u.

Annual production, 25,000,000 c. f.

Max. day's send out, 100,000 c. f.

Total gas holder capacity, 250,000 c. f.

Holder pressure, 3 in.

Miles of mains, approx., 25.

Street main pressure, max., 4 in.

High pressure mains, miles, 5; pressure, 4 lbs.

Annual sales, approx., 21,000,000 c. f.

Gas unaccounted for, 4 p. c.

Pop. dist. supplied, 15,000; of city, 7,468.

Consumers and meters, 1,400.

Price gas: Light & Fuel, gross \$1.35; net \$1.25.

Ranges in use, 1,061; heaters, 448; water heaters, 368.

No. commercial gas arc lamps, 330.

Supplies Dover and Wharton; franchise in Rockaway.

Enterprise Gas Co., Egg Harbor City.

RRs.: A. C.; W. J. & S. S. Ex.: Ad.

Capital stock, \$40,000.

Annual dividend, 5 p. c.

President, M. Frank.

Secretary, F. W. Bergmann.

Treasurer and pur. agt., F. W. Bergmann.

Manager, Sam Winterbottom.

Supt. and engineer, Fred Mueller.

Process manufacture, Lowe.

Price coal per ton, delivered, \$7.20.

Price oil per gal., delivered, 6.75c.

Candle-power, 20.

Total gas holders capacity, 76,000 c. f.

Max. day's send out, 20,740 c. f.

Miles of mains, approx., 5.5.

Street main pressures, max., 3.125 in.; min., 2.875 in.

Annual sales, approx., 7,579,200 c. f.

Pop. dist. supplied, 2,500; of city, 2,181.

No. meters, reg., 378.

No. consumers, 368.

Price gas: Light and Fuel, gross \$1.35; net \$1.21½.

Ranges in use, 280.

Supplies Egg Harbor City.

MADE IN AMERICA for use wherever gas mains ever need repair.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Elizabethtown Gas Light Co., Elizabeth.

RRs.: Cen. of N. J.; Penna. Ex.: Ad.; Am.

Capital stock, \$300,000 auth. and issued.
 Annual dividend, 10 p. c.
 Bonds, \$200,000; due 1933; interest, 4.5 p. c.
 President, Julian H. Kean.
 Secretary, Francis Engel.
 Treasurer, Julian H. Kean.
 Asst. treasurer, John Kean.
 Superintendent, Francis Engel.
 New bus. mgr., Chas. C. Denton.
 Process manufacture, Lowe.
 Candle-power, 20.
 Calorific value, 613 B. t. u.
 Annual production, 950,000,000 c. f.
 By-products made: Tar, 475,000 gals.
 Total gas holders capacity, 2,000,000 c. f.
 Holder pressure, max., 8 in.
 Max. day's send out, 4,000,000 c. f.
 Miles of mains, approx., 190.
 High pressure mains, miles, 25; pressure, 18 lbs.
 Street main pressure, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 860,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Tar, 475,000 gals.
 Pop. dist. supplied, 150,000; of city, 85,000.
 No. consumers, 22,000.
 No. meters, reg., 17,000; prepay., 5,000.
 Price gas: Light and Fuel, gross, \$1.10; net 90c.-70c.
 No. public Welsbach incand., 1,400.
 Price per year, \$22.
 Price includes repairs, care, lighting and extinguishing.
 Hours each lamp is lighted per year, 4,000.
 Ranges in use, 10,000; heaters, 3,500; water heaters, 3,500.
 No. commercial gas are lamps, 2,600.
 Supplies Elizabeth, Linden, Roselle and Roselle Park, Union, Hillside, Linden, Cranford, Westfield, Fanwood, Clark, Rahway, Metuchen, Kenilworth, Garwood, Picton, Roosevelt, Woodbridge, Perth Amboy, Port Reading, Iselin, Colonia, Avenel, Raritan, Menlo Park, Scotch Plains.

Cumberland County Gas Co. (Fairfield Dist.), Fairton.

RRs.: Cen. of N. J. Ex.: Ad.; Am.

(Successor to Millville Gas Light Co. For capitalization, officers, etc., see Parent Cos.)
 General office, Millville, N. J.
 Gen. mgr. and pur. agt., S. J. Franklin.
 New business manager, Ralph H. Lee.
 Superintendent, Ralph H. Lee.
 High pressure gas system.
 Calorific value, 600 B. t. u.
 Miles of mains, approx., 6; pressures, max., 25 lbs.; min., 4 in.
 Pop. dist. supplied (estimated), 2,050.
 Price of gas to consumers, \$1.50.
 Supplies Fairton, Belview Heights, New England.

New Jersey Northern Gas Co., Flemington.

RRs.: Cen. of N. J.; L. Val.; Penna. Ex.: Ad.; Am.

Controlled by New Jersey Northern Co.
 Capital stock, auth., \$250,000; issued, \$76,000.
 Annual dividend paid, 5 p. c.
 Bonds, \$223,000; due 1952; int., 5 p. c.
 President, Norman Grey.
 Vice-President, John A. Riggins.
 Secretary, Chas. DeF. Besoré.
 Treasurer, M. L. Berry.
 Gen. mgr. and pur. agt., John J. Power.
 Engineer, John D. Shattuck.
 Superintendent, John J. Power.
 New bus. mgr., John J. Power.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.10.
 Price oil per gal., delivered, 7.124c.
 Annual production, 36,000,000 c. f.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, max., 4 in.
 Max. day's send out, 135,000 c. f.
 Miles of street mains, approx., 48.
 Street main pressures, max., 4 in.; min., 3 in.
 High pressure mains, 36 miles; pressure, 30 lbs.
 Annual sales, approx., 33,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. of dist. supplied, 13,000; of cities, Flemington, 2,693; Lambertville, 4,657; Stockton, 605; Hopewell, 1,073; Pennington, 722.
 No. consumers, 1,950.
 No. meters, reg., 1,025; prepay., 925.
 Price gas: Light, gross, \$1.55; net, \$1.55.
 Fuel, gross, \$1.10; net, \$1.
 No. public Welsbach lamps, 30; lighted per moonlight schedule.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 1,000; heaters, 250; water heaters, 450.
 Supplies Flemington, Lambertville, Ringoes, Stockton, Hopewell, Pennington, Mt. Airy, Brookville, Woodsville, Marshalls Corner, Rocktown.

New Jersey Gas Co., Glassboro.

RRs.: A. C. Ex.: Ad.

Executive office, Real Estate Trust Bldg., Philadelphia.
 (For capitalization and bonds, see Appendix.)
 Vice-pres., Norman Grey.
 Sec. and treas., J. C. Lightfoot, Jr.
 Asst. treas., F. H. Folger.
 Pur. agent, Chas. W. Hoy.
 Manager and engineer, Charles W. Hoy.
 Superintendent, Samuel A. Goodman.
 New bus. mgr., Chas. W. Hoy.
 Process manufacture, Lowe.
 Price oil per gal., delivered, 7.23c.
 Candle-power, 22.
 Calorific value, 600 B.t.u.
 Annual production, 190,000,000 c. f.
 Gas holder capacity, 1,260,000 c. f.

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Holder pressure, 9.8 in.
 Max. day's send out, 850,000 c. f.
 High pressure mains, miles, 300; pressure, 30
 60 lbs. (individual governors).
 Street main pressure, max., 4 in.; min., 3 in.
 Annual sales, approx., 190,000,000 c. f.
 Gas unaccounted for, 17 p. c.
 Pop. dist. supplied, estimated 90,000.
 No. consumers, 9,436.
 No. meters, reg., 2,495; prepay., 7,357.
 Price gas: Gross, \$1.50; net, \$1.25 to dom. and
 25c. per mo. per meter, "readiness-to-
 serve" charge.
 No. public Welsbach incand. lamps, 507.
 Lamps lighted 4,000 hours.
 Contract includes repairs, care, lighting and
 extinguishing.
 Gas appliances in use: Ranges, 4,800; heat-
 ers, 750; water heaters, 250.
 No. commercial gas arc lamps in use, 550.
 Supplies Vineland, Glassboro, Pitman, New-
 field, Malaga, Iona, Franklinville, Clayton,
 Sewell, Wenonah, Woodbury Heights, Mt.
 Royal, Clarksboro, Mickleton, Barnesboro,
 Mullica Hill, Richwood, Woodstown, Run-
 nemede, Monroeville, Elmer, Cross Keys,
 Berlin, Blackwood, Bridgeport, Clemen-
 ton, Gibbsboro, Glendora, Grenloch, Lau-
 rel Springs, Pedricktown, Pennsgrove,
 Swedesboro, West Berlin, Williams-
 town, Ashland, Blenheim, Chews Land-
 ing, Erial, Hill Top, Hurffville, Jefferson,
 Kirkwood, Lindenwold, Magnolia, Man-
 tua, Overbrook, Pitman Grove, Somerdale,
 Stratford, Turnersville, Watsonstown—all
 in New Jersey.

Public Service Gas Co. (Bergen Division), Hacken- sack.

RRs.: N. J. & N. Y.; N. Y., Susq. & W. Ex.:
 W. F.

(Controlled by Public Service Corp. of N. J.).
 Lessee of Gas Properties of The Gas & Elec-
 tric Company of Bergen Co., Hackensack.
 Also lessee of property of Ridgewood Gas Co.,
 Ridgewood.

For information on company officials, stocks,
 bonds, etc., see Appendix.)

General manager, H. D. Whitcomb, Jr.

Engineer, J. N. Killgore.

New bus. agt., R. R. Young.

Process of manufacture, Lowe. Gas supplied
 by pipe line from Hudson division.

Miles of mains, approx., 392.

Annual sales, approx., 771,000,000 c. f.

Pop. dist. supplied, 98,448 (1915).

Meters in service, reg., 21,783; prepay., 4,195.

Price of gas: Light and Fuel, 90c. (for sched-
 ule, see Essex div., Newark).

Public gas lamps, 87, including 7 incand.

Hours each lamp is lighted per year, 4,000.

(For mun. incand. gas street lighting rates,
 see Newark.)

Contract includes repairs, care, lighting and
 extinguishing.

Supplies Hackensack, Hasbrouck Heights
 Bor., Little Ferry Borough, Westwood
 Borough, Bogota, Delford, Emerson, Hills-
 dale, Moonachie, Maywood, Midland,

Ridgefield, Palisade, Riverside, Teaneck,
 Woodcliff, Overpeck, Englewood, Cress-
 kill, Dumont, Haworth, Bergenfields,
 Leonia, Palisade Park, Tenafly, Engle-
 wood Cliffs, Carlstadt, East Rutherford,
 Rutherford, Lyndhurst, Woodridge,
 Ridgewood, Lodi Twp., Glen Rock, Ho-
 hokus Borough.

ELECTRICAL DEPARTMENT.

(Operated under name of Public Service Elec-
 tric Co.)

System operated: Lighting: Arcs, A. C., 60-
 cycle series; incand., A. C., 60-cycle, single
 phase; power, D. C., 60-cycle, single phase
 2 and 3 phase.

Station gen. capacity, 2,750 kw.

City lighting: Hours lighted per year, 4,001.

Public arcs, 302; 430 to 480 watt; price per
 year, (Standard rates; see Newark).

Public incand., 6,399; 31 to 500 watt; price
 per year, (Standard rates; see Newark).

Commercial lighting rate, 10c. per kw. hr.,
 with discounts based on consumption.

Commercial power rate (see Newark).

Hammonton and Egg Harbor City Gas Co., Hammonton.

RRs.: A. C.; W. J. & S. S. Ex.: Ad.

Capital stock, \$70,000.

Bonds, \$70,000; due 1933; int., 5 p. c.

President, Savary Bradley.

Sec. and treas., John P. Tompkins.

Pur. agent, Herbert C. Doughty.

Superintendent, Herbert C. Doughty.

New bus. mgr., H. C. Doughty.

Engineer, H. M. Horton.

Process manuf., Lowe (Logan Janeway).

Candle-power, 22.

Calorific value, 600 B.t.u.

Annual production, 11,500,000 c. f.

Max. day's send out, 50,000 c. f.

Total gas holders capacity, 120,000 c. f.

Holder pressure, 5.1 in.

Miles of mains, approximate, 9.

Street main pressure, max., 4.5 in.; min., 3.5
 in.

Annual sales, approx., 9,500,000 c. f.

Gas unaccounted for, 16 2/3 p. c.

Pop. dist. supplied, 5,896; of city, the same
 (N. J. census, 1915).

No. consumers, 641.

No. meters, reg., 227; prepay., 402.

Price gas: Light and Fuel, gross \$1.35; net
 \$1.25.

Ranges in use, 525; heaters, 65; water heat-
 ers, 53.

No. commercial gas arc lamps, 10.

Supplies Hammonton.

ELECTRICAL DEPARTMENT.

Operated under name of Hamilton Electric
 Light Co.

System operated: A. C., 2 ph., 60 cycle.

Generating capacity: Lighting and power,
 360 kw.

Voltage: Arcs, Line, 1,200; incand. and power,
 1,100-220-110.

WE BUY SPENT OXIDE FROM COAL GAS WORKS
SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street **PHILADELPHIA, PA.**

Miles of overhead wire, 100.
 City lighting contract: Hours lighted, arcs 4,000; incand. 2,000 and 4,000.
 No. public arcs, 23; 250 and 500 watt. Price per year, \$75 and \$95.
 No. public incand., 511; 40 watt. Price per year, \$10 and \$15.
 Commercial lighting: No. incand., 3,500.
 Price current per kw. hr., 15c. to 6c.; dis., 10 p. c.
 Power circuits: Motors, 300 h. p.; price per kw. hr., 11c. to 3c.; disc., 10 p. c.
 Output of station, kw. hrs. for year, 512,000.
 Generating power used, Steam; rated h. p., 460.

Public Service Gas Co. (Hudson Division), Jersey City.

RRs.: Cen. of N. J.; L. Val.; Erie; N. Y., Susq. & W.; N. J. & N. Y.; Penna.; W. Sh. Ferry and Subway into N. Y. City.
 Ex.: Ad.; Nat.; Am.; W. F.; N. Y. L.

Controlled by Public Service Corp. of N. J.
 Lessee of Hudson County Gas Co., Jersey City.
 For information on company officials, stocks, bonds, etc., see Appendix.)
 General manager, H. D. Whitcomb, Jr.
 Engineer, E. J. Donahue.
 New bus. agt., R. R. Young.
 Process manufacture, Lowe.
 Miles of mains, approx., 474.
 Annual sales, approx., 3,696,000,000 c. f.
 Pop. dist. supplied, 549,060 (1915).
 Meters in service, reg., 140,623; prepay., 13,107.
 Price of gas: Light and Fuel, gross, 90c. (for schedule, see Essex div., Newark).
 Public gas lamps, 1,401, including 1,397 Welsbach, incand.
 (For mun. incand. gas street lighting rates, see Newark.)
 Hours each lamp is lighted per year, 4,000.
 Contract includes repairs, care, lighting and extinguishing.

Supplies Jersey City, Bayonne, Hoboken, West Hoboken, Town of Union, North Bergen, West New York, Weehawken, Guttenberg, Secaucus, Fairview, Cliffside Park, Edgewater and Fort Lee.

ELECTRICAL DEPARTMENT.

(Operated under name of Public Service Electric Co.)
 System operated: Lighting: Arcs, A. C. and Magnetite series; incand., A. C., 60 cycle, single phase; power, D. C., 60 cycle, single phase, 2 and 3 phase.
 Station gen. capacity, 84,325 kw.
 City lighting: Hours lighted per year, 4,001.
 Public arcs, 3,315; price per year (Standard rates, see Newark).
 No. public incand., 1,446; price per year (Standard rates; see Newark).
 Commercial lighting rate, 10c. per kw. hr., with discount based on consumption.
 Commercial power rate (see Newark).

Seaboard By-Product Coke Co., Jersey City.

RRs.: (See Public Service Gas Co., Hudson Division.)

Controlled by Pittsburgh By-Product Coke Co.
 President, H. B. Rust.
 Vice-president, C. J. Ramsburg.
 Secretary and treasurer, S. T. Brown.
 General manager, D. MacArthur.
 Superintendent, J. Tierney.
 Purchasing agent, O. B. Young.

110 Koppers ovens (55 under construction):
 Length, 39 ft. 6 in.; width, 18¼ in.; height, 9 ft. 10½ in.
 Coal charged per oven, 12½ net tons.
 Coke yield, 73 p. c.: Foundry, furnace, egg, stove, nut, pea and breeze coke used for metallurgical domestic and water-gas purposes.

Time required for coking, 16-18 hrs.
 High volatile coal used (Pittsburgh R/m), 80 p. c.; low volatile (Quemahoning R/m), 20 p. c.
 Candle-power, 13.5.

Calorific value, 610 B. t. u.; surplus gas, 640 B. t. u.; heating gas, 520 B. t. u.
 By-products made: Gas (5 mos.), 2,222,400,000 c. f.; tar (5 mos.), 4,000,000 gals.; am. sulphate, 5,000,000 lbs.; crude benzol, 670,000 gals.; crude toluol, 230,500 gals.; pure toluol, 131,300 gals.; solvent naphtha, 167,000 gals.

By-products sold: Gas, 1,177,872,000 c. f. (used by Co., 1,044,528,000 c. f.); tar, 4,000,000 gals.; am. sulphate, 5,000,000 lbs.; crude benzol, 670,000 gals.; crude toluol, 230,500 gals.; pure toluol, 131,300 gals.; solvent naphtha, 167,000 gals.

Gas distributed in Jersey City and Newark, through Public Service Gas Co. of N. J. (Plant had been in operation 6 mos. when above report was made.)

Standard Gas Co., Keyport.

RRs.: Cen. of N. J. S.Bs. from N. Y. City.
 Ex.: Ad.; Am.

(See report under Atlantic Highlands.)

Lakewood Gas Co., Lakewood.

RRs.: Cen. of N. J. Ex.: Am.

Capital stock, \$100,000.
 Bonds, \$100,000; due 1939; int., 5 p. c.
 President, Joseph Mayer.
 Vice-pres., J. J. Lyons, Jr.
 Secretary and treasurer, L. C. Ritchie.
 Asst. sec. and asst. treas., A. H. Osborn.
 General mgr. and pur. agent, A. H. Osborn.
 Superintendent, Lewis Thorn.
 Process manufacture, Lowe.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Gas purchased from Coast Gas Co., Belmar.
 Annual output, 33,797,094 c. f.
 Gas holder capacity, 120,000 c. f.
 Holder pressure, max., 3.2 in.
 Max. day's send out, 144,102 c. f.
 Miles of mains, approx., 17.37.
 Street main pressure, max., 3.1 in.; min., 2.5 in.

CALORIMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

The American-Junkers' Calorimeter has been greatly improved and accessories added until it has been made what we consider the most advanced type of instrument for this purpose now in use. This is confirmed by the numerous orders we are constantly receiving for it from all parts of the country and that it has been furnished to all the large syndicates, State Public Utilities Commissions and the City Gas Inspectors, the Public Utilities Commission at Washington, D. C., the U. S. Bureau of Standards, and the U. S. Department of War.

Annual sales, approx., 28,396,100 c. f.
 Gas unaccounted for, 15.98 p. c.
 Po. dist. sup.: Winter, 10,000; summer, 5,000.
 No. consumers, 1,356.
 No. meters, 1,356.
 Price gas: Light and Fuel, \$1.50-\$1.25-\$1.
 No. public Welsbach lamps, 81; hours lighted, 4,000.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 1,000; heaters, 200; water heaters, 750.
 No. commercial gas arc lamps, 200.
 Supplies Lakewood.

New Jersey Northern Gas Co., Lambertville.

(See report under Flemington, N. J.)

Cumberland County Gas Co., Landis Township Dist.

RRs.: Atl. C. Ex.: Am.

(Successor to Millville Gas Light Co.)
 General office, Millville, N. J.
 General manager, S. J. Franklin.
 Pur. agent, S. J. Franklin.
 Pur. agent, High Press. Const. & Sup. Co.
 New bus. mgr., Louis H. Burge.
 Superintendent, Raymond W. Lee.
 High pressure gas system.
 Calorific value, 600 B. t. u.
 Miles of mains, approx., 40; pressures, max., 25 lbs.; min., 4 in.
 Pop. dist. supplied, 10,000.
 Price of gas: Light and Fuel, \$1.00.
 Supplies Cloverdale, South Vineland, East Vineland and Landis Township.

Cumberland County Gas Co. (Maurice River District), Leesburg.

RRs.: W. J. & S. S. Ex.: Ad.

(Successor to Millville Gas Light Co. For capitalization, officers, etc., see Parent Cos.)
 General office, Millville, N. J.
 General manager, S. J. Franklin.
 Superintendent, Ralph H. Lee.
 Pur. agent, S. J. Franklin.
 New bus. mgr., Ralph H. Lee.
 High pressure gas system.
 Calorific value, 600 B. t. u.
 Miles of mains, approx., 12.
 Pressure, max., 25 lbs.; min., 4 in.
 Pop. dist. supplied, 2,250 (est.).
 Price of gas to consumers, \$1.50.
 Supplies Port Elizabeth, Dorchester, Leesburg, Bricksboro, Menantico.

Consolidated Gas Co. of New Jersey, Long Branch.

RRs.: Cen. of N. J.; N. Y. & L. B.; Steamboats from N. Y. City. Ex.: Ad.; Am.

Capital stock nearly all owned by American Light & Traction Co.
 (For capitalization and bonds see Appendix.)
 President, Alanson P. Lathrop.
 Vice-pres. and gen. mgr., Fred R. Cutcheon.
 Secretary, H. N. McKaig.
 Treasurer, C. Henry Irwin.
 Asst. sec. and asst. treas., C. N. Jelliffe.

Gen'l superintendent, L. E. Dequine.

Process manufacture, Lowe.

Miles of mains, approx., 135.6.

Annual sales, approx., 246,617,600 c. f.

Pop. dist. supplied, est., 62,000; of Asbury Park, 10,150; Red Bank, 7,398; Long Branch, 13,298 (winter).

No. consumers and meters, 10,900.

Price gas: Light and Fuel, gross, \$1.35 to \$1.10; net, \$1.25 to \$1.10. (Application has been made to Commission for increase.)

Supplies Asbury Park, Red Bank, Eatontown, Allenhurst, Deal Beach, Seabright, Oceanport, Long Branch, Monmouth Beach, West Long Branch, Ocean Township, Shrewsbury, Fair Haven, Little Silver, Neptune Township.

ELECTRICAL DEPARTMENT.

System operated: Arcs, series A. C.; Incand., and Power, A. C.

Voltage: Arcs, series; incand., 110; power, 220.

Price current per kw. hr., gross 15c. to 10c.; power current, 10c. to 6c.

Output of station, kw. hrs., total for year, approx., 1,376,000.

Generating power used, Steam.

The Shore Gas Co., Manasquan.

RRs.: Penna.; N. Y. & L. B. Ex.; Ad.; Am.

(Controlled and operated by The Coast Gas Co., Belmar.

Capital stock, authorized, \$10,000; issued, \$9,900.

President, Joseph Mayer.

Vice-president, J. J. Lyons, Jr.

Secretary and treas., L. C. Ritchie.

Gas purchased from Coast Gas Co., Belmar.

Miles of street mains, 5.4.

Annual sales, approx., 3,736,100 c. f.

Pop. served, summer, approx., 2,500; winter, 1,817.

No. consumers, 268.

Price of gas, \$1.50 per 1,000 c. f.

Supplies Manasquan.

Medford Gas Co., Medford.

RRs.: Penna.; W. J. & S. S. Ex.: Ad.

Capital stock, \$25,000.

Bonds, \$22,200; due 1934; interest, 5 p. c.

President, Edward B. Reeve.

Secretary, Harry L. Knight.

Treasurer, E. B. Reeve.

Gen'l manager, E. B. Reeve.

Pur. agent, E. B. Reeve.

Superintendent, Geo. W. Mingin, Jr.

Process manufacture, Lowe (Phoenix).

Price of coal per ton, del'd, \$5.18.

Annual production, 5,000,000 c. f.

Gas holder capacity, 20,000 c. f.

Holder pressure, 2.8 in.

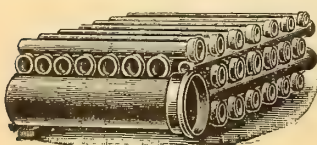
Max. day's send out, 21,000 c. f.

Miles of mains, approximate, 4.

Street main pressure, max., 2.8 in.

Annual sales, approx., 5,000,000 c. f.

Pop. dist. supplied, est., 1,275.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO.
 PHILADELPHIA, PA.

No. consumers and meters, 280.
 Price gas: Light and Fuel, \$1.40.
 No. public lamps, Miner, 50.
 Price per year, \$35.
 Contract includes care, lighting and extinguishing.
 No. hours each lamp is lighted per year, about 3,000 (all night schedule).
 Supplies Medford.

The Metuchen Gas Light Co., Metuchen.

RRs.: L. Val.; Penna.; P. & R. Ex.: Ad.; Am.

Controlled by Elizabethtown Gas Light Co.
 Capital stock, \$50,000.
 President, P. Convery.
 Secretary, Robert Carson.
 Treasurer, Francis Engel.
 Manager, A. F. Reitemeyer.
 New bus. mgr., A. F. Reitemeyer.
 Gas supplied from Elizabeth.
 Amount gas purchased, 11,960,000 c. f.
 Candle-power, 20.
 Calorific value, 613 B. t. u.
 Miles of mains, approximate, 10.
 Street main pressures, max., 3 in.; min., 2.5 in.
 Annual sales, approx., 10,996,000 c. f.
 Gas unaccounted for, 8.5 p. c.
 Pop. of city, 2,138; dist. supplied, 3,000.
 No. consumers, 427.
 No. meters, reg., 337; prepay., 90.
 Price gas: Light and Fuel, gross, \$1.10; net, 90c.
 No. ranges in use, 300; heaters, 50; water heaters, 100.
 No. commercial gas arc lamps, 30.
 Supplies Metuchen, Menlo Park. Raritan Township.

Cumberland County Gas Co., Millville District.

RRs.: W. J. & S. S. Ex.: Ad.

(Successor to Millville Gas Light Co. and its subsidiaries.)

Capital stock, \$200,000.
 Bonds, \$500,000; due 1930; int., 5 p. c.
 President, William C. Buell.
 Vice-pres., S. J. Franklin.
 Secretary, Charles M. Nixon.
 Treasurer, Walter Wood.
 General manager, S. J. Franklin.
 Pur. agent, S. J. Franklin.
 Engineer, S. J. Franklin.
 New bus. mgr., C. M. Nixon.
 Superintendent, Wm. C. Buell.
 Process manufacture, Coal and Lowe.
 Price of coal per ton, delivered, \$3.70.
 Price of oil per gal., delivered, 5.55c.
 Calorific value, 600 B. t. u.
 Annual production, 200,000,000 c. f.
 Total gas holder capacity, 250,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 700,000 c. f.
 Miles of mains, approx., 30.
 Street main pressures, max., 4 in.; min., 3.6 in.
 High pressure mains, miles, 10; pressure, 25 lbs.

Annual sales, approx., 180,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 50,000; city, 15,000 (est.).
 No. consumers, 7,500.
 No. meters, reg., 200; prepay., 7,300 (covering all districts).
 Price gas: Light and Fuel, \$1 to \$1.50.
 No. public incand. lamps, 84. Price per year, \$24. Price includes repairs, care lighting and extinguishing.
 No. hours each lamp lighted per year, 4,000.
 Ranges in use, 5,000; heaters, 500; water heaters, 400.
 Supplies Millville; also Pittsgrove, Vineland, Landis Township, Maurice River, Port Norris, Downe Township, Lawrence, Fairfield, Deerfield and Buena Vista Districts.

Cumberland County Gas Co., (Buena Vista District), Minotola.

RRs.: Cen. of N. J.; W. J. & S. S. Ex.: U. S. and Ad.

(Successor to Millville Gas Light Co. For capitalization, officers, etc., see Parent Cos.)

Office, Millville, N. J.
 General manager, S. J. Franklin.
 Pur. agent, S. J. Franklin.
 Superintendent, Wm. C. Buell.
 Supt. and new bus. mgr., Raymond W. Lee.
 Calorific value, 600 B. t. u.
 High pressure gas system.
 High pressure mains, 10 miles; pressure, max. 25 lbs., min. 4 in.
 Pop. dist. supplied, 2,850.
 Price gas: Light and Fuel, \$1.
 Supplies Wheat Road, Minotola, Landisville and Buena.

Public Service Gas Co. (Essex Division), Newark.

RRs.: Cen. of N. J.; D., L. & W.; L. Val.; Erie; Penna. S.Bs. from New York City.
 Ex.: Ad.; W. F.; N. Y. L.

(Controlled by Public Service Corp. of N. J.)
 Lessee of Essex and Hudson Gas Company, Newark Consolidated Gas Co., Morristown Gas Light Co., and of East Newark Gas Light Co.

For information on company officials, stocks, bonds, etc., see Appendix.

General manager, H. D. Whitcomb, Jr.
 Engineer, H. H. Ferris.
 New bus. agent, R. R. Young.
 Process of manufacture, Lowe and Coal.
 Miles of mains, approx., 1,002.
 Annual sales, approx., 4,930,000,000 c. f.
 Pop. dist. supplied, 637,717 (1915).
 Meters in service, reg., 145,575; prepay., 27,081.
 Price of gas: Light and Fuel: first 20,000 c. f., 90c.; next 30,000, 85c.; next 50,000, 80c.; next 50,000, 75c.; next 50,000, 70c.; all over 200,000 c. f., 65c., with a war surcharge of 7c. per 1,000 c. f.
 Public gas lamps, 4,959, including 4,457 Welsbach.
 Hours each lamp is lighted per year, 4,000.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

UNITED LEAD COMPANY
 111 BROADWAY, NEW YORK

Municipal incand. gas street lamp rates, as follows:

	1st Step 50 Lamps	2nd Step 51 to 150 Lamps	3rd Step over 150 Lamps
Single mantle lamps.	\$26.00	\$25.00	\$24.00
Two mantle lamps (inverted mantles one globe)	36.40	35.00	33.60
Four mantle lamps (upright mantles three globes)	70.20	67.50	64.80

Where the incandescent gas lamp service furnished a municipality consists of lamps of two or more of the types mentioned in the schedule the average rate charged for lamps of each type shall be the average rate obtained for an installation of lamps of that type, equivalent in number to the total number of incandescent lamps furnished.

Municipal open flame gas street lamp rate: \$18.00 per lamp per annum; any number of lamps.

Discounts will be allowed from the foregoing schedules, for lamps therein mentioned, based upon the term of contract as follows, viz.:

For a one year contract.....	1/2%
For a two year contract.....	1%
For a three year contract.....	1 1/2%
For a four year contract.....	2%
For a contract of five years or over....	2 1/2%
Contract includes repairs, care, lighting and extinguishing.	

Supplies Newark, East Newark, Harrison, Irvington, Kearny, Belleville, North Arlington, East Orange, Orange, South Orange Township, South Orange Village, West Orange, Montclair, Bloomfield, Caldwell Borough, Glen Ridge, Verona, Essex Fells, North Caldwell, West Caldwell, Summit, Chatham, Milburn, Springfield, Morristown, Morris Township, Florham Park, Hanover Township, Madison and Roseland.

ELECTRICAL DEPARTMENT.

(Operated under name of Public Service Electric Co.)

System operated: Light: Arcs, A. C. series, incand., A. C., 60 cycle, single phase; power, D. C., 60 cycle, single phase, 2 and 3 phase.

Station generating capacity, 103,953 kw.

City lighting: Hours lighted per year, 4,001.

Public arcs, 2,608; price per year, reg., 2,000 c. p. arcs. Standard rates: \$80 per lamp to 250 lamps; \$75 per lamp to 750 lamps; \$70 to 1,250 lamps; \$65 to 1,750 lamps; \$60 over 1,750 lamps. Reg. 1,200 c. p. arcs at 5 p. c. less than 2,000 c. p. rates.

Type "C" Mazda rates as follows:

	1st Step 250 Lamps	2d Step 251-750 Lamps	3d Step 751-1250 Lamps	4th Step 1251-1750 Lamps	5th Step over 1750 Lamps
400 C. P.	\$66.00	\$61.88	\$57.75	\$53.63	\$49.50
600 C. P.	80.00	75.00	70.00	65.00	60.00
1000 C. P.	104.00	97.50	91.00	84.50	78.00

The above specified Type "C" Mazda lamps shall be counted as arc lamps in applying the totaling step rate clause of the municipal arc lighting rate. Discounts as on other municipal rates.

Public incand., 6,280; price per year, per following schedule:

	1st Step 50 Lamps	2nd Step 51 to 100 Lamps	3rd Step 101 to 200 Lamps	4th Step over 200 Lamps
25 C. P.	\$18.00	\$16.65	\$15.30	\$13.95
32 C. P.	20.00	18.50	17.00	15.50
40 C. P.	22.50	20.81	19.12	17.44
60 C. P.	26.50	24.51	22.52	20.54
80 C. P.	30.00	27.75	25.50	23.25
100 C. P.	32.75	30.29	27.83	25.37
200 C. P.	55.00	50.88	46.75	42.63
350 C. P.	85.00	78.63	72.25	65.88

Where the incandescent service furnished a municipality consists of lamps of two or more of the candle-powers shown in the schedule, the average rate charged for lamps of each candle-power shall be the average rate obtained for an installation of lamps of that candle-power equivalent in number to the total number of lamps furnished.

Discounts will be allowed from the foregoing schedule, for lamps therein specified, based upon the term of contract as follows, viz.:

For a one (1) year contract.....	1/2 p. c.
For a two (2) year contract.....	1 p. c.
For a three (3) year contract.....	1 1/2 p. c.
For a four (4) year contract.....	2 p. c.
For a contract of (5) years or over.....	2 1/2 p. c.

Commercial lighting rate, 10c. per kw. hr., for 1st 500 kw. hr.; 9c. for next 500; 8c. for next 500; 7c. for next 500; 6c. for next 500; 5c. for next 5,000; 4c. for next 15,000; 3c. for all over 22,500 kw. hrs. Min. charge, \$1.

Retail commercial power rate: 1st step, 10c. per kw. hr. for monthly consumption equal to 20 kw. hr. per horse-power of maximum demand; 2nd step, 6c. per kw. hr. for first 50 kw. hr. in excess of total monthly consumption on first step; 3rd step, 4c. per kw. hr. for next 500 kw. hr.; 4th step, 2c. per kw. hr. for all excess consumption over the above steps, with a war sur-charge of 25 p. c. on bills for all current except that paid for at 10c. step. Minimum charge, 50c. per horse-power connected.

Wholesale commercial power rate, primary charge (monthly): \$1.50 per horse-power of maximum demand up to 200 h. p.; \$1.35 per horse-power of excess of maximum demand over 200 up to 400 h. p.; \$1.20 per horse-power of excess of maximum demand over 400 h. p.

Secondary charge (monthly): 3c. per kw. hr. for first 3,000 kw. hr.; 2c. per kw. hr. for next 7,000 kw. hr.; 1c. per kw. hr. for all over 10,000 kw. hr. with a war sur-charge on bill. Minimum charge, \$300 per month.



FOR GAS HOLDERS IN EXPOSED POSITIONS

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for
Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York

Power rate schedules are subject to a coal clause supplementary to the above war sur-charge as follows:

The charge for each kw. hr. of elec. energy furnished, except that furnished and paid for at the 10c. rate, shall be subject to an addition or deduction of twenty-eight thousandths (0.28) of a cent per kilowatt hour for each 25c. per gross ton of increase or decrease from an average cost for bit. coal of \$5.25 per gross ton, delivered at generating stations during each month.

Public Service Gas Co. (Central Division), New Brunswick.

RRs.: Penna.; Rar. R. S.Bs. from N. Y. City and Trent. Trans. Ex.: Ad.

(Controlled by Public Service Corp. of N. J.) Lessee of Gas Properties of Somerset, Union and Middlesex Lighting Co., Gas Light Company of the City of New Brunswick and of the Shore Lighting Co.

For information on company officials, stocks, bonds, etc., see Appendix.)

General manager, H. D. Whitcomb, Jr.

Engineer, Thomas L. Melick.

New bus. agt., R. R. Young.

Gas supplied by pipe line from Camden.

Miles of mains, approx., 263.

Annual sales, approx., 725,000,000 c. f.

Pop. dist. supplied, 130,493 (1915).

Meters in service, reg., 16,222; prepay., 9,234.

Price of gas: Light and Fuel, 90c. (for schedule of rates, see Essex div., Newark).

No. public Welsbach incand. gas lamps, 181.

Hours each lamp is lighted per year, 4,000.

For lighting rates, see Essex div., Newark.

Price includes repairs, care, lighting and extinguishing.

Supplies Plainfield City, Helmetta, North Plainfield Borough, Monroe, Piscataway Township, North Plainfield Township, Spottswood, Somerville, Sayreville, Raritan Town, Raritan Township, Bound Brook, Bridgewater Township, Dunellen, South Bound Brook, New Brunswick, Highland Park, North Brunswick, Milltown, East Brunswick, South Brunswick, South Amboy, Jamesburg and Madison Township, Middlesex Borough, South River, Hillsboro.

ELECTRICAL DEPARTMENT.

(Operated under name of Public Service Electric Co.)

System operated: Lighting, Arcs, A. C., 60-cycle series; incand., A. C., 60-cycle, single phase; power, D. C., 60-cycle, single phase, 2-phase and 3-phase.

Station generating capacity, 33,520 kw.

City lighting: Hours lighted per year, 4,001.

Public arcs, 1,118, 480 watt; price per year, standard rates, see Newark.

Public incand., 9,725; 31 to 389 watt; price per year, (Standard rates; see Newark).

Commercial lighting rate, 10c. per kw. hr., with discounts based on consumption.

Commercial power rate (see Newark).

Cumberland County Gas Co., (Downe Township District), Newport.

RRs.: Cen. of N. J. Ex.: Ad.; Am.

(Successor to Millville Gas Light Co. For capitalization, officers, etc., see Parent Cos.)

Gen. manager, S. J. Franklin.

Pur. agent, S. J. Franklin.

New bus. mgr., Ralph H. Lee.

Superintendent, Ralph H. Lee.

High pressure gas system.

Calorific value, 600 B. t. u.

Miles of mains, 14; pressures, max., 25 lbs.; min., 4 in.

Pop. dist. supplied (estimated), 1,525.

Price of gas to consumers, \$1.50.

Supplies Newport, Dividing Creek and Drags ton.

Newton Electric and Gas Co., Newton.

RRs.: D., L. & W. Ex.: Adams.

(Company in process of reorganization.)

Capital stock, pref., \$25,000; com., \$25,000.

Bonds, \$140,000; due 1951; interest, 5 p. c.

Purchasing agent, W. E. McClintock.

General manager, W. E. McClintock.

Engineer, Alviah Rice.

Process manufacture, Lowe.

Price coal per ton, delivered: anthracite, \$6.25; bituminous, \$4.85.

Price oil per gal., delivered, 4.97c.

Candle-power, 22.

Calorific value, 620 B. t. u.

Miles of mains, approximate, 8.

Street main pressures, max., 3.2 in.; min., 3 in.

Max. day's send out, 40,000 c. f.

Total gas holders capacity, 65,000 c. f.

Annual sales, approx., 12,000,000 c. f.

Gas unaccounted for, 7 p. c.

Pop. town supplied, 4,467.

No. consumers, 630.

No. meters, reg., 330; prepay., 300.

Price gas: Light, gross \$1.75; net \$1.60. Fuel, gross \$1.35; net \$1.20.

Ranges in use, 300; heaters, 75; water heaters, 25.

Supplies Newton.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System operated: A. C., 3-phase, 60 cycles.

Voltage, line, 2,300.

Incand. and power, generators, 450 kw. capac.

No. public arcs, 90; 6.6 amp.; hours lighted, 4,000.

No. public incand., 20.

Price arc, public, per year, \$72.50.

Price incand., public, per year, 24 c. p., \$24.

Price incand., commercial, per kw., 8c. to 15c.; disc., 5 p. c.

Power used: Gas; rated 600 h. p.

Cost station boiler coal per ton, \$4.55.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Cumberland County Gas Co., (Pittgrove District), Norma.

RR.: Cen. of N. J. Ex.: Am.

Office, Millville, N. J.

(Successor to Millville Gas Light Co. For capitalization, officers, etc., see Parent Cos.)

General manager, S. J. Franklin.

Pur. agent, S. J. Franklin.

New bus. mgr., Raymond W. Lee.

Superintendent, Raymond W. Lee.

High pressure gas system.

Calorific value, 600 B. t. u.

High pressure mains, 11 miles; pressures, max., 25 lbs.; min., 4 in.

Pop. dist. supplied (estimated), 2,500.

Price of gas, Light and Fuel, \$1.50.

Supplies Norma, Alliance, Brotmanville and Parvins.

City Gas Light Co., Ocean City.

RRs.: W. J. & S. S.; A. C.; Ferry with Longport, N. J. Ex.: Ad.

Capital stock, authorized, \$300,000; issued, \$185,025.

Bonds, \$200,000; due 1952; interest, 5 p. c.

President, Joseph Mayer.

Vice-president, H. C. Schanze, Jr.

Sec'y and treas., L. C. Ritchie.

General manager, H. C. Schanze, Jr.

Purchasing agent, ———.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$5.12; oil per gal., 3.5c.

Candle-power, 22; calorific value, 600 B. t. u.

Annual production, 32,512,000 c. f.

Gas holder capacity, 141,000 c. f.

Holder pressure, max., 3.2 in.

Max. day's send out, 280,000 c. f.

Miles of dis. mains, approx., 14.53.

Street main pressures, max., 3.1 in.; min., 2.5 in.

High pressure mains, 5.7 miles; pressure, 10-30 lbs.

Annual sales, approximate, 26,181,182 c. f.

Gas unaccounted for, 18.3 p. c.

Population of dist. supplied: Winter, 4,000; summer, approx., 45,000.

No. consumers, 2,761.

No. meters, 2,761.

Price gas: Light and Fuel, net, \$1.50.

No. public Welsbach lamps, 55.

Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,000.

Ranges in use, 2,000; heaters, 200; water heaters, 1,400.

No. commercial gas arc lamps in use, 250.

Supplies Ocean City.

Public Service Gas Co. (Passaic Division), Paterson.

RRs.: D., L. & W.; Erie; N. Y., Susq. & W. Ex.: W. F.

(Controlled by Public Service Corp. of N. J.)
Lessee of Gas Properties of Paterson and Passaic Gas and Electric Co.

For information on company officials, stocks, bonds, etc., see Appendix.

General manager, H. D. Whitcomb, Jr.

Engineer, C. J. Roeser.

New bus. agent, R. R. Young.

Process of manufacture, Lowe.

Miles of mains, approx., 362.

Annual sales, approx., 1,552,000,000 c. f.

Pop. dist. supplied, 261,466 (1915).

Meters in service, reg., 40,651; prepay., 23,839.

Price of gas: Light and Fuel, 90c. (for schedule of rates, see Essex div., Newark).

Public gas lamps, 555, including 283 Welsbach

Hours each lamp is lighted per year, 4,000.

Price includes repairs, care, lighting and extinguishing.

Supplies Paterson, Little Falls, Hawthorne, Haledon, Prospect Park, Saddle River Township, East Paterson Boro, Clifton, Passaic, Garfield, Lodi Borough, Nutley, Wallington, West Paterson and Totowa.

ELECTRICAL DEPARTMENT.

(Operates under name of Public Service Electric Co.)

System operated: Lighting: Arc., A. C. and Magnetite Series; incand., A. C., 60 cycle, single phase and Edison D. C.; power, Edison D. C. and 60-cycle, single phase and 2 phase and 3 phase A. C.

Station generating capacity, 9,600 kw.

City lighting, hours lighted per year, 4,001.

Public arcs, 1,716; 320 to 480 watt; price per year, (Standard rates: see Newark).

Public incand., 2,312; 31 to 350 watt; price per year, (Standard rates: see Newark).

Commercial lighting rate, 10c. per kw. hr., with discounts based on consumption.

Commercial power rate (see Newark).

Municipal Gas Plant, Paulsboro.

RR.: W. J. & S. S. Ex.: Ad.

Bonds of Borough, \$43,000; outstanding, \$39,000; due 1925; int., 5 p. c.

Gen. mgrs., Dept. Public Property & Works Borough Council.

Chairman, W. H. Morris.

Treasurer, Wm. H. Flowers, Jr.

Purchasing agent, W. H. Morris.

Superintendent and engineer, Jas. A. Wert.

New bus. mgrs., W. H. Morris, Geo. H. Lodge and A. L. Brown, councilmen.

Process manufacture, Lowe.

Price coal per ton, delivered, \$6 to \$8; oil per gal., 3.475c.

Candle-power, 18. Calorific value, 600 B.t.u.

Annual production, 18,299,600 c. f.

Gas holder capacity, 30,000 c. f.

Holder pressure, max., 3 in.

Max. day's send out, 90,000 c. f.

Miles of mains, approx., 8.5.

Street main pressures, max., 3 in.; min., 2 in.

Annual sales, approx., 14,883,600 c. f.

Gas unaccounted for, 4 p. c.
Pop. city, 2,121 (1910); of dist. supplied, est., 4,000.

No. consumers, 775.

No. meters, reg., 9; prepay., 766.

Price gas: Light and Fuel, \$1.25; engines, \$1.

HUNT COAL AND COKE VALVES—simplex, duplex, Seaton or "S," Briggs, etc., especially designed for controlling coal and coke, movement in gas works are described in detail in Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

No. public lamps, 122 Miner incand.
No. hours lamp is lighted, approx., 4,000.
Ranges in use (est.), 400; heaters, 2; water heaters, 4.
Supplies Paulsboro.

The Perth Amboy Gas Light Co., Perth Amboy.

RRs.: Cen. of N. J.; L. Val.; N. Y. & L. B.;
Penna.; S. I. R. T.; S. Bs. from N. Y.;
Ferry to Tottenville, N. Y. Ex.: Ad.

Capital stock, \$150,000.
President, P. Convery.
Secretary, A. F. Reitemeyer.
Treasurer, A. F. Reitemeyer.
Purchasing agent, A. F. Reitemeyer.
Superintendent, A. F. Reitemeyer.
Manager and engineer, A. F. Reitemeyer.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.25.
Candle-power, 19.
Calorific value, 600 B. t. u.
Annual production, 80,970,200 c. f.
By-products made and sold: Coke, 4,838 tons:
tar, 77,819 gals.
Gas purchased, 99,022,300 c. f.
Total gas holders capacity, 100,000 c. f.
Holder pressure, 5 in.
Max. days' send out, 536,000 c. f.
Miles of mains, approx., 35.
High pressure mains, miles, 25; press., 3 lbs.
Street main pressures, max., 3 in.; min., 2 in.
Annual sales, approx., 151,176,700 c. f.
Gas unaccounted for, 13 p. c.
By-products sold: Coke, 2,339 tons; tar,
68,253 gals.
Pop. dist. supplied, 23,000; of city, 32,121
(1910), now est. 42,000.
No. meters, reg., 3,739; prepay., 1,800.
No. consumers, 5,539.
Price gas: Light and Fuel, gross, \$1.10; net,
90c.
No. public gas lamps, 105.
Price per year, \$14.
No. hours each lamp is lighted per year, 2,200.
Contract includes repairs, care, lighting and
extinguishing.
Ranges in use, 1,780; heaters, 905; water
heaters, 407.
No. commercial gas arc lamps, 540.
Supplies Perth Amboy, Woodbridge, Sewaren,
Avenel, Colonia, Maurer, Iselin, Port
Reading, Fords and Roosevelt.

Pleasantville Heat, Light and Power Co., Pleasantville

RRs.: A. C.; A. C. & Sh. (El.); W. J. & S. S.
Ex.: Ad.

Operated by Atlantic City Suburban Gas &
Fuel Co.
Capital stock, \$50,000.
President, ———.
Sec. and treas., John P. Tompkins.
Gen. mgr. and pur. agt., John P. Tompkins.
Supt. of gas, Harry Lovett.
Supt. of electricity, Jesse L. Bowen.
Process manufacture, Lowé.
Candle-power, 20.
Gas holder capacity, 260,000 c. f.
Holder pressure, 5.5 in.

Max. day's send out, 170,000 c. f.
Miles of mains, approx., 35.
Street main pressures, max., 4.5 in.; min.,
2.5 in.
Annual sales, approx., 27,000,000 c. f.
Pop. city, 4,390; of dist. supplied, 9,000.
No. consumers, 1,784.
No. meters, reg., 764; prepay, 1,007.
Price gas: Light and Fuel, gross, \$1.40; net,
\$1.26.
Supplies Absecon, Pleasantville, Northfield,
Linwood and Somers Point.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.
Power, A. C., 2 phase.
Generating capacity: Lighting and power, 600
kw.
Voltage: Incand., 110; power, 110-220.
City lighting contract: Hours lighted per year,
arc, some all night and some to 12 o'clock.
No. public ares, 195; 400 watt; price per year,
from \$50 and \$75.
No. public incand., 208; 75 and 40 watt.
Price per year, \$15, \$30 and \$35.
Com. and dom. lighting: Price current per
kw. hr., gross, 17c. to 7c. Discount, 10
p. c.
Power circuits: Price per kw. hr., 11c. to 3c.
Disc., 10 p. c.
Output of station, kw. for year, 894,000.
Generating power: Steam, rated 600 h. p.

Cumberland County Gas Co., (Commercial District), Port Norris.

RRs.: Cen. of N. J.; W. J. & S. S. Ex.: Ad.

(Successor to Millville Gas Light Co. For
capitalization, officers, etc., see Parent
Cos.)
General office, Millville, N. J.
General manager, S. J. Franklin.
Pur. agent, S. J. Franklin.
Superintendent, Ralph H. Lee.
New bus. mgr., Ralph H. Lee.
High pressure gas system.
Calorific value, 600 B. t. u.
Miles of mains, 14; pressures, 25 lbs. max.;
4 in., min.
Pop. dist. supplied, est., 2,800.
Price of gas: Light and Fuel, \$1.50.
No. public gas lamps, 84.
Supplies Mauricetown, Haleyville, Port Norris,
Bivalve, Middletown and North Port Nor-
ris.

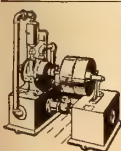
Rahway Gas Light Co., Rahway.

RRs.: Penna. Ex.: Ad.

Controlled by Elizabethtown Gas Light Co.
Capital stock, \$124,820.
President, Hamilton F. Kean.
Secretary and treas., Francis Engel.
General mgr., Francis Engel.
New bus. mgr., Chas. Howard.
Superintendent, Chas. Howard.
Gas purchased from Elizabethtown Gas Light
Co.
Amount gas purchased, 67,000,000 c. f.

INSIST ON YOUR CONSUMERS utilizing the NEED-
HAM HIGH PRESSURE GAS SYSTEM. It means entire
satisfaction with gas as fuel.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.



Candle-power, 20.
 Calorific value, 613 B. t. u.
 Total gas holders capacity, 146,000 c. f.
 Holder pressure, 5 in.
 Max. day's send out, 300,000 c. f.
 Miles of mains, approx., 30.
 Street main pressures, max., 3.5 in.; min., 3 in.
 Annual sales, approx., 62,000,000 c. f.
 Gas unaccounted for, 7.5 p. c.
 Pop. dist. supplied, 10,000; of city, est., 10,000.
 No. consumers, 2,382.
 No. meters, reg., 1,124; prepay., 1,258.
 Price gas: Light and Fuel, gross, \$1.10; net 90c.
 Ranges in use, 2,000; heaters, 500; water heaters, 1,000.
 No. commercial gas arc lamps, 150.
 Supplies Rahway.

Cumberland County Gas Co., (Deerfield District), Rosenhayn.

RRs.: Cen. of N. J. Ex.: Am.
 General office, Millville, N. J.
 (Successor to Millville Gas Light Co. For capitalization, etc., see Parent Cos.)
 Gen. mgr. and pur agent, S. J. Franklin.
 New bus. mgr., Raymond W. Lee.
 Superintendent, Raymond W. Lee.
 High pressure gas system.
 Calorific value, 600 B. t. u.
 Miles of mains, approx., 7; pressures, max., 25 lbs.; min., 4 in.
 Pop. dist. supplied (estimated), 3,500.
 Price of gas to consumers, \$1.50.
 Supplies Rosenhayn and Carmel.

Salem Gas Light Co., Salem.

RRs.: W. J. & S. S. S. Bs. from P'ila. Ex.: Ad.
 Capital stock, com., auth., \$75,000; issued, \$61,840; ann. div., 10 p. c.; 2 p. c. extra 1916.
 President, J. F. Sinnickson.
 Secretary, John F. Prendergast.
 Treasurer, W. Graham Tyler.
 Gen. mgr. and pur. agent, J. F. Prendergast.
 Superintendent, Alfred Fowler.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.40.
 Annual production, 28,380,000 c. f.
 By-products made: Coke, 580.4 tons; tar, 37,723 gals.
 Miles of mains, approx., 12.
 Candle-power, 17.
 Calorific value, 650 B. t. u.
 Max. day's send out, 110,800 c. f.
 Total gas holders capacity, 98,000 c. f.
 Miles of mains, 12.
 Street main pressures, max., 3.7 in.; min., 2.7 in.
 Annual sales, approx., 26,000,000 c. f.
 Gas unaccounted for, 8.8 p. c.
 Pop. dist. supplied, 7,000; of city, 6,614.
 No. meters, reg., 710; prepay, 1,036.
 No. consumers, 1,746.
 Price gas: Light and Fuel, gross, \$1.55; net \$1.38.
 No. public Welsbach lamps, 24.

Price per year, \$13.25.
 Contact does not include repairs, care, lighting and extinguishing.
 No. hours each lamp is lighted per year, 4,000.
 Ranges in use, 1,470.
 Supplies Salem.

Sea Shore Gas Company of South Jersey, Sea Isle City.

RRs.: A. C.; W. J. & S. S. Ex.: Ad.

Capital, \$50,000.
 President, Henry Rouner.
 Treasurer, Geo. Anderson.
 Process manufacture, Lowe.
 Price of gas, \$2.10 (1918).

Ocean County Gas Co., Toms River.

RRs.: Cen. of N. J.; Penna. Ex.: U. S.; Ad.

Controlled by Union Railway Supply Co.
 Capital stock, auth., \$40,000; issued, \$20,000.
 Bonds, \$164,000; due 1940; interest, 5 p. c.
 President, E. H. Berry.
 Secretary, A. M. Worstall.
 Treasurer, Harry Stille.
 Pur. agent, Union Railway Supply Co.
 General manager, N. A. McClary.
 Superintendent, N. A. McClary.
 New bus. mgr., N. A. McClary.
 Process manufacture, Lowe (Logan, Janeway and U. G. I. Co.)
 Price coal per ton, delivered, \$6.20.
 Price oil per gal., delivered, 5c.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 20,000 c. f.
 High pressure mains, miles, 52; pressure, 20 lbs.
 Max. day's send out, 111,000 c. f.
 Annual sales, approx., 22,403,200 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. dist. supplied, est., 10,000.
 No. consumers, 1,324.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 Supplies Toms River, Island Heights, Bayville, Cedar Creek, Forked River, Waretown, Barnegat, Manahawkin, Cedar Run, West Creek, Pine Beach, Tuckerton, Beachwood, Ocean Lake.

Tuckerton Gas Co., Tuckerton.

RR.: Tuckerton. Ex.: Ad.

Controlled by Union Railway Supply Co.
 Capital stock, \$25,000.
 Bonds, \$25,000; due 1933; int., 5 p. c.
 President, F. R. Austin.
 Vice-pres., H. Stille.
 Secretary, P. M. Satterthwaite.
 Treasurer, P. M. Satterthwaite.
 Pur. agent, Union Railway Supply Co.
 Gen. mgr., N. A. McClary.
 Purchase gas from Ocean County Gas Co.
 Candle-power, 22.
 Calorific value, 600.
 Total gas holders capacity, 18,000 c. f.
 Miles of mains, approx., 5 (high and low pressure).
 Street main pres., max., 2.8 in.

GAS EXHAUSTERS

No Internal Friction



GAS BOOSTERS

No Valves

Annual sales, approx., 5,250,000 c. f.
 Pop. city supplied, 1,268.
 No. consumers, 350.
 Price gas: Light, gross, \$1.50; net, \$1.35.
 No. public lamps, 73, all incand.
 Supplies Tuckerton.

Cumberland County Gas Co., Vineland District.

RR.: Cen. of N. J.; W. J. & S. S. Ex.: Ad.

Office, Millville, N. J.
 (Successor to Millville Gas Light Co. For capitalization, etc., see Parent Cos.)
 General manager, S. J. Franklin.
 Purchasing agent, S. J. Franklin.
 New bus. mgr., L. H. Burge.
 Superintendent, Raymond W. Lee.
 High pressure gas system.
 Calorific value, 600 B. t. u.
 Miles of mains, approx., 12.
 Pressures, max., 25 lbs.; min., 4 in.
 Pop. dist. supplied, 6,000; of city, est., 6,500.
 Price of gas: Light and Fuel, \$1.
 Supplies Vineland, East Vineland and West Vineland.

Washington Gas Co., Washington.

RR.: D., L. & W. Ex.: Ad.

Capital stock, \$40,000.
 Bonds, \$40,000; due 1936; interest, 5 p. c.
 President, D. V. Wyckoff.
 Secretary, H. Stille.
 Treasurer, H. W. Ridgway.
 General manager, D. V. Wyckoff.
 Pur. agent, D. V. Wyckoff.
 Superintendent, Wm. S. Cowell.
 Process manufacture, Lowe.
 Candle-power, 20.
 Max. day's send out, 25,000 c. f.
 Gas holder capacity, 25,000 c. f.
 Miles of mains, approx., 6.5.
 Street main pressures, max., 5 in.; min., 3.5 in.
 Annual sales, approx., 6,000,000 c. f.
 Pop. city supplied, 3,567.
 No. consumers, 530.
 No. meters, reg., 450; prepay., 80.
 Price gas: \$1.60 net for 1st 5,000 c. f.; \$1.50 next 5,000 c. f., and \$1.45 all over 10,000 c. f.
 Ranges in use, 150; heaters, 40; water heaters, 30.
 No. commercial gas arc lamps, 30.
 Supplies Washington.

Cranford Gas Light Co., Westfield.

RR.: Cen. of N. J. Ex.: Am.

(Subsidiary to Elizabethtown Gas Light Co.)
 Capital stock, \$300,000.
 President, Julian H. Kean.
 Secretary, Harry B. Udell.

Treasurer, Julian H. Kean.
 Asst. treas., Capt. John Kean.
 Purchasing agent, Harry B. Udell.
 Distributing company: Gas supplied from Elizabeth.
 Candle-power, 21.
 Calorific value, 630 B. t. u.
 Gas holder capacity, 750,000 c. f.
 Miles of street mains, approx., 69.
 Street main pressure, max., 3.3 in.; min., 3 in.
 High pressure mains, 6.5 miles; pressure carried, 10 lbs.
 Annual sales, approx., 100,262,300 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. dist. supplied, 15,000.
 No. consumers, 3,642.
 No. meters, reg., 2,674; prepay., 968.
 Price gas: Light and Fuel, gross, \$1.10; net 90c.
 Ranges in use, 1,942; heaters, 651; water heaters, 1,191.
 No. commercial gas arc lamps, 119.
 Supplies Garwood, Westfield, Fanwood, Cranford, Scotch Plains, Kenilworth and Clark Township.

Wildwood Gas Co., Wildwood.

RR.: W. J. & S. S. Ex.: Ad.

Capital stock, \$75,000.
 Bonds, \$300,000; due 1940; interest, 5 p. c.
 President, David A. Howe.
 Vice-pres., Theodore J. Grayson.
 Sec'y and treas., J. C. Lightfoot, Jr.
 Asst. sec'y and asst. treas., Thos. Linnenbrink.
 General manager, Chas. Croker.
 Pur. agent, Charles Croker.
 Superintendent, Chas. Croker.
 Engineer, C. A. S. Sinclair.
 Process manufacture, Lowe (Gas Mach. Co.).
 Price coal per ton, delivered, \$8.
 Price oil per gal., delivered, 7.86c.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Annual production, 38,000,000 c. f.
 Max. day's send out, 300,000 c. f.
 Total gas holders capacity, 125,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approx., 35.
 Street main pressure, max., 6.1 in.; min., 3.1 in.
 Annual sales, approx., 34,000,000 c. f.
 Pop. dist. supplied, winter, 5,000; summer, 75,000 (estimated).
 No. consumers, 3,614.
 No. meters, reg., 503; prepay, 3,111.
 Price gas: Light and Fuel, gross, \$1.50.
 No. public Welsbach and Humphrey gas lamps, 145.
 Hours lighted per year, 4,000.
 No. ranges, 1,000; heaters, 100; water heaters, 250.
 No. commercial gas arc lamps, 200.
 Supplies Wildwood, North Wildwood and Wildwood Crest.

BLOWERS

For Industrial Applications. High Efficiency



P.H. & F.M. ROOTS CO.

Connersville
 Indiana

New York

Chicago

NEW MEXICO.

Total population, 416,966.

Albuquerque Gas and Electric Co., Albuquerque.

RR.: A., T. & S. F. Ex.: W. F.

(Formerly Albuquerque Gas. Electric Light & Power Co.)

(Controlled by Federal Light and Traction Co. For capitalization, see Appendix).

President, E. N. Sanderson.

Treasurer, J. Dunhill.

Manager, Arthur Prager.

Process manufacture, Coal.

Miles of mains, approx., 16.

Street main pressures, min., 2.3 in.; max., 5 in.

High pressure mains, 19.

Max. day's send out, 86,000 c. f.

Gas holder capacity, 50,000 c. f.

Annual sales, approx., 22,000,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. dist. supplied, 22,000; of city, 11,020.

Consumers and meters, 1,142.

Supplies Albuquerque.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.

Voltage: 2,300-230-115.

No. public incand., 130; 250 watt; lighted by moon schedule.

Commercial lighting, No. arcs, 48.

Output of station kw. hrs., total for year, 3,500,000.

Roswell Gas and Electric Co., Roswell.

RR.: A., T. & S. F. Ex.: W. F.

Controlled by Otis & Co., Cleveland, Ohio.

Capital stock, pref. \$75,000; com. \$500,000.

Annual dividend, pref., 7 p. c.

Bonds, \$643,000; due 1925; int., 6 p. c.

President, Geo. W. York, Cleveland, O.

Secretary, C. M. Einhart, Roswell.

Treas. and gen. mgr., D. W. Low, Cleveland, O.

New bus. mgr., Geo. Honeywell.

Engineer, elec., A. R. Blackwood.

Engineer, gas, A. L. Park.

Supt. and pur. agt., C. M. Einhardt.

Process manufacture, Oil (Beal).

Price oil per gallon, delivered, 7.2c.

Candle-power, 18; calorific value, 600 B. t. u.

Annual production, 9,000,000 c. f.

Total gas holders capacity, 100,000 c. f.

Holder pressure, max., 4.5 in.

Max. day's send out, 40,000 c. f.

Miles of mains, approx., 21.

Street main pressures, max., 3.75 in.; min., 3.5 in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 16 p. c.

Pop. dist. supplied, 6,500; of city, 7,500.

No. meters, reg., 303; prepay., 380.

No. consumers, 683.

Price gas: Light and Fuel, gross, \$2; net, \$1.80 and \$1.50; min., \$1.

Ranges in use, 585; heaters, 450; water heaters, 235.

Supplies Roswell.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; power, 3 phase, 60 cycle.

Generating capacity: Lighting and power, 1,850 kw.

Voltage: Arcs, 72; incand., 110; power, 110-220 and 550.

City lighting contract: Hours lighted per year, incand., 2,000.

No. public incand., 90; 80 and 100 watt. Price per year, \$32 and \$36. 150 three-light

ornamental ltg post; \$1.35 per mo. net.

Commercial lighting: No. incand., 40,000.

No. electric consumers, 1,288.

Price per kw. hr., gross, 15c. and 8c. Disc., 1c. per kw. hr.

Domestic rates, 15c. and 8c., lighting; 4c. per kw. hr., net cooking; \$3 min. bill.

Power circuits, motors, 870 h. p.; price, current per kw. hr, 5c. With \$1 h. p. ready to serve charge. Disc., 1c. per kw. hr.

Power used also for irrigation.

Output of station, kw. for year, 1,650,000.

Generating power used, steam and gas engines; rated h. p., 2,600.

Cost of station boiler coal, per ton, \$6.30 (slack); \$7.50 (producer coal).

NEW YORK

Total population, 10,366,778.

Municipal Gas Co., Albany.RRs.: N. Y. C. & H. R.; A. & H. (El.); Bos. & Al.; D. & H.; W. Sh. S. Bs.: People's; H. R.; Murray's; New. & Al.; Cats. & Al.; Erie & Champlain Canals; Ferry to Troy.
Ex.: Am.; Nat.

Capital stock, auth., \$10,000,000; issued, \$6,000,000.

Annual dividend, 6 p. c.

President, N. F. Brady.

Vice-pres. and gen. mgr., Carl H. Graf.

Secretary and treas., Wm. G. Furlong.

Pur agent, John J. McCabe.

Superintendent gas, Frank S. Dunn.

Gen. mgr., Elec. dept., A. Anderson.

New bus. mgr., LeRoy D. Parmelee.

Process manufacture, Lowe (Williamson).

Calorific value, 585 B. t. u.

Annual production, 711,429,000 c. f.

By-products made: Tar, 615,000 gals.

Max. day's send out, 2,793,000 c. f.

Gas holder capacity, 2,400,000 c. f.

Holder pressure, 12 in.

GASOLINE RECOVERY by Absorption or Compression. Let us investigate your proposition and figure on a plant.**HOPE ENGINEERING & SUPPLY COMPANY,****Pittsburgh, Pa.****Mt. Vernon, Ohio.****Tulsa, Okla.**

Miles of mains, approx., 143.
 Street main pressures, max., 4.5, min. 3 in.
 Booster mains, 11 miles; press., 2 lbs.
 Annual sales, approx., 643,055,000 c. f.
 Gas unaccounted for, 9.6 p. c.
 No. consumers, 27,000.
 No. meters, reg., 27,926.
 Price gas: Light and Fuel, \$1 for first 10,000 c. f.; 90c. next 10,000 c. f.; 80c. next 30,000 c. f.; all over 50,000 c. f., 70c.
 Ranges in use, 16,997; water heater, 5,623.
 Supplies Albany, Watervliet, Green Island and Colonie.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C.; incand., A. C. single phase, 40 cycles; power, D. C., 3 phase, 40 cycles and A. C.
 Generating capacity: Lighting and power, 15,000 kw.
 Voltage: Arcs, 65 and 70; incand., 115; power, 220 A. C. and 500 D. C.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 1,418; 275 to 320 watt. Price per year, \$73.
 No. public incand., 333; 25-40-100 c. p. Price per year, \$13, \$20 and \$30.
 Price per kw. hr., gross, 8c.; sliding scale to 2c.
 Power circuits: Motors, 24,000 h. p.; price current per kw. hr., 8c. to 1.25c.
 Output of station, kw. for year, 24,000,000.
 Generating power used, Water; rated 8,000 h. p.; and Steam, rated 15,000 kw.

Western New York Utilities Co., Inc., Albion.

RR.: N. Y. C. & H. R. Erie Canal. Ex.: Am.

General office, Medina, N. Y.
 Capital, \$300,000.
 Annual dividend, 6 p. c.
 Bonds, \$700,000; due 1946; int., 5 p. c.
 President, A. L. Swett.
 Secretary, Geo. A. Wood.
 Treasurer, C. S. Swett.
 General manager, C. S. Swett.
 Purchasing agent, C. S. Swett.
 Supt. and new bus. mgr., W. H. Egnor.
 Engineer, W. E. Egnor.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.15.
 Candle-power, 16.
 Gas holder capacity, 10,000 c. f.
 Holder pressure, 3.5 in.
 Max. day's send out, 30,000 c. f.
 Miles of mains, approximate, 15.
 Annual sales, approx., 6,364,200 c. f.
 Gas unaccounted for, 10.5 p. c.
 Pop. dist. supplied, 5,000; of city, 5,988.
 No. consumers, 473.
 No. meters, 493.
 Price gas: Light and Fuel: First 500 c. f., gross \$2, net \$1.80; next 500 c. f., \$1.75-\$1.57; over 1,000 c. f., \$1.50-\$1.35.
 Supplies Albion.

ELECTRICAL DEPARTMENT.

(Operated under some name as gas company.)
 System: Lighting, D. C.; Power, A. C., 25 and 60 cycle, 3 phase.
 Generating capacity, 2,350 kw.
 Voltage: Line, 2,300; incand., 110; power, 220.
 Niagara power reserve, 2,400 kw.
 City lighting contract: Hours lighted, 4,000.
 No. public arcs, 234; 4 amp. Price per year, \$70.
 No. public incand., 121; 32 and 60 c. p. Price per year, \$24 and \$30.
 Commercial lighting: No. incand., 50,000.
 Power used, Water; rated 3,150 h. p.
 Generating stations, Medina and Waterport.
 Supplies Albion, Brockport, Medina and Middleport, Gasport, Knowlesville, Shelby, Lyndonville, Carlton, Waterport, Gaines, Eagle Harbor, Clarkson, Yates, Barker, Holley, Millers, Somerset, Hulberton and Jeddo.

Chuctanunda Gas Light Co., Amsterdam.

RRs.: N. Y. C. & H. R.; W. Sh.; Erie Canal
 Ex.: Am.; Nat.

Capital stock, com., auth., \$200,000; issued, \$175,000.
 President, John K. Stewart.
 Secretary, D. D. Cassidy, Jr.
 Treasurer, F. S. Van Derveer.
 Purchasing agent, O. A. Merchant, Jr.
 General manager, O. A. Merchant, Jr.
 Superintendent, O. A. Merchant, Jr.
 Process manufacture, Coal and Lowe.
 Candle-power, 18.
 Calorific value, 585 B. t. u.
 Annual production, coal gas, 90,000,000 c. f.; water gas, 30,000,000 c. f.
 By-products made: Coke, 3,300 tons; tar, 110,000 gals.; ammonia, 27,000 gals.
 Max. day's send out, 400,000 c. f.
 Total gas holders capacity, 300,000 c. f.
 Holder pressure, 4.5 in.
 Miles of mains, approx., 32.
 Street main pressures, max., 4.5 in.; min., 2.8 in.
 Annual sales, approx., 110,000,000 c. f.
 Gas unaccounted for, 8 p. c.
 By-products sold: Coke, 3,000 tons; tar, 100,000 gals.; ammonia, 25,000 gals.
 Pop. city, 31,267 (1910); dist. supplied, 37,000.
 No. consumers, 6,700.
 No. meters, reg., 1,600; prepay., 5,100.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15. Sliding scale as follows: 300 to 5,000 c. f., \$1.25; 5,001 to 10,000 c. f., \$1.20; 10,001 to 20,000 c. f., \$1.15; from 20,001 c. f. up, \$1.10. Disc., 10 p. c. per 1,000 c. f., 15 days. Min. charge, 25c.
 No. gas ranges, 4,500; heaters, 450; water heaters, 450.
 No. commercial gas arc lamps, 350.
 Supplies Amsterdam.

Superior Drop-Forgings
 of "Grand Prize" Calibre



The Astoria Light, Heat and Power Co., Astoria.

RRs.: By Ferry from N. Y. City. Ex.: L. I.;
Am.; Ad.; N. Y. L.

(Subsidiary to Consolidated Gas Co., of New York.)

Capital stock, \$10,000,000.
Annual dividend, 6 p. c.
Bonds, \$5,000,000; due, 1963; int., 5.5 p. c.
President, W. H. Bradley.
Vice-president, Horace W. Fuller.
Secretary, Lewis B. Gawtry.
Asst. sec'y, C. M. Carbonell.
Treasurer, C. G. M. Thomas.
Asst. treas., Benj. Whiteley.
Purchasing agent, A. F. Macklin.
Chief engineer, William H. Bradley.
Controller, R. A. Carter.
Asst. controller, H. M. Brundage.
Process of manufacture. Coal and Lowe (Williamson).
Candle-power, 22.
Annual prod. coal gas, 3,079,736,000 c. f.;
water gas, 6,162,386,000 c. f.
Total gas holders capacity, 15,000,000 c. f.
Mains, approx., 0.698 miles.
Annual sales, approx., 9,235,921,800 c. f.
Consumers and meters, 3.
Price gas: Light and Fuel, gross and net, 80c.

Empire Gas and Electric Co., Auburn.

RRs.: L. Val.; N. Y. C. & H. R.; N. Y., A. &
L. (El.). Ex.: Am.

Controlled by Empire Coke Co., Geneva.
(For financial and officers, see Appendix.)
General manager, H. S. Coleman.
Supt. (gas), Chas. Whittington.
Supt. (elec.), A. D. Smith.
Indus. fuel engineer, W. P. Moran.
New bus. mgr. (gas), W. P. Moran.
New bus. mgr. (elec.), E. W. Barry.
Purchase gas of Empire Coke Co., Geneva.
Gas purchased, 194,734,500 c. f.
Calorific value, 600 B. t. u.
Total gas holders capacity, 830,000 c. f.
Holder pressure, 8 in.
Max. day's send out, 659,000 c. f.
Miles mains, approx., 66.
Street main pressure, max., 6 in.; min., 3 in.
High pressure mains, 28 miles; pressure, 20 lbs.
Annual sales, approx., 175,683,500 c. f.
Gas unaccounted for, 9 p. c.
Pop. dist. supplied, 35,000; of city, 34,668.
No. meters, reg., 4,575; prepay., 2,109.
No. consumers, 6,684.
Price gas: 80c. per 1,000 c. f. net, plus 50c. per meter per mo., consumer's charge.
Indus., 1,000 to 100,000 c. f., 80c.; next 900,000 c. f., 60c.; next 1,000,000 c. f., 55c.; over 2,000,000 c. f., 50c. Plus 50c. per meter. 10c. per 1,000 c. f. penalty, 10 days.
Ranges in use, 5,238; heaters, 2,295; water heaters, 2,252.
No. commercial gas arc lamps, 1,723.
Supplies Auburn and Cayuga.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C., 60 cycle, single phase; power, A. C., 60 cycle, single and 3 phase.
Generating capacity: Lighting and power, Steam, 1,750 kw.
Voltage: Arcs, 80 per lamp; incand., 2,300-110; power, 2,300-220-110.
City lighting contract: Hours lighted per year: Arc, 4,000; incand., 4,000.
No. public arcs, 597; 480 watt. Price per year, \$66.66 average.
No. public incand., 39; 100 watt. Price per year, \$20.
Price current per kw. hr., gross, com., 2.37c.; with 10 p. c. penalty; residence, 6c. per kw. hr., and consumer's charge ranging from \$1 to \$4 per mo.
Power circuits: Price per kw. hr., sliding scale, 10 p. c. penalty.
Output of station, kw. for year, 12,632,872.
Generating power used: Niagara current, 3,000 kw. transformer; steam, rated, 1,750 kw.
Cost of station boiler fuel, per ton, coal, \$1.79; coke, \$2.65.

Long Island Lighting Co., Babylon Div.

RR.: L. I. Ex.: L. I.

Executive office, 50 Church St., New York.
For capitalization, etc., see Appendix.
President, E. L. Phillips.
Vice-pres., G. W. Olmsted.
Secretary, Henry R. Frost.
Treasurer, Gurney E. Lott.
Gen'l mgr., Archibald McLaren.
Pur. agt., B. S. Gramley.
Auditor, Russell F. Van Doorn.
New bus. mgr., Chas. E. Spellman.
Superintendent, Robert Burns.
Gas made and supplied by the Bay Shore Div., L. I. Lighting Co.
Calorific value, 585 B. t. u.
Miles of mains, approx., 41.
Street main pressures, max., 3.8 in.; min., 3.4 in.
High pressure mains, 15 miles; pressure, 10 to 30 lbs.
Max. day's send out, 170,000 c. f.
Annual sales, approx., 22,814,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 16,000 winter; 21,000 summer (estimated).
No. consumers and meters, 1,500.
Price gas: Light and Fuel, gross, \$1.60; net, \$1.50 to 90c.
Gas appliances in use: Ranges, 1,500; heaters, 260; water heaters, 348.
No. commercial gas arc lamps in use, 84.
Supplies Babylon, Amityville, Lindenhurst, Copiague, Farmingdale, Massapequa, Central Park and Hicksville.



Tycos

Temperature Instruments for Gas Works
H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.
Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Bath Electric and Gas Light Co., Bath.

RRs.: B. & Ham'port; D., L. & W.; Erie.
Ex.: Ad.: W. F.

Capital stock, \$100,000.

Bonds, \$140,000; due 1932: int., 5 p. c.

President, Frank Nollett.

Secretary and treasurer, H. L. Leitch, Jr.

Pur. agent, Frank Nollett.

Manager and new bus. mgr., Frank Nollett.

Superintendent, Frank Nollett.

Process manufacture, Lowe.

Price coal per ton, delivered, \$6.

Price oil per gal., 8.6c.

Annual production, 10,800,000 c. f.

Candle-power, 20. Calorific value, 658 B. t. u.

Gas holder capacity, 50,000 c. f.

Holder pressure, 3.8 in.

Miles of mains, approximate, 9.

Street main pressures, max., 3.8 in.; min., 2 in.

Max. day's send out, 54,800 c. f.

Annual sales, approx., 9,500,000 c. f.

Gas unaccounted for, 12 p. c.

Pop. city supplied, 3,884.

No. consumers, 605.

No. meters, reg., 567; prepay., 38.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

Ranges in use, 350; heaters, 155; water heaters, 145.

No. commercial gas arc lamps, 35.

Supplies Bath.

Long Island Lighting Co., Bay Shore.

RR.: L. I. Ex.: Ad.

(Successor to Suffolk Gas and Electric Light Co.)

Executive office, 50 Church St., New York.

(For capitalization and bonds, see Appendix.)

President, Ellis L. Phillips.

Vice-pres., Geo. W. Olmsted.

Secretary, Henry R. Frost.

Treasurer, Gurney E. Lott.

Gen'l mgr., Archibald McLaren.

Pur. agent, B. S. Gramley.

Superintendent, A. H. Vail.

Process manufacture, Lowe.

Price coal per ton, delivered, \$7.85.

Price oil per gal., delivered, 9.33c.

Calorific value, 585 B. t. u.

Max. day's send out, 545,200 c. f.

Total gas holder capacity, 185,000 c. f.

Holder pressure, 8.5 in.

Miles of mains, approx., 86.

Street main pressures, max., 8; min., 3 in.

High pressure mains, 36 miles; pressure, 15 to 30 lbs.

Annual sales, approx., 117,587,000 c. f.

Gas unaccounted for 10 p. c.

Pop. dist. supplied, 16,000; of city, est., winter, 5,000; summer, 8,000.

No. consumers and meters, 4,190.

Price gas: Light and Fuel, gross \$1.60; net \$1.50 and sliding scale to 65c. plus 50c. service charge.

No. public lamps, 127; including 40 incand.

Price includes repairs, care, lighting and extinguishing.

No. hours each lamp is lighted per year, 4,000. Ranges in use, 1,500; heaters, 200; water heaters, 300.

No. commercial gas arc lamps, 175.

Supplies Bay Shore, Islip, East Islip, West Islip, West Sayville, Sayville and Bayport, Brightwaters, Babylon, Amityville, Lindenhurst, Copague, Farmingdale, Massapequa, Central Park and Hicksville.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 3 phase, 60 cycles. Power, A. C., 3 ph., 60 cycles, 7,200 alt.

Generating capacity: Lighting, 5,035 kw.

Voltage: Incand, 110; power, 220.

City lighting contract: Incand., 4,000 hours.

No. public incand., 1,713, 40 watt.

No. consumers and meters (elec.), 4,627.

Commercial lighting: No. incand., 4,000.

Price current per kw. hr., gross, 14c. to 5c. (sliding scale).

Power circuits: No. motors, 40; price per kw. sliding scale, 12c. to 2c.

Output of station, kw. hrs., for year, 6,962,219.

Generating power used, Steam; rated h. p., 450. Above is report for entire system.

Southern Dutchess Gas and Electric Co., Beacon.

RRs.: N. Y. C. & H. R. S. Bs.: New. & Al.; Ferry to Newburgh. Ex.: Am.; Nat.

Capital stock, com., auth., \$50,000; issued, \$15,000.

Bonds, \$50,000; due 1927; interest, 5 p. c.

President, John T. Smith.

Secretary, S. K. Phillips.

Treasurer and pur. agent, John T. Smith.

Superintendent, C. H. Loiselle.

Process manufacture, Lowe (Sutherland).

Candle-power, 24.

Miles of mains, approximate, 10.

Annual sales, approx., 10,124,400 c. f.

Pop. dist. supplied, 10,629 (1910 census).

No. meters, 688.

Price gas: Light and Fuel, gross \$1.60; net \$1.50.

Ranges in use, 300.

Supplies Fishkill Landing and Matteawan.

ELECTRICAL DEPARTMENT.

Arc and incand. system, G. E.

No. public arcs, 33; lighted 4,000 hours.

No. public incand., 325; lighted 4,000 hours.

Price arc, Public, per year, \$80; incand., \$16.

Price incand., Com'l, per kw. hr., 15c.; disc., 20 to 60 p. c.

Power used, Steam and Water.

Cost boiler fuel per ton, \$3.

(No 1918 report.)

Binghamton Gas Works, Binghamton.

RRs.: D. & H.; D., L. & W.; Erie. Ex.: Am.; W. F.; Nat.

Practically all stock owned by American Light & Traction Co.

(For capitalization and bonds, see Appendix.)

President, Alanson P. Lathrop.

Vice-president, Geo. Steinwedell.



R. D. WOOD & CO., PHILA., PA.
GAS HOLDERS, PURIFIERS, CAST IRON PIPE



Secretary and treasurer, Robt. W. Manier.
 Asst. sec. and treas., C. N. Jelliffe.
 Gen. mgr. and pur. agt., Geo. Steinwedell.
 Superintendent, F. F. Ingwall.
 Engineer, H. C. Abell.
 New bus. mgr., E. S. Crossett.
 Process manufacture, Lowe.
 Miles of mains, approx., 91.
 Annual sales, approx., 313,000,000 c. f.
 Pop. dist. supplied, 65,000; of cities, est., 62,587.
 No. consumers, 12,869.
 Price gas: Light and Fuel, gross, \$1.10; net, \$1.
 Supplies Binghamton and Johnson City.

Brockport Gas Light Co., Brockport.

RRs.: N. Y. C. & H. R.; Erie Canal. Ex.: Am. and W. F.

Capital stock, \$25,000.
 Bonds, \$67,000; due 1931; int., 5 p. c.
 President, Edward J. Hancy.
 Secretary, Edward J. Hancy.
 Treasurer, William MacBain.
 Purchasing agent, Sidney R. Walker.
 Manager, Sidney R. Walker.
 Supt. and new bus. mgr., Sidney R. Walker.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.15.
 Calorific value, 580 B. t. u.
 Annual production, 13,000,000 c. f.
 By-products made: Coke, 900 tons; tar, 16,000 gallons.
 Total gas holders capacity, 20,000 c. f.
 Holder pressure, max., 5 in.
 Max. day's send out, 56,000 c. f.
 Miles of mains, approx., 10.5.
 Street main pressures, max., 3.4 in.; min., 3 in.
 Annual sales, approx., 11,500,000 c. f.
 Gas unaccounted for, 20 p. c.
 By-products sold: Coke, 450 tons; tar, 13,000 gals.
 Pop. dist. supplied, 3,500; of city, 3,579 (1910).
 No. consumers, 750.
 No. meters, reg., 370; prepay., 380.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50 to \$1.
 Ranges in use, 450; heaters, 100; water heaters, 35.
 No. commercial arc lamps, about 65.
 Supplies Brockport.

Brooklyn Borough Gas Co., (Coney Island) Brooklyn.

RRs.: L. I.; B. El. Ry. to Suburbs; So. B. Ry. Freight Stations. S. Bs. from Manhattan. Ex.: Am.; L. I.; N. Y. L.

(For capitalization and bonds, see Appendix.)
 President, Richard L. Austin.
 Sec. and treas., Clayton E. Platt.
 Gen. mgr. and engineer, G. H. Woodall.
 Purchasing agent, G. H. Woodall.
 New bus. mgr., M. E. Dillon.
 Superintendent, H. J. Dillon.
 Process manufacture, Lowe (improved).
 Price of coal per ton, delivered, \$5.76.
 Price of oil per gal., delivered, 5.2c.
 Candle-power, 22. Calorific value, 640 B.t.u.
 Annual production, 532,203,000 c. f.

By-products made: Tar, 308,860.5 gals.; gas-holder oil, 34,262 gals.
 Max. day's send out, 2,412,000 c. f.
 Total gas holder capacity, 2,850,000 c. f.
 Holder pressure, 8 in.
 Miles of mains, approx., 115.
 Street main pressures, max., 6 in.; min., 2 in.
 Annual sales, approx., 462,964,400 c. f.
 Gas unaccounted for, approx., 12.5 p. c.
 By-products sold: Tar, 377,574.5 gals.; holder oil, 40,965 gals.
 Pop. dist. supplied, approx., 60,000; of borough, 1,634,351.
 No. consumers, 14,770.
 No. meters, reg., 12,146; prepay., 2,624.
 Price gas: Light and Fuel, 95c. (Reduced to 80c. by act of legislature, effective July 1st, 1917. Law being contested. Billed at 95c. and 15c. is set aside in a reserve fund until final decision is rendered.)
 No. public Welsbach incand. lamps, 867; hrs. lighted, 3,950.
 Price per year, \$10.37. Price does not include repairs, care, lighting and extinguishing.
 No. gas ranges, 12,000; water heaters, 5,000.
 No. commercial gas arc lamps, 1,100 in summer; 650 in winter.
 Supplies 31st Ward of Brooklyn.

Brooklyn Union Gas Co., Brooklyn.

RRs.: El. Ry. Lines to Suburbs; L. I.; L. Val.; N. Y., Susq. & W.; Penna.; N. Y. Dock Co. Term.; Ferry and Bridge from Manhattan. Ex.: Ad.; Am.; Nat.; L. I.; W. F.

(For capitalization and bonds, see Appendix.)
 Office, 176 Remsen St.
 President, James H. Jourdan.
 Vice-Presidents, W. G. Rockefeller, A. F. Staniford.
 Secretary, Henry E. McGowan.
 Treasurer, H. Wellington.
 Asst. treas., T. P. Payne.
 Asst. sec'y, Frederick R. Wogan.
 Auditor, Jas. Gilmer.
 Asst. auditor, T. P. Payne.
 Pur. agent, G. W. Gatehouse.
 Chief engineer, J. H. Jourdan.
 New bus. mgr., T. M. Ambler.
 Supt. indus. div., C. E. Chapple.
 Process manufacture, Lowe (Williamson).
 Candle-power, 23.41.
 Annual prod., 17,617,817,000 c. f.
 Max. day's send out, 85,271,000 c. f.
 Total gas holder capacity, 31,057,000 c. f.
 Miles of mains, approx., 1,020.
 Pumping mains, 59.84 miles; pressure, up to 3 lbs.
 Annual sales, approx., 15,977,270,000 c. f.
 Gas unaccounted for, 7.75 p. c.
 Pop. borough, 1,634,351; of dist. supplied, 1,454,577 (1910).
 No. consumers, 430,691.
 No. meters, reg., 429,068; prepay., 22,444.
 Price gas: Light and Fuel, net, 80c.
 No. public Welsbach lamps, 5,640.
 No. hours lamp is lighted per year, 3,950.
 Price public lighting, 75c.; company does not maintain lamps.
 Supplies Borough of Brooklyn, New York City, except 29th, 30th and 31st Wards.

RELIABLE

HOT SPOT

COPPER REFLECTOR

GAS HEATERS

Write now for samples and prices and bear in mind that the genuine "HOT SPOT" heater is fully guaranteed and made exclusively by

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Flatbush Gas Co., Brooklyn.

(RR.: Ex.: See Brooklyn Union Gas Co.)

(Controlled by The Brooklyn Union Gas Co.).
Capital stock, \$200,000.

President, E. R. Chapman.

Vice-president, A. F. Staniford.

Secretary, Henry E. McGowan.

Asst. secy., Frederick R. Wogan.

Treasurer, H. Wellington.

Asst. treas., T. P. Payne.

Purchasing agent, G. W. Gatehouse.

Auditor, James Gilmer.

Asst. auditor, T. P. Payne.

General manager, Henry E. McGowan.

Superintendent, E. J. Devlin.

Gas purchased from Brooklyn Union Gas Co.

Amount purchased, 1,045,332.925 c. f.

Candle-power, 23.41.

Gas holder capacity, 6,000,000 c. f.

Miles of mains, approx., 118.

Pumping mains, 5.16 miles; pressure, 3 lbs.

Annual sales, approx., 960,697,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. borough, 1,634,351; of dist. supplied, 75,000 (1910).

No. consumers, 29,781.

No. meters, reg., 30,816; prepar., 343.

Price gas: Light and Fuel, 80c. Public lighting, 75c.; company does not maintain lamps.

No. public Welsbach lamps, 1,294.

No. hours each lamp is lighted per year, 3,950.

Supplies 29th Ward of Brooklyn.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. series; incand., A. C., 1 phase, 60 cycle; power, A. C., 1 and 2 phase, 60 cycle.

Generating capacity: Lighting and power, 8,600 kw.

Voltage: Arcs, 110; incand., 110; power, 110-220-440.

City lighting contract: Hours lighted per year: Arc, 3,950; incand., 24 hrs. service.

No. public incand. 1,390. Price per year, \$28 to \$95.

Commercial lighting: No. incand., 276,440.

Price current per kw. hr., gross, 12c.; sliding scale, 20 to 83 1/3 p. c.

Power circuits: Price per kw. hr., 12c.; disc., 20 p. c. to 83 1/3 p. c. Motors, 1,633 h. p.

Output of station, kw. hrs. for year, 9,496,337.

Generating power used, Steam; rated h. p., 2,373.

Supplies 29th Ward, Borough of Brooklyn, New York City and Ocean Parkway from Foster Ave. to Coney Island.

Kings County Lighting Co., Brooklyn.

(RRs.: Ex.: see Brooklyn Union Gas Co.)

(For capitalization and bonds, see Appendix.)

President, Geo. O. Knapp.

Vice-presidents, J. J. Ricks and G. W. Mead.

Secretary, W. M. Flook.

Treasurer, W. H. Vanderpoel.

Asst. sec., F. W. Fitch.

Process manufacture, Lowe (Williamson).

Candle-power, 22.5.

Miles of mains, approx., 182.

Total gas holders capacity, 2,700,000 c. f.

Annual sales, approx., 750,000,000 c. f.

Gas unaccounted for, 14 p. c.

Pop. dist. supplied, 70,000; of borough, 1,634,351.

No. meters, reg., 28,000.

Price gas: Light and Fuel, gross and net, 95c.

No. public lamps, 4,900 Welsbachs.

Price includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 3,000.

Supplies 30th Ward of Brooklyn.

(No 1918 report.)

Buffalo Gas Plant, (Wm. J. Judge, Proprietor), Buffalo.

RRs.: B. & Susq.; B. R. & P.; D., L. & W.;

Int. (El.); L. S. & M. S.; N. Y. C. & H.

R.; Erie; L. Val.; N. Y. C. & St. L.;

Penna.; Pere Marq.; Mich. Cen.; So. Buf.;

W. Sh.; Wabash; Gr. Trunk; Erie Canal.

S. Bs.: D. & B. Co.; Mutual Trans.;

Anchor Line. Ex.: Ad.; Am.; Nat.;

W. F.; Can.; Pac.

(For detailed information regarding capitalization, bonds, etc., see Appendix.)

Attorneys in fact, Wm. S. Riselay and Harry C. Palmer.

Purchasing agent, William S. Riselay.

Engineer, Harry C. Palmer.

Process manufacture, Coal and Lowe.

Candle-power, 17.4. Calorific value, 628 B. t. u.

Production, Oct. 1-Dec. 31, 1917; Coal gas,

165,753,000 c. f.; water gas, 61,898,000 c. f.

By-products made: Coke, 12,623 tons; tar,

274,453 gals.; ammonia, 77,075 lbs.

Max. day's send out, 3,189,000 c. f.

Gas holder capacity, 4,688,000 c. f.

Houler pressure, 7.3 in.

Miles of mains, approx., 441.

Street main pressures, max., 4.5 in.; min. 2 in.

Sales, Oct. 1-Dec. 31, 1917, approx., 197,870,000 c. f.

Gas unaccounted for, 12.38 p. c.

By-products sold: Coke, 7,486 tons; tar, 335,623 gals.; ammonia, 75,683 lbs.

Pop. city, 423,715; of dist. supplied, 500,000.

No. consumers, 18,800.

No. meters, reg., 19,330.

Price gas: Light and Fuel, gross, \$1.20; net, \$1; to city, net, 90c.

No. public lamps, 9,628, all Welsbachs.

No. hours each lamp is lighted per year, 4,000.

Contract for care, lighting and extinguishing between City of Buffalo and Welsbach Street Ltg. Co. of Am.

Ranges, 9,901; heaters, 2,643; water heaters, 3,071.

No. commercial gas arc lamps, 3,447.

Supplies Buffalo and part of Cheektowaga.

(Natural gas competition.)

Peoples Gas Light and Coke Co. of Buffalo, Buffalo.

(Leased and operated by W. J. Judge. Proprietor of Buffalo Gas Co.)

Capital stock, \$3,000,000.

Bonds, \$2,100,000; due 1938; interest, 5 p. c.

President, Edw. M. Mills.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Sec'y and treas., William S. Riselay.
 Engineer, Harry C. Palmer.
 Process manufacture, Lowe (Economical).
 Gas holder capacity, 1,765,000 c. f.

Lackawanna Steel Co., Buffalo.

(See report under Lackawanna, N. Y.).

Wickwire Steel Co., Buffalo.

Coke-ovens operated by Semet-Solvay Co.

Canandaigua Gas Light Co., Canandaigua.

(Merged into Rochester Railway and Light Co.)

Central New York Power Co., Canastota.

RRs.: N. Y. C. & H. R.; L. Val.; W. Sh.;
 Erie Canal; Chapman S. Bs. Ex.: Am.;
 Nat.

(Controlled by Utica Gas & Electric Co.).

Capital stock, \$2,000.

President, James C. Brady.

Vice-pres., Wm. E. Lewis.

Secretary, M. J. Brayton.

Treasurer, Geo. H. Stack.

General manager, Wm. J. Cahill.

Supt. mfr., H. G. Johnson.

Superintendent, E. Lewis.

Auditor, Wm. J. McSorley.

Process manufacture, Coal.

Annual production, 12,115,000 c. f.

Price coal per ton, delivered, \$4.

Candle-power, 16.

Calorific value, 600 B. t. u.

Gas holder capacity, 70,000 c. f.

Max. day's send out, 40,000 c. f.

Miles of mains, approx., 9.

Street main pressures, max., 4.5 in.; min., 3.5 in.

Holder pressure, max., 3.5 in.

Annual sales, approx., 8,722,800 c. f.

Gas unaccounted for, 28 p. c.

Pop. city, 3,247.

No. consumers and meters, 550.

Price gas: Light and Fuel, \$1.25.

Ranges in use, 700; water heaters, 125.

No. commercial gas arc lamps in use, 50.

Supplies Canastota.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C.; incand., A. C.

City lighting contract: Hours lighted per year, arc and incand., 4,000.

No. public arcs, 55; price per year, \$75.

No. public incand., 66; price per year, \$18.

18 ornamental posts. Price per year, \$51.

Current supplied for street lighting only.

Power purchased from Adirondack Power Corporation.

Upper Hudson Electric and Railway Co., Catskill.

RRs.: C. M. & Cairo; W. Sh., via Catskill

Sta.; N. Y. C. & H. R. S. Bs.: Catskill

Line; H. R.; Cats. & Al.; New. & Al.;

Ferry with Greendale and Hudson. Ex.:

Am.; Nat.

Capital stock, com., auth., \$150,000; issued, \$150,000.

President, Morris W. Stroud.

Vice-pres., Geo. S. Munson.

Secretary, W. K. Hagginbotham.

Treasurer, Morris W. Stroud.

Asst. sec'y and asst. treas., I. N. Wilson.

Gen. mgr. and pur. agt., W. K. Hagginbotham.

Process manufacture, Coal.

Annual production, 9,762,000 c. f.

Calorific value, 585 B. t. u.

By-products made: Coke, 746 tons; tar, 10,405 gals.

Max. day's send out, 42,000 c. f.

Gas holder capacity, 100,000 c. f.

Miles of mains, approximate, 8.6.

Street main pressure, max., 4 in.; min., 2 in.

Annual sales, approx., 8,014,000 c. f.

Gas unaccounted for, 15.6 p. c.

By-products sold: Coke, 299 tons; tar, 17,215 gals.

Pop. dist. supplied, 5,400; of village, 5,296.

No. consumers, 647.

No. meters, reg., 585; prepay., 62.

Price gas: Light and Fuel, 1st 3,000 c. f., \$1.50

net; next 7,000 c. f., \$1.45; next 20,000

c. f., \$1.40; over 30,000 c. f., \$1.30.

Ranges in use, 375; water heaters, 15.

Supplies Catskill.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System: A. C., 3 phase, 60 cycles.

Generating capacity: Lighting, 2,450 kw.; power, 2,450 kw.

Voltage: Line, 2,300; incand., 110; power, 220.

City lighting contract: Arcs and incand. lighted all dark hours.

No. public arcs, 70; 100 watt. Price per year, \$63.

No. public incand., 598; 40 watt. Price per year, \$17.50.

Price incand., Commercial, per kw. h., 15c.; disc., sliding scale.

Power circuits: Motors, 1,800 h. p.; price, 6c. per kw. hr. Disc., sliding scale.

Output of station, kw. hrs. total per year, 1,818,800.

Power used, Steam, rated 1,600 h. p. Water, rated 1,200 h. p.

Electricity supplied to Catskill, Athens, Cox-sackie, Coeymans, Cairo, Palenville, Haines Falls, Tannersville, Hunter, Ravena and the various parks in the Catskills.

Clifton Springs Sanitarium Co., Clifton Springs.

RRs.: L. Val.; N. Y. C. & H. R. Ex.: Am.

(Private works supplying Sanitarium.)

Treasurer, Henry J. Bostwick.

Asst. Treasurer, E. A. Miles.

Process manufacture, Lowe (Sutherland).

Candle-power, 20.

Miles of mains, approximate, 2.5.

Annual sales, approx., 15,273,600 c. f.

Population, 1,600.

No. consumers, Sanitarium and 142 in village.

Price gas: Light and Fuel, net, \$1.50.

ELECTRICAL DEPARTMENT.

(Operated also by the Sanitarium.)

Incand. plant consisting of 2 dynamos with a capacity of 2,000 lamps.

WIRE YOUR ORDER. It will have prompt attention.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Cohoes Gas Light Co., Cohoes.

RRs.: D. & H.; N. Y. C. & H. R.; Champlain
& Erie Canals. Ex.: Am.; Nat.

Capital stock, \$200,000.

President and treas., Lorenzo Semple.

Sec'y and mgr., W. P. Parsons.

Process manufacture, Lowe.

Calorific value, 585 B.t.u.

Pop. of city, 24,709.

No. consumers, 4,900.

No. meters, reg., 900; prepay., 4,448.

Price gas: Light and Fuel, \$1.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System: Incand., A. C.; power, A. C.

Voltage: Line, 2,300; incand., 110; power, 220.

No. public incand., 176-600 c. p.; 272-100 c. p.

Price per year, \$70 and \$20. Lighted all night.

Price current, per kw., 7.5c. to 4.5c.

Power used, Water.

Corning Light and Power Corporation, Corning.

RRs.: D., L. & W.; N. Y. C. & H. R.; Erie.
Ex.: Am.; W. F.

(For capitalization and bonds, see Appendix.)

President, Daniel J. Creem.

Secretary and treas., Clinton L. Rossiter.

Gen. mgr. and pur. agt., J. H. Doherty.

Process manufacture, Lowe.

Candle-power, 20.

Annual production: Coal gas, 4,163,375 c. f.;
water gas, 762,600 c. f.

Max. day's send out, 29,200 c. f.

Total gas holders capacity, 100,000 c. f.

Holder pressure, max., 2.5 in.; min., 1.5 in.

Miles of mains, approximate, 9.

Street main pressures, max., 2.5 in.; min.,
1.5 in.

Annual sales, approx., 4,000,000 c. f.

Gas unaccounted for, 20 p. c.

Pop. dist. supplied, 16,000; city, 13,730.

No. consumers and meters, 188.

Price of gas: Light and Fuel, gross, \$1.50;
net, \$1.40.

Supplies Corning.

(Natural gas competition.)

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand., A. C.,
1 phase, 7,200 alt.; power, A. C., 2 phase,
7,200 alt.

Voltage: Line, 2,200; incand., 110; power,
110-220.

City lighting contract: Hours lighted per year:
Arc, 4,000; incand., 4,000.

No. public arcs, 98; 4 amp. Price per year,
\$75.

No. public incand., 280; 4 amp. Price per
year, \$27.50.

Commercial lighting: No. incand., 20,000.

Price current per kw. hr., gross 12c.; disc., 2c.

Power circuits: No. motors, 140; price per kw.
hr., 6c.; disc., 1c.

Output of station, kw. for year, 1,605,310.

Power purchased from Elmira.

Furnish current to operate street railway.

Supplies Corning, Gibson, Centerville and
Painted Post.

(No 1918 report.)

Homer and Cortland Gas Light Co., Cortland.

RRs.: D., L. & W.; L. Val. Ex.: Ad.

(Controlled by Associated Gas & Electric Co.).

Operated by J. G. White Management Corp.

Capital stock, \$122,400.

Bonds, \$176,000; due 1949; int., 5 p. c.

President, J. I. Mange.

Sec. and treas., H. B. Brown.

Gen. mgrs. and pur. agts., The J. G. White
Management Corporation.

Superintendent, J. J. Boyle.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.94.

Candle-power, 16.

Max. day's send out, 116,530 c. f.

Total gas holder capacity, 140,000 c. f.

Miles of mains, approx., 26.

Street main pressure, max., 3 in.

Annual sales, approx., 36,000,000 c. f.

Gas unaccounted for, 16 p. c.

Pop. dist. supplied, 15,395.

Pop. Cortland, 11,504; Homer, 2,536.

No. consumers, 2,031.

No. meters, 2,040.

Price gas: Light and Fuel, gross \$1.85; net
\$1.70. Industrial, \$1.50 gross to 50c. net.

Ranges in use, 1.193; water heaters, 226.

No. commercial gas arc lamps, 206.

Supplies Cortland and Homer.

Dansville Gas and Electric Co., Dansville.

RRs.: D., L. & W.; Dans. & M., M. Ex.:
W. F.

Capital stock, com. auth., \$80,000; issued,
\$79,700.

Bonds, \$86,000; due, 1930-1949; int., 5 p. c.

President, L. T. Mason.

Vice-pres. and treas., C. E. Mason.

Secretary, C. G. MacAvoy.

Gen. mgr. and engineer, C. H. Mason.

Superintendent, C. H. Mason.

Pur. agent, C. H. Mason.

New-business manager, C. H. Mason.

Process manufacture, Lowe.

Candle-power, 21.

Annual production, 8,735,000 c. f.

Price of coke per ton, delivered, \$5.70.

Price of oil per gal., delivered, 4.5c.

Total gas holder capacity, 31,000 c. f.

Holder pressure, 3.75 in.

Max. day's send out, 43,000 c. f.

Miles of mains, 10.

Street main pressures, max., 4 in.; min., 3.5 in.

Annual sales, approx., 7,800,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. supplied, 5,000; village, 3,938.

Consumers and meters, 531.

Price gas: Light and Fuel, gross, \$1.55; net,
\$1.45.

No. ranges, 365; heaters, 130; water heaters,
85.

No. commercial gas arc lamps, 15.

Supplies Dansville.

"U" Tube Gauges of all sizes and ranges of pressure for every gas works service. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 Capital apportioned to electric plant, \$75,000.
 System operated, arcs and incand., A. C.;
 single phase, 133 cycles; power, D. C.
 Generating capacity: Lighting, 390 kw.; power,
 175 kw.
 Voltage: Incand., 110; power, 550.
 City lighting contract: hours lighted, 4,000.
 No. public incand., 145, 60 c. p.; 38, 250 c. p.;
 22, 600 c. p. Contract for \$5,000 per year.
 Price arc and incand., commercial, per kw., 15c
 to 5c.; disc., 5 p. c.
 Power circuits: No. motors, 59.
 Price power current per kw. hr., 10c to 2.5c.;
 disc., 5 p. c.
 Output of station kw. hrs. for year, 505,410.
 Power used, Steam; rated h. p., 555.
 Cost of station boiler coal per ton, \$3.35.

Despatch Heat, Light & Power Co., East Rochester
 (Merged into Rochester Railway & Light Co.)

Syracuse Suburban Gas Co., East Syracuse.

RRs.: N. Y. C. & H. R.; Chapman Line
 S. Bs. Ex.: Am.

Controlled by United Chemical & Industrial
 Cos., Philadelphia.
 Capital stock, auth., \$50,000; issued, \$10,300.
 President, Walter Whetstone.
 Secretary and treasurer, Orry R. Evans.
 General manager, Orry R. Evans.
 Engineer, Nathan W. Gallert.
 Purchase gas from Syracuse Lighting Co.
 Calorific value, 585 B. t. u.
 Miles of mains, approx., 6.
 Street main pressures, max., 4 in.; min.,
 3.5 in.
 Annual sales, approx., 10,000,000 c. f.
 Pop. of city, 4,000; dist. supplied, 5,000.
 No. consumers, 536.
 No. meters, reg., 387; prepay., 148.
 Price gas: Light and Fuel, gross, \$1.50; net,
 \$1.40.
 Gas appliances in use: Ranges, 498; heaters,
 100; water heaters, 60.
 No. commercial gas arc lamps in use, 33.
 Supplies East Syracuse and DeWitt.

Elmira Water, Light and Railroad Co., Elmira.

RRs.: D. L. & D.; Erie; Pa.; L. V. Interur-
 ban; E. C. & W. Ex.: Am.; Ad.; W. F.

(At present supplying natural gas only. See
 report in Natural Gas Department.)

**Queens Borough Gas and Electric Co., Far Rock-
 away.**

RR.: L. I. Ex.: L. I.; Am.

(Office, Far Rockaway; Gas Works, Rock-
 away Park.)
 (For capitalization and bonds, see Appendix.)
 President, Carleton Macy.
 Secretary, James A. Mooney.
 Treasurer, George D. Gregory.
 Pur. agent and gen. mgr., Carleton Macy.
 General superintendent, L. A. Howland.
 Gas supt., Edward L. Davies.

Auditor, E. H. Webster.

Process manufacture, Lowe.
 Price coal per ton, delivered, \$5.74.
 Price oil per gal., 6.756c.
 Annual production, 402,181,500 c. f.
 By-products made: Tar, 100,545 gals.
 Candle-power, 22.5.
 Gas holder capacity, 2,800,000 c. f.
 Holder pressure, 8 in.
 Max. day's send out, 2,278,600 c. f.
 Miles of mains, approx., 157.
 Street main pressures, max., 4 in.; min.,
 3 in.
 High pressure mains, miles, 19; pressure, 15
 lbs.
 Annual sales, approx., 354,048,900 c. f.
 Gas unaccounted for, 11.67 p. c.
 By-products sold: Tar, 10 gals.
 Pop. dist. supplied, summer, 100,000; yearly,
 35,000 (estimated).
 No. consumers, 6,810.
 No. meters, reg., 6,624; prepay., 186.
 Price gas: Light and Fuel, \$1.15.
 No. public Welsbach lamps, 141; price per
 year, \$30.
 Contract includes repairs, care, lighting and
 extinguishing.
 No. hours each lamp is lighted per year, 3,950.
 Ranges in use, 9,100; heaters, 1,872; water
 heaters, 3,289.
 No. commercial gas arc lamps, 286.
 Supplies Neponsit, Arverne, Far Rockaway,
 Lawrence, Cedarhurst, Edgemere, Lyn-
 brook, East Rockaway, Belle Harbor,
 Seaside, Inwood, Hewlett, Oceanside,
 Valley Stream, Woodmere, Malvern,
 Rockaway Park, Rockaway Beach and
 Meadowmere.

ELECTRICAL DEPARTMENT.

System operated: A. C., single or 2 phase,
 60 cycle.
 Generating capacity: Lighting and power,
 8,700 kw.
 Voltage: Line, 2,300; incand., 110; power,
 110-220-2200.
 Miles of overhead wires, approx., 150; under-
 ground cables, 5.
 City lighting contract: Hours lighted per year,
 arc and incand., 3,950.
 No. public incand.: 213-400 c. p.; price per
 year, \$75. 1,988-100 c. p.; price per year,
 \$27; 674-60 c. p.; price per year, \$19.50.
 Commercial lighting: No. incand., approx.,
 18,000.
 Price current per kw. hr., gross, 12c.; whole-
 sale, 12c. base rate; disc. to 5c.; 6c. for
 heating and cooking devices.
 Power circuits: No. motors, 310; price per kw.,
 10c. Disc., 5 to 60 p. c.
 Output of station, kw. per year, 6,397,010.
 Generating power used, Steam; rated 8,700
 kw.
 Cost of station boiler coal per ton, \$5.88.

**Southern Dutchess Gas and Electric Co., Fishkill-on-
 Hudson.**

(See report under Beacon, N. Y.)

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road
 and 29th Street

PHILADELPHIA, PA.

New York and Queens Gas Co., Flushing.

RRs.: L. I.; B. El. Ry. S. Bs.: From Manhattan. Ex.: L. I.; Am.

Stock owned by Consolidated Gas Co. of New York.

Capital stock, \$600,000.

Bonds, \$816,000; due 1934; int., 5 p. c.

President, Moses Taylor.

Vice-president, L. B. Gawtry.

Secretary, M. H. Spear.

Treasurer, R. A. Carter.

Purchasing agent, M. H. Spear.

Gen'l mgr., M. H. Spear.

Con. Engineer, G. E. Woods.

New bus. mgr., J. L. Thomas.

Superintendent, M. Morrison.

Process manufacture, Lowe (U. G. I.).

Price of coal per ton, delivered, \$4.71; oil per gal., 4.59c. (1916).

Candle-power, 22.3.

Annual production, 313,005,000 c. f.

Total gas holder capacity, 1,350,000 c. f.

Holder pressure, 6 in.

Max. day's send out, 1,300,000 c. f.

Miles of street mains, approx., 112.

Street main pressures, max., 4.5 in.; min., 2.5 in.

High press. mains, miles, 3; pressure, 30 lbs.

Annual sales, approx., 286,175, 900 c. f.

Gas unaccounted for, 7 p. c.

Pop. district supplied, 38,000.

Pop. borough of Queens, 284,041.

No. meters, reg., 6,225; prepay., 3,712.

Price gas: Light and Fuel, \$1.

No. gas ranges, 5,600; water heaters, 3,000.

No. commercial gas arc lamps, 439.

(Supplies 3d Ward, Borough of Queens, New York City, including Flushing, College Point, Bayside and Whitestone.)

Fort Plain Gas and Electric Light, Heat and Power Co., Fort Plain.

RRs.: N. Y. C. & H. R.; W. Sh.; Erie Canal; Chapman S. B. Line. Ex.: Am.; Nat.

Capital stock, \$50,000 com.; ann. div., 12 p. c.

President, A. D. Sheffield.

Secretary and treasurer, A. G. Dunn.

Purchasing agent, A. G. Dunn.

Superintendent, A. A. Miller.

Process manufacture, Lowe.

Candle-power, 23.

Total gas holder capacity, 25,000 c. f.

Miles of mains, approx., 4.

Street main pressures, max., 3.5 in.; min., 1.5 in.

Annual sales, approx., 1,500,000 c. f.

Pop. dist. supplied, 4,000; of city, 2,762.

No. meters, reg., 198; prepay., 5.

Price gas: Light and Fuel, \$2.

Supplies Fort Plain.

ELECTRICAL DEPARTMENT.

No. public arcs, 58; price per year, \$55.

Commercial lighting: Price current per kw. hr., gross, 10c.

Power circuits, price per kw. hr., 3c. to 1c.

Purchase power from the Mohawk Hydro Electric Co.

Nassau and Suffolk Lighting Co., Freeport.

RR.: L. I. Ex.: L. I.

General office, 149 Broadway, New York City.

Capital stock, pref., \$500,000; com., auth.,

\$1,500,000; issued, \$532,000; ann. div. on pref., 6 p. c.

Bonds, \$1,400,000; due 1945; int., 5 p. c.

President, George MacDonald.

Vice-pres., Joseph Kennedy.

Secretary, Joseph MacDonald.

Treasurer, W. H. B. Cooper.

Pur. agent, J. Kennedy.

General manager, George MacDonald.

Engineer, Chas. B. Morgan.

Process manufacture, Lowe.

Annual prod., 400,000,000 c. f.

Calorific value, 585 B.t.u.

Max. day's send out, 1,800,000 c. f.

Total gas holders capacity, 750,000 c. f.

Miles of mains, approx., 226.

Street main pressures, max., 3.2 in.; min., 2 in.

High pressure mains, 15 miles; press., 30 lbs.

Annual sales, approx., 350,000,000 c. f.

Gas unaccounted for, 12 p. c.

Pop. district supplied, 55,000 (estimated).

No. consumers and meters, 7,000.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.

No. public lamps, 2,500.

No. hours lamp is lighted per year, 4,000.

Price includes repairs, care, lighting and extinguishing.

Ranges in use, 3,700.

No. commercial gas arc lamps, 450.

Supplies Garden City, Garden City Estates, Hempstead, Rockville Center, Baldwins, Freeport, Merrick, Mineola, Hempstead Manor, Roosevelt, Belmore, Seaford, Wantagh, Smithville South, No. Merrick Oceanside and intervening territory.

Fulton Fuel and Light Co., Fulton.

RRs.: D., L. & W.; N. Y., Ont. & W.; N. Y. C. & H. R. S. B.: Os. & Syr. Line. Ex.: Am.: Ad.

Operated by W. E. Moss & Co., Detroit, Mich.

Capital stock, \$125,000.

Bonds, \$119,000; due 1927; interest, 5 p. c.

President, L. C. Foster.

Vice-president, B. O. Tippy.

Treasurer, W. E. Moss.

Secretary, J. G. Light.

Auditor and pur. agent, H. M. Eaton.

General mgr., B. O. Tippy.

Local mgr., J. G. Light.

Process manufacture, Lowe and Coal.

Mixture supplied, 97 p. c. coal; 3 p. c. water.

Calorific value, 590 B.t.u.

Total gas holder capacity, 70,000 c. f.

High pressure tanks, 8,000 c. f.

Max. day's send out, 104,600 c. f.

Miles of mains, approximate, 27.

Street main pressure, max., 4 in.; min., 3 in.

High pressure mains, 7 miles; pressure, 20 lbs.

Annual sales, 27,298,400 c. f.

Gas unaccounted for, 6.31 p. c.

SPECIFIC GRAVITY

American Meter Company

561 W. 47th St., New York, N. Y.

APPARATUS; YOUNG'S SULPHUR TEST—REFEREES' SULPHUR AND AMMONIA TEST.

We manufacture these apparatus, the Referees' Sulphur and Ammonia Tests being made in accordance with the latest notifications of the London Board of Gas Referees.

Pop. dist. supplied, 11,000; city, 10,480.
 Consumers and meters, 1,557.
 Price gas: Light and Fuel, gross \$1.60; net \$1.50 to 80c. First 3,000, \$1.50 net; next 7,000, \$1.25; next 10,000, \$1; all over 20,000, 80c. Min. bill, \$1.
 Ranges in use, 1,400; water heaters, 139.
 No. commercial gas arc lamps, 125.
 Supplies Fulton.

Geneseo Gas Light Co., Geneseo.

RR.: Erie. Ex.: W. F.

Capital stock, \$25,000.
 Bonds, \$25,000; due 1925; int., 5 p. c.
 President, Jas. W. Wadsworth.
 Secretary, Geo. B. Adams.
 Treasurer, Geo. B. Adams.
 Superintendent, T. W. Landon.
 Pur. agent, T. W. Landon.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.70.
 Candle-power, 16.
 Annual production, 4,000,000 c. f.
 Max. day's send out, 22,000 c. f.
 Total gas holders capacity, 40,000 c. f.
 Miles of mains, approximate, 2.5.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 4,000,000 c. f.
 Gas unaccounted for, 3 p. c.
 Pop. dist. supplied, 2,000; of city, 2,067 (1910).
 No. consumers, 190.
 No. meters, reg., 280.
 Price gas: 1st 10,000 c. f., \$1.70; 2d 10,000 c. f., \$1.50; 3rd 10,000 c. f., \$1.40. Disc., 10c., 10 days.
 Ranges in use, 55.
 No. commercial gas arc lamps, 12.
 Supplies Geneseo.

ELECTRICAL DEPARTMENT.

System operated: Lighting, arcs, A. C.; incand., A. C.; power, A. C., 60 cycles.
 Generating capacity: Lighting, 125.
 Voltage: Incand., 110-220.
 City lighting contract, hours lighted per year, arcs, 4,000.
 No. public arcs, 48; 400 watt; price per year, \$95.
 No. public incand., 6; 60 watt. Price per year, \$30.
 Commercial lighting: No. incand., 3,000.
 Price commercial per kw. hr., gross 12c.
 Power circuits: No. motors, 20.
 Price current per kw. hr., 8c., sliding to 3c.
 Output of station, kw. hr. for year, 207,532.
 Generating power used, Steam; rated h. p., 200.
 Cost of station boiler coal per ton, \$4.35.

Empire Coke Co., Geneva.

RRs.: L. Val.; N. Y. C. & H. R. S. Bs.: Sen. Co.; Cayuga and Seneca Canal. Ex.: Am.

Main office, Geneva. Plant at Border City, town of Waterloo.

(For capitalization and officers, see this company, under "Parent Companies.")

Gen'l manager, H. O. Palmer.

Superintendent, John O'Malley.

Pur. agent, W. S. Osborne.

Leased plant to Semet-Solvay Co., Syracuse, N. Y., receiving gas required as rental, to Dec. 1, 1917.

Process of manufacture, Semet-Solvay By-product coke ovens.

No. of ovens, 46; length, 35 ft.; width, 16 in.; 4 flues, 30 ft. high; 5 flues, 16 ft. high.

Coal charged per oven, 7.25 tons; coke yield, 75 p. c. (foundry, furnace and domestic).

Time required for coking, 21 hours.

High volatile coal used, 34 p. c.; low volatile, 28 p. c.

Surplus gas sold to Empire Gas & Electric Co.

Calorific value, surplus gas, 600 B. t. u.; heating gas, 350 B. t. u.

Supplies gas to Empire Gas and Electric Co., Auburn, Geneva, Seneca Falls, Waterloo, Phelps, Palmyra, Newark and Lyons.

Empire Gas and Electric Co., Geneva.

(RRs. & S. Bs., see Geneva above.)

Controlled by Empire Coke Co.

(For financial and officers, see this company's report under Appendix.)

General mgr., H. D. Coleman.

Engineer, H. O. Palmer.

Local manager, C. F. Brunt.

Purchases gas from Empire Coke Co.

Candle-power, 16. Calorific value, 600 B.t.u.

Gas purchased, 92,128,800 c. f.

Total gas holders capacity, 105,000 c. f.

Max. day's send out, 314,000 c. f.

Miles of mains, approx., 25.4.

Street main pressures, max., 4.2 in.; min., 3.5 in.

High pressure mains, 1 mile; pressure, 20 lbs.

Booster mains, 1.1 miles; press., 5 lbs.

Annual sales, approx., 93,321,500 c. f.

Gas unaccounted for, 1.5 p. c.

Pop. of city supplied, 13,232.

No. consumers, 2,703.

No. meters, reg., 1,573; prepay., 1,130.

Price gas: Light and Fuel, 50c. per mo. consumers' charge, plus 90c. per 1,000 c.f. net. Penalty, 10c., 10 days.

Ranges in use, 1,683; water heaters, 659; heaters, 544.

No. commercial gas arc lamps, 200.

Supplies Geneva.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 60 cycles; power, A. C., 3 phase, 60 cycles.

Voltage: Line, 2,200; incand., 110; power, 220-2,200.

City lighting contract: Hours lighted per year, incand., 4,000.

No. public incand.: 7.5 amp. st. series. 247—100 c. p.; price, \$24.48 per year. 276—60 c. p.; price, \$18; 63—80 c. p.; price, \$19.80; 6—240 c. p.; price, \$51.

Commercial and domestic lighting: Price, \$1 mo. consumers' chg., plus 6.5c. per kw. hr. net, \$1 per h. p. demand.

Power price, 1.5c. per kw. hr.

Output of station, kw. hrs. for year, 5,551,464.

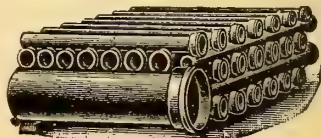
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



Generating power used. Water and Steam:
rated 4,750 kw. (system).
Current taken from Empire Gas & Elec. Co.
transmission line.

Sea Cliff and Glen Cove Gas Co., Glen Cove.

RR.: L. I. S. B. Mon. Ex.: L. I.

New York office, 50 Church St.
Capital stock, \$150,000.
Bonds, \$150,000; due 1934; interest, 5 p. c.
President, George T. Peck.
Secretary, R. Taylor.
Treasurer, R. Taylor.
Pur. agent, Bruce S. Gramley.
Superintendent, Henry Tozer.
New bus. mgr., Frank J. Stoltz.
Process manufacture, Lowe.
Price coal per ton, delivered, \$7.85; oil per
gallon, 9.5c.
Candle-power, 21.
Calorific value, 625 B.t.u.
Annual production, 19,170,000 c. f.
Gas holder capacity, 60,000 c. f.; pressure,
max., 6 in.
Street mains, approx., 19.3 miles. Pressure,
max., 5 in.; min., 3 in.
Booster mains, 2 miles; pressure, 2 lbs.
Max. day's send out, 80,000 c. f.
Annual sales, approx., 15, 375,000 c. f.
Gas unaccounted for, 18 p. c.
Population of cities: Glen Cove, 9,000; Sea
Cliff, 10,500, estimated.
No. consumers, 700.
No. meters, reg. and prepay., 674.
Price gas: Light and Fuel, \$1.50-90c.
Supplies Glen Cove and Sea Cliff.

Glens Falls Gas and Electric Light Co., Glens Falls.

RRs.: D. & H.; Hud. Val.; Champlain Canal.
Ex.: Nat.

Operated by Utica Gas & Electric Co.
Capital stock, \$250,000.
Bonds, \$250,000; due 1919; int., 5 p. c.
President, J. C. Brady.
Vice-president, W. E. Lewis.
Secretary, M. J. Brayton.
Treasurer, George H. Stack.
Auditor, Wm. J. McSorley.
Gen. man. and pur. agt., H. M. Collin.
New-business manager, H. M. Collin.
Superintendent, H. Rochet.
Process manufacture, Coal.
Price coal per ton, delivered, \$4.35.
Annual production, approx., 75,000,000 c. f.
By-products made: Coke, 5,191 tons; tar, 54,-
932 gallons.
Candle-power, 16. Calorific value, 600 B.t.u.
Max. day's send out, 300,000 c. f.
Gas holders capacity, 300,000 c. f.
Holder pressure, 5 in.
Miles of mains, approx., 30.
Street main pressures, max., 3 in.; min., 3 in.
Annual sales, approx., 67,000,000 c. f.
Gas unaccounted for, 15 p. c.
By-products sold: Coke, 2,602 tons; tar, 49,150
gallons.
Pop. dist. supplied, 16,000; of city, 15,243.
No. consumers, 3,000.
No. meters, reg., 1,555; prepay., 1,397.

Price gas: Light, gross \$1.75; net \$1.50. Fuel,
gross \$1.50; net \$1.25.
Ranges in use, 2,300; heaters, 550; water heat-
ers, 350.
No. commercial gas arc lamps, 500.
Supplies Glens Falls.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
System: Lighting and power, A. C.
Voltage: Incand., 110; power, 220.
Commercial lighting: No. arcs, 500; incand.,
15,000.
Price arc and incand., Com'l, per kw., 11c.;
disc., 10 p. c.
Power circuits: No. motors, 100.
Price per kw. hr., 5c. Disc., 10 p. c.
Buys all current from Union Bag and Paper
Co.

Fulton County Gas and Electric Co., Gloversville.

RR.: F. J. & G. Ex.: Am.

Capital stock, \$1,030,000.
Bonds, \$1,000,000; due 1936; int., 5 p. c.
President, R. A. C. Smith.
Vice-president, J. C. De Long.
Secretary, G. W. Curran.
Treasurer, I. W. Morris.
Purchasing agent, J. A. Pearson.
Manager, L. C. Smith.
Process manufacture, Lowe.
Calorific value, 585 B. t. u.
Miles of mains, approx., 61.45.
Annual sales, approx., 152,277,000 c. f.
Pop. cities supplied: Johnstown, 10,640; Glov-
ersville, 22,197.
No. meters, reg., 3,552; prepay., 6,452.
No. consumers, 10,004.
Price gas: Light and Fuel: first 5,000 c. f. or
under, \$1.20 net; next 5,000, \$1.10; all in
excess of 10,000, \$1.
Ranges, 8,463; heaters, 3,480; water heaters,
1,615.
Supplies Johnstown and Gloversville.

ELECTRICAL DEPARTMENT.

System operated: Arcs, 6.6 amp. A. C. series;
incand., 1 phase; power, A. C., 2 phase.
Generating capacity: Lighting, 1,883 kw.
Voltage: Arcs, A. C. series; incand., 110-220;
power, 110-220; primary, 2300.
City lighting contract: Hours lighted per year:
Arc and incand., 4,000.
No. public arcs, 82—275 watt, 91—400 watt.
No. public incand., 890—50 watt.
Electric meters, 5,799.
Price current per kw. hr., 9c. to 4c.
Price power per kw. hr., 9c. to 1.5c.
Output of station, kw. for year, 7,804,500.
Generating power used: Steam and Water;
rated: 1,533 kw. Steam, and 350 kw.
Water; 4,000 kw. trans. for purchased
power.

Goshen Illuminating Co., Goshen.

RRs.: Erie; L. & N. E. Ex.: W. F.

Capital stock, auth., \$25,000; issued, \$15,000.
Bonds, \$15,000; due 1936; int., 5 p. c.
President, John H. Findlay.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Secretary, Benj. J. Macdonald.
 Treas. and new bus. mgr., John H. Findlay.
 Purchasing agt. and supt., J. H. Findlay.
 Gen'l mgr. and engineer, John H. Findlay.
 Process manufacture, Coal.
 Candle-power, 17.
 Calorific value, 700 B. t. u.
 Annual production, 6,500,000 c. f.
 Gas holder capacity, 20,000 c. f.
 Holder pressure, max., 2.5 in.
 Max. day's send out, 22,000 c. f.
 Miles of mains, approximate, 6.
 Street main pressures, max., 2.5 in.; min., 1.5 in.
 Annual sales, approx., 5,720,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 2,800; of village, 3,300.
 No. consumers, 330.
 No. meter, reg., 308; prepay., 22.
 Price gas: Light, gross, \$2; net, \$1.90. Fuel gross, \$1.50; net, \$1.40.
 Ranges in use, 150; heaters, 75; water heaters, 55.
 No. commercial gas arc lamps, 25.
 Supplies Goshen.

Granville Electric and Gas Co., Granville.

RR.: D. & H. Ex.: Nat.

Capital stock, auth., \$150,000; issued, \$100,000.
 Bonds, \$165,000; due 1923; int., 5 p. c.
 President, Brodie G. Higley.
 Vice-presidents, Geo. Tait and F. T. Pember.
 Secretary, G. M. Flood.
 Treasurer, G. M. Flood.
 Manager, Paul Fasoli.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.25.
 Price oil per gal., delivered, 6.875c.
 Candle-power, 20.
 Annual production, 7,000,000 c. f.
 Gas holder capacity, 33,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 32,000 c. f.
 Miles of mains, approximate, 7.
 Street main pressures, max., 2.8 in.; min., 2.8 in.
 Pop. dist. supplied, 4,500; of village, 3,920.
 Consumers and meters, 431.
 Price gas: Light and Fuel, gross \$1.50; net \$1.35.
 Ranges in use, 210; heaters, 45; water heaters, 50.
 No. commercial gas arc lamps, 10.
 Supplies Granville.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: A. C. single phase, 40 cycles; power, A. C., 3 phase, 40 cycles.
 Generating capacity: Lighting and power, 250 kw.
 Voltage: Incand., 127; power, 220.
 City lighting contract: Hours lighted, 4,000.
 No. public incand., 226 (60 c. p.); price per year, \$20.
 Price incand., Com'l, per kw. gross, 12c. to 8c.; disc., 10 p. c.

Power circuits: No. motors, 50.
 Price current per kw. hr., 8c. to 2c.
 Power used, Water: also purchase power from Kanes Falls Electric Co.

West Shore Gas Co., Haverstraw.

RRs.: N. J. & N. Y.; W. Sh. S. Bs. from Manhattan. Ex.: W. F.; Nat.

Capital stock, auth., \$45,000; issued, \$15,500.
 Bonds, \$25,000; due 1926; interest, 5 p. c.
 President, A. G. Scully.
 Secretary, H. T. Bragg.
 Treasurer and pur. agt., J. A. Smith.
 Manager, J. A. Smith.
 Process manufacture, Lowe (Boecklin).
 Price oil per gal., delivered, 3.4c.
 Candle-power, 20.
 Annual production, 11,500,000 c. f.
 Max. day's send out, 41,000 c. f.
 Total gas holder capacity, 60,000 c. f.
 Miles of mains, approx., 12.
 Street main pressures, max., 3 in.
 Annual sales, approx., 10,500,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. city, 8,038; dist. supplied, the same.
 No. meters, reg., 590; prepay., 20.
 No. consumers, 610.
 Price gas: Light and Fuel, gross and net, \$1.50
 Ranges, 250; heaters, 40; water heaters, 25.
 No. commercial gas arc lamps, 40.
 Supplies Haverstraw, West Haverstraw and Garnerville.

Nassau and Suffolk Lighting Co., Hempstead.

(See report under Freeport, N. Y.)

Fidelity Gas Co., Hoosick Falls.

(Plant sold to John J. Duffy of Jersey City, N. J. Has ceased operations.)

Albany Southern Railroad Co., Hudson.

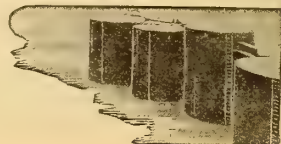
RRs.: Bos. & Al.; N. Y. C. & H. R.; A. S. (El.). S. Bs.: Catskill Line; H. R.; Cats. & Al.; New. & Al.; Ferries to Athens, Cossackie and Catskill, N. Y.
 Ex.: Am.; Nat.

General office, Rensselaer, N. Y.
 Capital stock, pref., 2,029,000; com., \$1,375,000.
 Bonds, \$1,302,000; due 1939; int., 5 p. c.
 President, Wm. Loeb, Jr.
 Sec. and treas., I. W. Day.
 Gen'l mgr., Jas. E. Hewes.
 Superintendent, J. E. Newman.
 Process manufacture, Coal and Water.
 Price coal per ton, delivered, \$4.95.
 Price oil per gal., delivered, 4.8c.
 Candle-power, 16.
 Max day's send out, 106,000 c. f.
 Miles of mains, approximate, 8.21.
 Total gas holders capacity, 70,000 c. f.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 23.5 p. c.
 Pop. city supplied, 11,417.
 No. consumers, 1,264.
 No. meters, reg., 1,243; prepay., 165.

USE SPECIFICATION PAINTS

We manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



Price gas: Light, gross, \$1.50; net, \$1.35;
Fuel, gross, \$1.50; net, \$1.35.
Ranges in use, 689; hot plates, 250; water
heaters, 95.
Supplies Hudson.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., 60 cycles; incand.,
60 cycle, 1 phase; power, 25 cycle, 3 phase.
Transformer capacity: Lighting, 330; power,
450.
Voltage: Arcs, 6.6 amp. series; incand., 104;
power, 220.
City lighting contract: Hours lighted per year:
Arc, 3,900; incand., 3,900.
No. public arcs, 127; 430 watt. Price per year,
\$81.75.
No. public incand., 71; 112 watt. Price per
year, \$22.
Commercial lighting: No. arcs, 25; No incand.,
17,672.
Price current per kw. hr., 12c. net.
Power circuits: No. motors, 77; price per kw.
hr., 10 to 2.5c.
Output of sub-station, kw. for year, 953,646.
Cost of station boiler coal, per ton, \$3.85.
Power station at Stuyvesant Falls, 4,800 kw.
capacity.
(No 1918 report.)

United Gas, Electric Light and Fuel Co., Hudson Falls.

RRs.: D. & H.; Hud. Val.; Champlain Canal.
Ex.: Nat.
Operated by Utica Gas & Electric Co.
Capital stock, com., auth., \$200,000; issued,
\$150,000.
Bonds, \$150,000; due 1930; interest, 5 p. c.
President, J. C. Brady.
Secretary, M. J. Brayton.
Treasurer, George H. Stack.
Auditor, Wm. J. McSorley.
Gen. mgr. and pur. agent, H. M. Collin.
Supt. and new-business mgr., H. M. Collin.
Coal gas purchased from Glens Falls Co.
Candle-power, 16.
Max. day's send out, 50,000 c. f.
Gas holder capacity, 30,000 c. f.
Miles of mains, approximate, 15.
Street main pressures, max., 3 in.; min., 3 in.
Annual sales, approx., 15,804,000 c. f.
Gas unaccounted for, 29 p. c.
Pop. dist. supplied, 12,000; of cities, 11,191.
No. consumers, 800.
No. meters, reg., 500; prepay., 300.
Price gas: Light and Fuel, gross and net,
\$1.25.
No. ranges in use, 600; heaters, 100; water
heaters, 50.
No. commercial gas arc lamps, 50.
Supplies Hudson Falls, Fort Edward and
South Glens Falls.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
System: Lighting and power, A. C.
Voltage: At arc, 80; incand., 115; power, 220.
No. public arcs, 205; lighted, 4,000 hours.
Price arc, Public, per year, \$50 and \$80.
No. public incand., 100; 25 c. p. Price per
year, \$18.

Commercial lighting: No. arcs, 50; incand.,
10,000.

Price, Com'l, per kw. hr., 10c.; disc., 10 p. c.
Power circuits: No. motors, 25. Price per
kw. hr., 5c.
(Current purchased from Glens Falls Gas &
Electric Light Co.)

Huntington Gas Co., Huntington.

RR.: L. I. S. Bs.: Hunt.; N. Y. & N. Line.
Ex.: L. I.

(Owned by Huntington Light & Power Co.)
New York office, 50 Church St.
Capital stock, \$60,000.
President, Archibald McLaren.
Secretary, Earl W. Chapple.
Treasurer, Frank J. Stoltz.
Gen'l mgr., E. W. Chapple.
Pur. agent, Bruce S. Gramley.
Engineer, J. Cushing.
New bus. mgr., Frank J. Stoltz.
Process manufacture, Lowe (Sutherland).
Price coal per ton, delivered, \$7.85.
Price oil per gal., delivered, 9.33c.
Candle-power, 20.
Annual production, 13,590,000 c. f.
Max. day's send out, 15,000 c. f.
Total gas holders capacity, 35,000 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 3.5 in.; min., 3.2
in.
Annual sales, approx., 11,007,000 c. f.
Gas unaccounted for, 16 p. c.
Pop. dist. supplied, 6,000 (estimated); of city,
6,500.
No. consumers, 634.
No. meters, reg. and prepay., 634.
Price gas: Light and Fuel, \$1.50.
Supplies Huntington Village and Halesite.

Ithaca Gas & Electric Corporation, Ithaca.

RRs.: D., L. & W.; L. Val.; N. Y., A. & L.
(El.). S. Bs.: Cay., Lake Trans. Ex.:
Am.

Controlled by Associated Gas & Electric Co.
Operated by J. G. White Management Corp.
Capital stock, \$350,000.
Bonds, \$260,000; due 1931 and 1949; interest,
5 p. c.
President, J. I. Mange.
Secy. and treas., H. B. Brown.
Gen. mgrs. and pur. agts., The J. G. White
Management Corporation.
Manager, G. A. Strain.
Superintendent, W. E. O'Neil.
Process manufacture, Coal and Lowe.
Mixture, 61 p. c. coal; 29 p. c. water.
Price of coal per ton, delivered, \$4.57.
Price of oil per gal., delivered, 8.61c.
Candle-power, 18.
Calorific value, 585 B. t. u.
Max. day's send out, 349,000 c. f.
Total gas holder capacity, 320,000 c. f.
Miles of mains, approx., 31.1.
Street main pressures, max., 3.5 in.; min., 1 in.
Annual sales, approx., 87,762,000 c. f.
Gas unaccounted for, 15 p. c.
Pop. dist. supplied, 18,000; of city, 17,500.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard Garage Heater of North America.

Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Pop. of city, est., 1915, 17,500.
 No. consumers, 3,081.
 Price gas: Light and Fuel, gross \$1.55; net \$1.40.
 No. ranges, 1,959; water heaters, 831.
 Supplies Ithaca.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycle.
 Energy purchased, 1,200 kw. peak.
 Voltage: Line, 2,300; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: all night.
 No. public incand., 447.
 Price current per kw. hr. gross, 11c.
 Power purchased from Ithaca Traction Corporation R. R. Co.

Jamaica Gas Light Co., Jamaica.

RRs.: L. I.; B. El. Ry. Ex.: L. I.; Am.; N. Y. L.

Controlled by The Brooklyn Union Gas Co.
 Capital stock, \$200,000.
 President, E. R. Chapman.
 Vice-president, A. F. Staniford.
 Secretary, H. E. McGowan.
 Asst. sec'y, Frederick R. Wogan.
 Treasurer, H. Wellington.
 Asst. treas., T. P. Payne.
 Auditor, James Gilmer.
 Asst. auditor, T. P. Payne.
 Purchasing agent, G. W. Gatehouse.
 Manager, H. A. Lovell.
 Purchases gas from Brooklyn Union Gas Co.
 Amt. gas purchased, 264,788,169 c. f.
 Candle-power, 23.41.
 Miles of mains, 88.
 Pumping mains, 1.54 miles; pressure up to 3 lbs.
 Annual sales, approx., 242,794,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. borough supplied, 284,041 (1910).
 No. consumers, 8,796.
 No. meters, reg., 8,865; prepay., 438.
 Price gas: Light and Fuel, \$1. Public lighting, 75c.
 Supplies Jamaica, Borough of Queens, N. Y.

Kingston Gas and Electric Co., Kingston.

RRs.: W. Sh.; Ulster & Del.; Wall. Val.; N. Y., Ont. & W., or via Rondout, N. Y.
 Ex.: Am.; Ad.; Nat.

Operated by the American Gas Co.
 (For capitalization and bonds, see Appendix.)
 President, Morris W. Stroud.
 Vice-pres. and gen. mgr., S. P. Curtis.
 Secretary, W. L. Fox.
 Treasurer, J. B. Townsend, 3d.
 Pur. agent, F. D. Wharton.
 Engineer, R. C. Cornish.
 Elec. Engineer, H. M. Blake.
 Manager, F. Tobey, Jr.
 Process manufacture, Coal and Lowe.
 Calorific value, 585 B.t.u.
 Annual production: Coal gas, 57,350,000 c. f.; water gas, 52,511,000 c. f.
 By-products made: Coke, 3,469 tons; tar, 90.713 gals.; ammonia, 3,422 gals.

Max. day's send out, 414,000 c. f.
 Total gas holders capacity, 390,000 c. f.
 Miles of mains, approx., 42.6.
 Street main pressures, max., 3.5 in.; min., 2 in.
 High pressure mains, 2.8 miles; pressure, 5 lbs.
 Annual sales, approx., 100,711,000 c. f.
 Gas unaccounted for, 7.5 p. c.
 By-products sold: Coke, 221 tons; coal-gas tar, 95,514 gals.; ammonia, 6,275 gals.
 Pop. dist. supplied, 27,000; of city, 25,908.
 No. consumers, 4,942.
 No. meters, reg., 3,379; prepay., 1,563.
 Price gas: Light and Fuel, gross \$1.25; disc., 10 to 45c. per M. as to quantity, viz.: 1st 5,000 c. f.; \$1.15 net; next 5,000 c. f., \$1.10; next 10,000 c. f., \$1.05; next 20,000, \$1; next 30,000, 95c.; next 30,000, 90c.; next 100,000, 80c.
 Ranges in use, 3,133; heaters, 153; water heaters, 644.
 No. commercial gas arc lamps, 509.
 Supplies Kingston and Rondout.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting and power, 750 kw.
 Voltage: Arcs, 70; incand., 110; power, 220.
 City lighting contract: Hours lighted per year, Arc, 4,000; incand., 4,000.
 No. public arcs, 427; 320 watt. Price per year, \$75.
 No. public incand., 736, 40 watt. Price per year, \$16.50.
 Commercial lighting: No. arcs, 31; No. incand., 35,000.
 Price current per kw. hr., 11, S. 4c. demand rate.
 Power circuits: No. motors, 378; price per kw. hr., 10 to 2c., demand rate.
 Output of station, kw. hrs. per year, 3,934,100.
 Generating power used, Water, purchased from Honk Falls Power Co.
 Supplies Kingston, Esopus, Hurley, Rondout and Ulster.

Lackawanna Steel Co., Lackawanna.

RRs.: So. Buffalo: direct connection with all trunk lines entering Buffalo.

Main office, Buffalo, N. Y.
 President, E. A. S. Clarke.
 Vice-pres., Moses Taylor.
 Secretary, F. F. Graham.
 Treasurer, J. P. Higginson.
 Pur. agent, F. H. Burnett.
 Vice-pres. and gen. mgr., C. H. McCullough, Jr.
 Engineer, W. A. James.
 General superintendent, G. F. Downs.
 Process, By-product Coke-ovens.
 No. ovens, 470; 188 Otto-Hoffman and 282 Rothburg.
 Dimensions: Length, 32 ft. 2.25 in.; width, 15½ in.; height, 6 ft. 4 in.
 Coke used for blast furnaces; tar sold.
 Surplus gas used in heating furnaces and under boilers.

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.
C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Niagara Coke Corporation, Lackawanna.

R.Rs.: So. Bufl. Ex.: Ad.: Am.

Office, 6 Church St., New York City.
 Type of oven, Otto By-product Regenerative.
 No. of ovens under construction, 100.
 Dimensions: Length, 39 ft.; width, 19 in.; height, 10 ft.
 Coal charged per oven, 14 tons.
 Coke will be used for blast furnace, foundry and domestic.
 Company reports, January 4, 1917: Work on the ovens was suspended owing to the war, and has not yet been resumed.

Lockport Light, Heat and Power Co., Lockport.

R.Rs.: N. Y. C. & H. R.; Int. (El.); Erie Canal. Ex.: Am.; W. F.

Controlled by United Gas & Electric Co. of N. J., New York City.
 (For capitalization and bonds, see Appendix.)
 President, Geo. B. Tripp.
 Vice-president, George Bullock.
 Secretary and treasurer, J. A. McKenna.
 Asst. sec'y and asst. treas., John A. Duff.
 General manager, John A. Perkins.
 New business manager, F. M. Houston.
 Superintendent, E. L. Benton.
 Commercial manager, M. J. Healey.
 Engineers and pur. agents, The United Gas & Electric Engineering Corp.
 Process manufacture, Coal and Lowe.
 Annual production, coal gas, 64,555,000 c. f.; water gas, 36,104,000 c. f.
 By-products made: Coke, 3,968.7 tons; tar, 74,951 gals.
 Candle-power, 16.9. Cal. value, 629 B. t. u.
 Max. day's send out, 345,000 c. f.
 Total gas holder capacity, 200,000 c. f.
 Miles of mains, approx., 35.74.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 91,628,000 c. f.
 Gas unaccounted for, 8.25 p. c.
 Pop. dist. supplied, 18,856; of city, 17,970.
 No. consumers and meters, 3,677.
 Price gas: Light, \$1.25 net to 80c. per 1,000 c. f., Indus. fixed charge, 62½c. per mo., plus 60c. to 55c. per 1,000 c. f.
 Ranges in use, 2,376; water heaters, 1,168.
 No. commercial gas arc lamps, 216.
 Supplies Lockport.

ELECTRICAL DEPARTMENT.

System operated: Arcs, A. C.; incand., A. C. 2 and 3 phase. Power, A. C. and D. C., 25 and 60 cycle.
 Generating capacity, 955 kw. (Also contract to purchase current.)
 Voltage: Line, 12,000; arcs, 90; incand., 110-220; power, 110-220-440.
 City lighting contract: Hours lighted per year, arcs, 4,000.
 No. public arcs, 586; 6.6 amp. Price per year, \$50.
 Price, com., per kw. hr., gross, 5c. to 2c. net. 75c. per mo. per customer.
 Price power, per kw. hr., 7c. to 1c. net. Whole-sale, demand charge plus 5 mills energy.

Output of station, kw. for year, 17,658,099 (incl. purchased power).
 Generating power used, Steam; rated h. p., 1,530.
 Steam plant operated 10 months in the year.
 Major portion of current bought from Niagara Falls, about 500 h. p. generated by water power. Power purchased from Niagara, Lockport and Ontario Power Co.

Long Beach Gas Co., Long Beach.

R.Rs.: L. I. Ex.: L. I.

Capital stock, \$250,000.
 President and gen. manager, David B. Helme.
 Secretary, Bernard A. Barrett.
 Treasurer, James F. Halleron.
 Purchasing agent, George A. Frank.
 New business manager, Charles Wallenius.
 Gas purchased from Nassau & Suffolk Lighting Co.
 Miles of mains, 17.
 Population of district to be supplied, 1,000.
 Price of gas to consumers, \$2.
 Supplies Long Beach and vicinity.

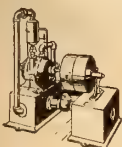
Empire Gas & Electric Co., Lyons.

R.Rs.: N. Y. C. & H. R.; W. Sh. Erie Canal. Ex.: Am.; Nat'l.

(Controlled by Empire Coke Co., Geneva.)
 (For financial data, see "Appendix.")
 President, E. H. Palmer.
 Secretary, L. G. Hoskins.
 Treasurer, C. H. Pierce.
 Pur. agent, W. S. Osborne.
 General manager, H. L. Coleman.
 Supt. and new bus. mgr., Foster Whipple.
 Gas purchased from Empire Coke Co., Geneva.
 Gas purchased, 18,000,000 c. f.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 100,000 c. f. Pressure (max.), 6 in.
 Street mains, approx., 8 miles.
 Street main pressures, max., 5 in.; min., 3 in.
 High pressure mains, 2 miles; press., 30 lbs.
 Max. day's send out, 80,000 c. f.
 Annual sales, approx., 16,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. of city supplied, 4,700.
 No. consumers, 857.
 No. meters, reg., 805; prepay., 52.
 Price gas: Light and Fuel: Consumer's chg., 50c. per mo. Billed at 90c. per 1,000 c. f., net; 10c. per c. f. added after 10th of mo.
 Gas appliances in use: Ranges, 380; heaters, 100; water heaters, 70.
 No. commercial gas arc lamps in use, 35.
 Supplies Lyons.

ELECTRICAL DEPARTMENT.

System operated: Arc., A. C., 1 phase. 60 cycle; incand., single phase, A. C.; power, A. C., 60 cycle, 3 phase.
 Generating capacity: Lighting, 805.68 kw.
 Voltage: Arc line, 2,300; incand., 110; power, 220.
 City lighting contract: Hours lighted per year, arc and incand., 4,000.

**THE CORRECT AMOUNT OF AIR FOR ANY AMOUNT**

OF GAS. THE NEEDHAM HIGH PRESSURE GAS SYSTEM compresses and delivers the gas to the burner under uniform high pressure and by utilizing specially designed injectors supplies the correct amount of air.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

No. public arcs, 11; 450 watt; price per year, \$93. Incand., 127; 80 c. p.; price per year, \$44. 15 doubles; 160 c. p. Price per year, \$23.

Price current per kw. hr.: Com., gross, 12c.; domestic, consumer's charge \$1 (up to 2.5 kw.), \$2 (2.5 to 5 kw.), \$3 (5 to 7.5 kw.), \$4 (7.5 kw.), plus 7c. per kw. hr.

Power circuits: No. motors, 30. Price per kw. hr., 15c. to 5c. Disc., 40 p. c. on first, 10 p. c. on second. Over 50 h. p., demand \$1.00 per h. p. flat, with current at .015c. per kw.

Output of station, kw. hrs. for year, 902,980.

Generating power used: Water, 50 h. p. and 600 kw. changer for power from Niagara, Lockport and Ontario lines, and connected with system by 13,000 volt transmission lines.

Malone Light and Power Co., Malone.

RRs.: Rutland; N. Y. C. & H. R. Ex.: Am.

Capital stock, \$194,000; ann. div., 6 p. c.

Bonds, \$129,000; due 1944; interest, 6 p. c.

President, M. S. Wilder.

Secretary, H. C. Wilder.

Treasurer, H. C. Wilder.

Purchasing agent, S. G. Hunter.

Superintendent, S. G. Hunter.

New business manager, C. F. Mason.

Engineer, S. G. Hunter.

Process manufacture, Coal ($\frac{1}{2}$ depth horizontal benches).

Price coal per ton, delivered, \$8.50.

Calorific value, 585 B. t. u.

Candle power, 16.

Annual production, 12,000,000 c. f.

By-products made: Coke, 675 tons; tar, 4,457 gals.

Max. day's send out, 50,200 c. f.

Gas holder capacity, 50,000 c. f.

Holder pressure, 3.5 in.

Miles of mains, approx., 12.

Street main press., max., 3.5 in.; min., 3.1 in.

Annual sales, approx., 9,879,000 c. f.

Gas unaccounted for, 12 p. c.

By-products sold: Coke, 675 tons; tar, 4,457 gals.

Pop. city, 7,500 (1915); dist. supplied, 6,000. No. consumers, 712.

No. meters, reg., 780; prepay., 6.

Price of gas: Light and Fuel, \$1.50.

No. ranges in use, 610; heaters, 21; water heaters, 315.

Supplies Malone.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$617,890.

System operated: Arc and incand., Series A. C., single phase, 50 cycle; power, single to 3 phase, 60 cycle.

Generating capacity: Lighting and power, 3,655 kw.

Voltage: Incand., 110; power, 220.

Miles of overhead wires, 25.

City lighting contract: Hours lighted per year: incand., 4,000.

No. public incand., 115; 60 c. p. Price per year, \$15. 72-250 c. p. Price per year, \$50.

42 ornamental posts; 400 c. p. Price per year, \$54.

Price current per kw. hr., net, 10c.; \$4.50 for each 16 c. p. unit, or equiv., on flat rate.

Power circuits: Motors, 3,250 h. p.; price per kw. hr., 10 to 2c.

Output of station kw. hr. for year, 13,850,000.

Generating power used, Water, rated 4,500 h.p.

Halfmoon Light, Heat and Power Co., Mechanicsville.

RRs.: D. & H.; Bos. & Me.; Hud. Val.; Champlain Canal. Ex.: Nat.

Capital stock, auth. and issued, \$120,000.

Annual dividend, 6 p. c.

Bonds, \$75,000; due 1923; int., 5 p. c.

President, J. C. Duncan.

Secretary, H. O. Bailey.

Treasurer and manager, W. L. Howland.

Superintendent and pur. agent, H. G. Lake.

New bus. mgr., H. G. Lake.

Process manufacture, Lowe.

Price coal per ton, delivered, \$6.75.

Price oil per gal., delivered, 8c.

Calorific value, 597 B. t. u.

Annual production, 11,000,000 c. f.

Max. day's send out, 53,000 c. f.

Total gas holder capacity, 40,000 c. f.

Miles of mains, approx., 7.5.

Street main pressure, max., 3.5 in.; min., 3.5 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 6,000; of city, 8,208 (1915). now estimated, 8,000.

No. consumers, 1,075.

No. meters, reg., 475; prepay., 600.

Price gas: Light and Fuel, gross \$2; net \$1.50.

Ranges in use, 775; heaters, 60; water heaters, 175.

No. commercial gas arc lamps, 10.

Supplies Mechanicsville.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 40 cycle.

Voltage: Incand., 110; power, 220.

Miles of overhead wires, 11.

City lighting contract: Hours lighted per year, incand., 4,000.

No. public incand., 415; 32 c. p., \$12 per year; 400 c. p., \$75 per year; 1,000 c. p., \$120 per year.

Price current per kw. hr., gross, 13.5c. Disc., 10 to 62.5 p. c.

Power circuits: Price per kw. hr., 8c. Disc., 10 to 62 $\frac{1}{2}$ p. c.

Output of station, kw. for year, 928,668.

Cost of station boiler coal per ton, \$6.75-\$8.30.

Power purchased from Adirondack Electric Power Corp.

Medina Gas Co., Medina.

RRs.: N. Y. C. & H. R.; Erie Canal. Ex.: Am.

(Company undergoing reorganization.)

Trustee, Thos. G. Hinds, Jersey City, N. J.

General mgr., John Collins.

New bus. mgr., Wm. J. Collins.

Process manufacture, Coal.

GAS EXHAUSTERS

Best Materials



GAS BOOSTERS

*Accurate Workman-
ship*

Price coal per ton, delivered, \$3.40.
 Candle-power, 16.
 Calorific value, 680 B. t. u.
 Annual prod., 7,000,000 c. f.
 Miles of mains, approximate, 7.
 Street main pressures, avg., 2.5 in.
 Max. day's send out, 29,000 c. f.
 Gas holder capacity, 23,000 c. f.
 Annual sales, approx., 7,000,000 c. f.
 Pop. city supplied, 5,683.
 No. consumers and meters, 350.
 Price gas: Light and Fuel, \$2 to \$1.50. Discount, 25 p. c.
 (No 1918 report.)

Orange County Public Service Corporation, Middletown.

RRs.: Erie; N. Y., Ont. & W.; N. Y., Susq. & W. Ex.: Ad.; W. F.

(A consolidation of Orange Co. Lighting Co., Orange Co. Power Co. and Pt. Jervis Lt. & Power Co.)

Executive office, Land Title Building, Philadelphia, Pa.

Capital stock, pref., auth. and issued, \$250,000; com., auth. and issued, \$350,000.

Bonds, \$615,000, due 1925 and 1940; int., 5 and 6 p. c.

Annual div., pref., 6 p. c.

President, E. E. Mandeville.

Secretary, M. F. Maury.

Treasurer, M. F. Maury.

General manager, A. J. Darrah.

New bus. mgr., A. J. Darrah.

Pur. agent, E. E. Mandeville.

Engineer, Sam'l T. Beatty.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$5.80; oil per gal., \$6.2c.

Candle-power, 21.

Calorific value, 612 B. t. u.

Annual production, 95,000,000 c. f.

Max. day's send out, 265,000 c. f.

Gas holder capacity, 250,000 c. f.

Holder pressure, 4.5 in.

Miles of mains, approx., 40.

Street main pressures, max., 4.5 in.; min., 4.3 in.

Annual sales, approx., 89,000,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. cities supplied, est., 35,000.

No. consumers, 3,700.

No. meters, reg., 3,475; prepay., 225.

Price gas: Light and Fuel, net, \$1.25, first 20,000 c. f.; next 10,000 c. f., \$1 rate; above 30,000 c. f., 75c.

No. ranges, 1,410; heaters, 290; water heaters, 274.

No. commercial gas arc lamps, 495.

Supplies Middletown, Port Jervis, N. Y., and Matamoras, Pa.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 3 phase, 60 cycle.

Generating capacity: Lighting and power, 3,900 kw.

Voltage: Incand., 110; power, 220.

City lighting contract: Hours lighted per year: Arc and incand., 4,000.

No. public incand., Middletown, 299, 60 c. p.; 167-100 c. p.; 61-250 c. p.; 26-400 c. p. Total price, \$12,000. Port Jervis, incand., 59-600 c. p.; price \$70; 9-400 c. p., price \$63.75; 22-250 c. p., price \$40; 358-60 c. p., price \$18.

Commercial lighting: No. arcs, 11; No. incand. (no record).

Price current per kw. hr., gross, 10c. Disc., over \$25, 10 p. c.; over \$50, 20 p. c. Minimum charge, 50c. per mo.

Prices, Port Jervis, 14c. to 8c.

Power circuits: No. motors, 329; price per kw. hr., 2.6c. net. Heating, 3c. per kw. hr. Disc. to 2.6c. net. Port Jervis, 2.5c. to 6c.

Output of station: Middletown, kw. for year, 7,000,000.

Other uses, 600 domestic electric appliances. Generating power used, Water and Steam; rated h. p. 7,000.

Cost of station boiler coal, per ton, \$3.55.

Supplies Middletown, Otisville, Cuddebackville, Port Jervis, Monticello, N. Y., and Matamoras, Pa. All stations connected.

Westchester Lighting Co., Mount Vernon.

RRs.: N. Y. C. & H. R.; N. Y., N. H. & H. Ex.: Ad.; Am.

Controlled by Consolidated Gas Co. of New York.

(For capitalization and bonds, see Appendix.) President, F. A. Stratton.

Vice-presidents, B. W. Stilwell and W. J. Clark.

Secretary and asst. treas., Robert A. Carter.

Treasurer and asst. sec., E. S. Bellows.

Pur. agent, A. M. Keene.

Auditor, C. F. Bryant.

Engineer gas dept., G. T. Macbeth.

New bus. mgr., W. L. Secord.

Engineer electrical dept., Stuart Wilder.

Process manufacture, Lowe and Horizontal Retorts.

Calorific value, 585 B. t. u.

Annual production, 1,990,676,000 c. f.

Gas holder capacity, 6,016,252 c. f.

Max. day's send out, 5,641,000 c. f. (Mt. Vernon plant).

Miles of mains, 576.

Min. street main pressure, 1.7 in.

Annual sales, approx., 1,911,445,400 c. f.

Gas unaccounted for, 6.88 p. c.

Pop. borough, 430,980; dist. supplied, 292,336.

No. consumers, 61,799.

No. meters in dist.: Reg., 44,446; prepay., 25,227.

Price of gas, Light: \$1 to \$1.50; Fuel: \$1 to \$1.25.

No. public gas lamps, 7,114; incl., 7,112 Welsbach incand.

Hours lighted per year, 3,987.5.

Contract includes repairs, care, lighting and extinguishing.

No. gas ranges in use, 42,894; water heaters, 12,492.

Supplies cities of New York (Bronx Borough), Yonkers, Mt. Vernon and New Rochelle; towns of Eastchester, Greenburg, Harrison, Mamaroneck, Rye and White Plains;

BLOWERS

For Industrial Appliances Universally Used



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

villages of Bronxville, Dobbs Ferry, Elmsford, Hastings, Irvington, Larchmont, Mamaroneck, No. Pelham, No. Tarrytown, Pelham, Pelham Manor, Port Chester, Rye, Scarsdale, Tarrytown, Tuckahoe and White Plains

ELECTRICAL DEPARTMENT.

System operated: A. C., 2 phase, 60 cycles.
Generating capacity: Lighting and power, 9,255 kw.
Voltage: Line, 2,200; incand., 110; power, 220.
Miles of overhead wires, 3,623.2.
City lighting contract: Hours lighted per year: Arc and incand., 3,950.
No. public arcs, 22; 450 watt.
Price public arcs per year, \$100.
No. public incand., 10,298; 40 to 300 watt.
Price per year \$16 to \$37.
Commercial lighting: No. incand., 606,176.
Price current per kw. hr., gross, in Mt. Vernon, New Rochelle, Port Chester, White Plains and Tarrytown, 12c. to 4c.; Mt. Kisco, 15c. to 4c.; N. Y. City, 10c. to 5c.
Power circuits, H. P. motors, 11,590.9. Price per kw. hr., 10c. to 3c.
Output of station, kw. hrs. for year: Made, 2,976,720; purchased, 32,784,598.
Generating power used, Steam; rated 11,495 h. p.

Empire Gas and Electric Co., Newark.

RRs.: N. Y. C. & H. R.; No. Cen.; W. Sh.; New. & Mar.; Erie Canal. Ex.: Am.; Nat.; Ad.

Controlled by Empire Coke Co.
Head office, Geneva, N. Y.
(For capitalization and bonds, see Appendix.)
President, E. H. Palmer.
Secretary, L. G. Hoskins.
Treasurer, C. H. Pierce.
Gen. mgr., H. L. Coleman.
Pur. agent, W. S. Osborne.
Engineer, H. O. Palmer.
Superintendent, W. J. Callanan.
New bus. mgr., W. J. Callanan.
Gas purchased from Empire Coke Co.
Cal. val., 600 B. t. u.
Gas purchased, 24,500,000 c. f.
Gas holder capacity, 130,000 c. f.
Holder pressure, 4 in.
Max. day's send out, 110,000 c. f.
Miles of mains, approx., 12.
Street main pressures, max., 4 in.; min., 3.8 in.
High pressure mains: 3.2 miles; press. 15 lbs.
Annual sales, approx., 21,000,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. dist. supplied, 5,500; of city, 6,473.
No. consumers, 990.
No. meters, reg., 895; prepay., 95.
Price gas: Light and Fuel, consumer's charge, 50c. per mo. Gas billed at 90c. per 1,000 c. f. net; 10c. per 1,000 c. f. added after 10th of month.
Gas appliances in use: Ranges, 600; heaters, 400; water heaters, 500.
Supplies Newark.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C., 60 cycle, 2 and 3 phase.
Generating capacity: Lighting and power, 560 kw.
Voltage: Incand., 110; power, 110-220-2,200.
City lighting contract: Hours lighted per year, 4,000.
No. public incand: 90—3-lt. clusters, 100 c. p., price \$65; 4—5-lt. clusters (4—60, 1—100 watt), price \$70; 161—60 c. p., price \$22; 58—80 c. p., at \$14; 22—80 c. p., at \$20.50 per year.
Price current, \$1 consumer's charge, plus 7c. per kw. hr. Penalty, 10 p. c., 10 days.
Power, price per kw. hr., 1.8c. to 4c. Penalty, 10 p. c., 10 days.
Output of station, kw. for year, 885,100.
Generating power used: Steam; rated, 900 h. p.
Current taken from Empire Gas & Elec. Co. transmission line, connecting Newark with Geneva, Seneca Falls and Waterloo.

Central Hudson Gas and Electric Co., Newburg.

(See report under Poughkeepsie.)

Newtown Gas Co., Newtown.

RR.: B. El. Ry. Ex.: L. I.; Am.

(Office, Elmhurst, N. Y.)
Controlled by the Brooklyn Union Gas Co.
Capital stock, \$60,000.
President, E. R. Chapman.
Vice-president, A. F. Staniford.
Secretary, Henry E. McGowan.
Asst. sec., Frederick R. Wogan.
Treasurer, H. Wellington.
Asst. treas., T. P. Payne.
Auditor, James Gilmer.
Asst. auditor, T. P. Payne.
Purchasing agent, G. W. Gatehouse.
Manager, E. M. Smith.
Purchases gas from Brooklyn Union Gas Co.
Amt. gas purchased, 1,086,214,973 c. f.
Candle-power, 23,41.
Gas holder capacity, 10,000,000 c. f.
Miles of mains, approximate, 203.
Pumping mains, 6.17 miles; press. up to 3 lbs.
Annual sales, approx., 996,789,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. borough, 284,041; of dist. supplied, 105,219 (1910).
No. consumers, 47,691.
No. meters, reg., 48,105; prepay., 628.
Price gas: Light and Fuel, \$1.00; public lighting, 75c.
Supplies 2d Ward, Borough of Queens, New York City.

Greater New York City Companies.

RRs.: Cen. of N. J.; D. & W.; N. Y., N. H. & H.; Erie; L. Val.; L. I.; N. J. & N. Y.; N. Y. & L. B.; N. Y. C. & H. R.; Royal Blue; N. Y.; Ont. & W.; N. Y., Susq. & W.; Penna.; S. I. R. T.; W. Sh. S. Bs.; N. E. Nav.; Me. SS.; Joy; Hunt; N. Y. & N.; Met. Co.; Me. SS.; H. & N. Y.; Star; N. Line; N. & N. Y. Prop.; Mon.; Northport; Merchants; Cen. of N. J. S.

HAMMON PIPE COUPLERS insure tight lines, reduce costs of pipe laying and decrease the difficulties in making changes.

THE HAMMON COUPLER COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Bs.; Tren. Trans.; Citizens; Peoples; Murrys; Catskill; Saug.; Cen. Hud.; New. & Al.; N. Y. & B. Trans.; Old Dom.; Clyde; Ocean; Bruns.; Mallory; So. Pac. Lines; Texas City; Pan. R.R. SS.; Am.-H. SS.; Red Cross Line. Ex.: Ad.; Am.; L. I.; Nat.; N. Y. & B.; W. F.

BOROUGH OF THE BRONX.

Bronx Gas and Electric Co., See Westchester.
Central Union Gas Co., See New York City.
Northern Union Gas Co., See New York City.

BOROUGH OF KINGS.

Brooklyn Borough Gas Co., See Brooklyn.
Brooklyn Union Gas Co., See Brooklyn.
Flatbush Gas Co., See Brooklyn.
Kings County Lighting Co., See Brooklyn.

BOROUGH OF MANHATTAN.

Consolidated Gas Co., See New York City.
New Amsterdam Gas Co., New York City.
New York Mutual Gas Light Co., See New York City.
Standard Gas Light Co., See N. Y. City.

BOROUGH OF QUEENS.

Astoria Light, Heat and Power Co., See Astoria.
Jamaica Gas Light Co., See Jamaica.
New Amsterdam Gas Co., Ravenswood. See New York City.
Newtown Gas Co., See Newtown.
New York and Queens Co., See Flushing.
Queens Borough Gas & Electric Co., See Far Rockaway.
Richmond Hill and Queens County Gas Light Co., See Richmond Hill.
Woodhaven Gas Light Co., See Woodhaven.

BOROUGH OF RICHMOND.

New York and Richmond Gas Co., See Stapleton.

Central Union Gas Co., New York City.

R.Rs.: See "Greater New York City Companies" above.

(Subsidiary to Consolidated Gas Co. of N. Y.)
(For capitalization and bonds, see Appendix.)
Office, 529 Courtlandt Ave.
President, Wm. H. Bradley.
Vice-pres. and sec'y, L. H. Werner.
Treasurer, Philip J. Schneider.
Assistant secretary, C. G. Duffy.
Asst. treas. and supt. of dis., A. H. Hall.
Supt. and acting eng. mfr., T. G. Weber.
Pur. agent, John W. Deuel.
Process manufacture, Coal and Lowe.
Annual production: Coal gas, 778,854,000 c. f.;
water gas, 2,645,604,000 c. f.
Candle-power, 27.72. Calorific value: Coal
gas 707.7, water gas 592 B.t.u.
Gas holder capacity, 8,506,000 c. f.
Max. day's send out, 11,666,000 c. f.
Miles of mains, approx., 160.
Annual sales, 2,733,323,100 c. f.
Gas unaccounted for, 7 p. c.
Pop. borough of Bronx, 430,980.
No. consumers, 108,762.

No. meters, reg., 70,955; prepay., 39,982.
Price gas, 80c. per 1,000 c. f.
No. public incand. gas lamps, 129.
Price street lighting, 75c. per 1,000 c. f.
No. hours lamp is lighted per year, 3,950.
Supplies 23d Ward, Bronx Borough.

Consolidated Gas Co. of N. Y., New York City.

(R.Rs. & S. Bs.: See "Greater New York City Companies," above.)

(Office, 130 East 15th St., near Irving Pl.)
(For detailed information regarding capitalization, etc., see Appendix.)

President, George B. Cortelyou.
Vice-presidents, Walter R. Addicks, Lewis B. Gawtry and Robt. A. Carter.

Secretary, R. A. Carter.
Asst. secretaries, H. M. Brundage and F. R. Barnitz.

Treasurer, C. G. M. Thomas.
Asst. treasurer, Benj. Whiteley.
Purchasing agent, A. F. Macklin.
Auditor, F. L. Lambrecht.

Controller, J. H. N. Armstrong.
Chief engineer, William H. Bradley.
Price of coal per cwt., del'd., anth., 22.05c.;
bit., 16.95c. Price of oil per gal., 5c.

Process manufacture, Coal and Lowe.
Annual production: Coal gas, 3,864,000 c. f.;
water gas, 7,318,982,000 c. f.

Gas purchased, net, 11,011,695,300 c. f.
By-products made: Coke and breeze, 615,505
lbs.; tar, 5,935,838 gals.; ammonia, 895
lbs.

Candle-power, 24.51 (works test).
Gas holder capacity, 49,660,000 c. f.
Max. day's make, 40,820,000 c. f.
Miles of mains, 841,825.

Annual sales, 16,891,064,100 c. f.
Gas unaccounted for, 7.45 p. c.
By-products sold: Coke, 511,665 lbs.; tar,
2,135,084 gals.; ammonia, 2,432 lbs.

Statistical data respecting the send-out, pressure and gas unaccounted for cannot be given by the Manhattan gas companies owing to the interchange of gas among companies.

Pop. borough supplied, 2,331,542 (1910).
No. consumers, 502,566.
No. meters, reg., 387,809; prepay., 166,964.
Price gas: Light and Fuel, gross, 80c.
Municipal lighting, price, 75c.
No. public street lamps, 199; all flat-flame.
No. hrs. each lamp is lighted per year, 8,760.
No. rented gas appliances, 241,217.
Supplies Borough Manhattan.

New Amsterdam Gas Co., New York City.

(R.Rs. & S. Bs.: See "Greater New York City Companies," above.)

(Subsidiary to Consolidated Gas Co. of N. Y.)
(For capitalization and bonds, see Appendix.)

President, G. W. Doane.
Vice-pres., Geo. H. Church.
Secretary, Malcolm M. Graham.
Treasurer, Malcolm M. Graham.
Purchasing agent, A. M. Wert.
General manager, G. W. Doane.



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Process manufacture, Lowe.

Annual production, 5,677,338,000 c. f.

Gas purchased, 139,374,900 c. f.

Gas holder capacity, 19,150,000 c. f.

Miles of mains, approx., 338.

Annual sales, 3,429,364,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. of boroughs supplied: Manhattan, 2,331,542; Queens, 284,041.

No. consumers, 109,807.

No. meters, reg., 76,645; prepay., 22,110.

Price gas: Light and Fuel, 80c.

Rented appliances: Ranges, 10,099; heaters, 25,497; water heaters, 7.

Supplies New York City, Boroughs of Manhattan (Canal St. to 137th St., North to East Rivers) and Queens (1st Ward).

Location of plant, Ravenswood, Long Island City.

New York Mutual Gas Light Co., New York City.

(RRs. & S. Bs.: See "Greater New York City Companies," above.)

(Subsidiary to Consolidated Gas Co. of N. Y.)
(For capitalization, etc., see Appendix.)

Vice-pres., H. E. Gawtry.

Vice-pres. and sec'y, George W. Parkhurst.

Asst. sec. and pur. agt., Edwin S. Young.

Treasurer, W. C. Besson.

Station supt., Isaac McGraw.

Process manufacture, Lowe.

Annual production, 2,983,600,000 c. f.

Candle-power, 24.83.

Total gas holder capacity, 14,800,000 c. f.

Max. day's send out, 16,795,000 c. f.

Miles of mains, approx., 169.75.

Annual sales, 1,808,960,200 c. f.

Gas unaccounted for, 6 p. c.

Pop. of borough supplied, 2,331,542.

No. meters, reg., 45,553; prepay., 5,187.

Price gas: Light and Fuel, gross, 80c.

Supplies Manhattan Borough, from Battery to 63d Street, West Side, and from Battery to 68th Street, East Side.

Location of plant, East side Ave. D. bet. 11th and 12th Sts.

Northern Union Gas Co., New York City.

(RRs. & S. Bs.: See "Greater New York City Companies," above.)

(Subsidiary to Consolidated Gas Co. of N. Y.)
(Office, 1815 Webster Ave. (Bronx).)

(For capitalization and bonds, see Appendix.)

President, G. W. Doane.

Vice-pres., M. M. Graham.

Secretary and treas., F. R. De Voe.

Chief Engineer, A. H. Hall.

Gas purchased from Central Union Gas Co.

Gas purchased, 1,997,987,600 c. f.

Gas holder capacity, 1,195,000 c. f.

Miles of mains, approx., 175,461.

Annual sales, 1,795,673,900 c. f.

Gas unaccounted for, 10 p. c.

Pop. borough supplied, 430,980.

No. consumers, 68,463.

No. meters, reg., 44,360; prepay., 24,103.

Price gas: Light and Fuel, 80c.

Appliances rented: Ranges, 45,386.

Supplies a portion of Borough of Bronx, City of New York.

Standard Gas Light Co. of the City of N. Y., New York City.

(RRs. & S. Bs.: See "Greater New York City Companies" above.)

(Subsidiary to Consolidated Gas Co. of N. Y.)
(For capitalization and bonds, see Appendix.)

President, W. Greeley Hoyt.

Vice-pres. and treas., Benj. Whiteley.

Secretary, J. E. Sanborn.

Asst. secretary, Walter C. Phelps.

Asst. treasurer, Wm. F. O'Brien.

Purchasing agent, Wm. F. O'Brien.

Engineer, Geo. E. Woods.

Supt. of station, Jas. S. Kennedy.

Process manufacture, Lowe.

Annual production, 2,286,037,000 c. f.

Gas purchased, 48,510,200 c. f.

Candle-power, 24.78.

Gas holder capacity, 11,880,000 c. f.

Max. day's make, 12,137,000 c. f.

Miles of mains, approx., 202.68.

Annual sales, 2,136,536,400 c. f.

Pop. of boroughs supplied, 2,762,522.

No. consumers, 59,236.

No. meters, reg., 44,678; prepay., 16,550.

Price gas: Light and Fuel, 80c.

Appliances rented: Ranges, 15,350; cookers, 13,341.

Supplies City of New York, Borough of Manhattan and Bronx.

Location of plant, 115th St. and East River.

Niagara Falls Gas and Electric Light Co., Niagara Falls.

RRs.: N. Y. C. & H. R.; Erie; L. Val.; W. Sh.; Wabash; Mich. Cen.; Niag. St. C. & T. (El.). Ex.: Am.; Nat.; Can.; W. F.; Pac.

Capital stock, auth., \$150,000; issued, \$150,000.

Bonds, \$150,000; due 1921; interest, 5 p. c.

President, F. H. Dudley.

Vice-pres. and treas., Frederic Nicholls.

Secretary, D. H. McDougall.

General manager, Albert H. Merritt.

Superintendent, Albert H. Merritt.

Process manufacture, Coal.

Price of coal per ton, at works, \$5.65.

Calorific value, 595 B. t. u.

Annual production, 60,514,000 c. f.

By-products made: Coke, 3,501 tons; tar, 78,610 gals.

Gas holder capacity, 70,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 193,000 c. f.

Miles of mains, approximate, 24.27.

Street main pressures, max., 3.5 in.; min., 2 in.

Annual sales, approx., 52,000,000 c. f.

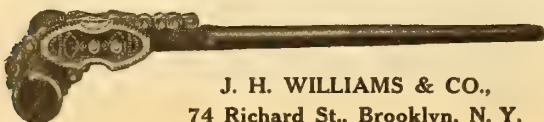
Gas unaccounted for, 11 p. c.

By-products sold: Coke, 1,478 tons; tar, 78,610 gals.

Population of city supplied, 45,000.

No. consumers, 2,929.

No. meters, reg., 2,029; prepay., 900.



J. H. WILLIAMS & CO.,
74 Richard St., Brooklyn, N. Y.

Williams' Improved "Vulcan" Drop-Forged Chain Pipe Wrench

With Double-Ended Reversible Jaws for Turning
or Holding Pipe, Pipe-Fittings, etc., from $\frac{1}{8}$ to 12
Inches Diameter.

Price gas: Light and Fuel, gross, \$1.90 under 2,000 c. f.; over 2,000, \$1.40; or 20,000 c. f. per mo. and over, \$1.20 per 1,000 c. f. From 1,500 to 2,000 c. f. incl. per mo., \$2.80, less discount of 40c.
Ranges in use, 1,901; water heaters, 585.
Supplies Niagara Falls.

ELECTRICAL DEPARTMENT.

Fixed capital electric plant, \$41,266.06.
Current purchased.
Miles of overhead wires, 20.98.
No. public incand., 142; 60 watt. Price per year, \$12 per light.
Price current per kw. hr., gross, 6c. Discounts, 1.25c. per kw.
Output of station, kw. per year, 254,986.

Norwich Gas and Electric Co., Norwich.

RRs.: D., L. & W.; N. Y., Ont. & W. Ex.: Ad.

Controlled by Associated Gas & Electric Co. Operated by J. G. White Management Corp. Capital stock, auth., \$200,000; issued, \$200,000. Bonds, \$250,000, due 1930 and 1949; int., 5 p. c. p. c.

President, J. I. Mange.
Secretary, H. B. Brown.
Treasurer, H. B. Brown.
General managers and pur. agts., The J. G. White Management Corp.
Superintendent, P. R. Chambers.
Process manufacture, Lowe.

Price of coal per ton, delivered, \$4.52.
Price of oil per gallon, delivered, 8c.
Candle-power, 20.
Max. day's send out, 116,000 c. f.
Total gas holders capacity, 100,000 c. f.
Miles of mains, approx., 19.3.
Street main pressures, max., 3 in.; min., 2.8 in.
Annual sales, approx., 31,200,000 c. f.
Gas unaccounted for, 17.8 p. c.
Pop. dist. supplied, 9,000; of city, est., 9,000.
No. consumers, 1,730.
Price gas: Light and Fuel, gross, \$1.70; net, \$1.60. Industrial rate, \$1.40 net to 50c. net.
Ranges in use, 828; water heaters, 122.
No. commercial gas arc lamps, 145.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 3 phase, 60 cycle.
Generating capacity, 475 kw.
Voltage: Incand., 110; power, 220.
City lighting contract: Hours lighted per year, arc, about 3,600.
Commercial lighting: No. incand., 13,844; 50 watt equiv.
Price current per kw. hr., gross, 15c.; net, 14c.
Power circuits: Motors, 736 h. p.; price per kw. hr., 9c. to 3c.
Output of station, kw. hrs. for year, 797,850.
Generating power used, Steam; rated h. p., 700.
Sells power for lighting Oxford to the Oxford Electric Light Co.

Rockland Light and Power Co., Nyack.

RRs.: Erie; Hudson Riv. S. Bs.: From N. Y., West Nyack, W. Sh. Ferry to Tarrytown, N. Y. Ex.: W. F.; Nat.

(For capitalization and bonds, see Appendix.)
Chairman Board, Chas. H. Tenney.
President, D. Edgar Manson.
First vice-president, A. B. Tenney.
Secretary, H. P. Wood.
Treasurer, E. A. Bradley.
Asst. treas., H. F. Peirce.
Auditor, H. A. Gidney.
Manager, E. C. Peebles.
Pur. agent, F. P. Mooney, Boston.
Process manufacture, Lowe.
Calorific value, 600 B. t. u.
Total gas holders capacity, 300,000 c. f.
Max. day's send out, 248,700 c. f.
Miles of mains, approx., 22.
Street main pressures, max., 3.5 in.; min., 3 in.
Annual sales, approx., 34,814,000 c. f.
Gas unaccounted for, 9 p. c.
Pop. district supplied, 33,000.
No. consumers and meters, 1,522.
Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.

Ranges in use, 1,200.
Supplies South Nyack, Nyack and Upper Nyack, Grand View, Piermont with gas and electricity; Haverstraw, West Haverstraw, Thiells, Stony Point, Spring Valley, Orangetown, Clarkstown, Ramapo, Suffern, Hillburn with electricity.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, 85 p. c. System operated: Arc, incand. and power, A. C., 1, 2 and 3 phase, 60 cycles.
Generating capacity: Light and power, 3,495 kw. A. C.
Voltage: Incand., 110; power, 220; transmission voltage, 33,000, 3 ph., 60 cycles.
City lighting contract: Hours lighted per year: Arc and incand., 4,000.
No. public arcs, 49; 450 watt; price per year, \$95, \$88, \$80.
No. public incand., 1,502; 32 and 60 c. p.; price per year, \$88, \$80, \$73.
Commercial lighting: No. incand., 77,000-16 c. p. equiv.
No. electric consumers, 3,853.
Price current per kw. hr., gross 13c. Discounts, 1c. per kw. hr.
Power circuits: Motors, 2,500 h. p.
Output of station, kw. hrs. for year, 3,982,373.
Generating power used, Steam; rated h. p., 2,476.
Supplies current to Rockland Electric Co., Closter, N. J.

Ogdensburg Gas Co., Ogdensburg.

RRs.: Rutland; N. Y. C. & H. R. S. Bs.: Clay. & Ogd. Route; Ogd. & Alex. Bay Route.; Rutld. Transit Ferry to Prescott; Ont. Ex.: Am.

Controlled by St. Lawrence Gas, Electric & Trans. Co.
President, F. A. Stoughton.
Secretary and treasurer, Paul B. Murphy.



HOLDERS, PLATE WORK, PIPE

R. D. Wood & Co., Phila., Pa.

Acting mgr., J. M. Daly.
 Superintendent, A. D. Cordwell.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.46.
 Calorific value, 601 B. t. u.
 Annual production, 286,693,900 c. f.
 By-products made: Coke, 1,842 tons; tar, 34,365 gals.
 Gas holder capacity, 80,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 104,000 c. f.
 Miles of mains, approx., 12.5.
 Street main pressures, max., 3 in.; min., 3 in.
 Annual sales, approx., 25,239,800 c. f.
 Gas unaccounted for, 10 p. c.
 By-products sold: Coke, 1,311 tons; tar, 42,091 gals.
 Pop. dist. supplied, 7,000; of city, 15,933 (1910).
 No. consumers, 1,577.
 No. meters, reg., 552; prepay., 1,025.
 Price gas: Light and Fuel, gross, \$2; net, \$1.50.
 Gas appliances: Ranges, 1,375; water heaters, 181.
 No. commercial gas arc lamps, 63.
 Supplies Ogdensburg.

Adirondack Electric Power Corporation, Oneida.

RRs.: N. Y. C. & H. R.; N. Y., Ont. & W. Ex.: Am.; Ad.; Nat.

(For capitalization, bonds, etc., see Appendix.)
 Appendix.)

President, James R. Hooper.
 General manager, Walter S. Wyman.
 Asst. treas., J. M. Seay.
 Superintendent, Geo. Guyette.
 Engineer, H. J. Hunsicker.
 Pur. agent, Lewis A. Jones.
 New bus. mgr., Otto Snyder.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.15.
 Calorific value, 595 B. t. u.
 Annual production, 23,924,634 c. f.
 By-products made: Coke, 1,487 tons; tar, 20,237 gals.
 Total gas holder capacity, 125,000 c. f.
 Holder pressure, 8 in.
 Max. day's send out, 86,300 c. f.
 Miles of mains, approx., 14.36.
 Street main pressures, max., 3.5 in.; min., 3 in.
 Annual sales, approx., 19,791,100 c. f.
 Gas unaccounted for, 18 p. c.
 By-products sold: Coke, 1,542 tons; tar, 14,036 gallons.
 Pop. dist. supplied, 8,317; of city, 8,317.
 No. consumers, 1,196.
 No. meters, reg., 859; prepay., 357.
 Price gas: Light and Fuel, sliding scale from \$1.60 gross, with 10c. disc. to 5,000 c. f.; 5,000 to 14,900 c. f., \$1.50; 15,000 to 34,900 c. f., \$1.35; 35,000 c. f. and over, \$1.10; min. 50c. per mo. Engines, 10,000 c. f. and over, \$1 per 1,000 c. f.
 No ranges in use, 836; water heaters, 331.
 No. commercial gas arc lamps, 117.
 Supplies Oneida.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System: Incand., A. C., 40 cycles, 3 phase; power, A. C., 3 phase, 40 cycles.
 Substation capacity, lighting and power, 825 kw.
 Voltage: Incand., 127; power, 220.
 City lighting contract. Hours lighted, 4,000 and 2,600.
 No. public incand.: 49,600 c. p., lighted 4,000 hours, price \$75; lighted 2,600 hrs., price \$50. 228, 32 c. p., lighted 4,000 hrs., price \$52.50; lighted 2,600 hrs., \$35. 64, 60 c. p., lighted 4,000 hrs., price \$30; lighted 2,600 hrs., \$20. 29, 16 c. p. multiple, price per year \$9.
 Commercial lighting: No. incand., 1,120 kw. equiv.
 Price incand., com'l, per kw., 14c. Discounts residential, 2c.; business, 4c.
 Power used, Sub-station; power generated at Utica steam plant.
 Power circuits: No. motors, 114.
 Price power, 0 to 198 kw., 8c.; 198 to 388 kw., 6c.; over 388 kw., 5c. Min. charge, 84c.
 Output of sub-station, kw. hrs. for year, 1,557,514.
 Generating power, Steam; rated 6,000 kw. at Utica.
 Supplies Oneida and Canastota.

Oneonta Light and Power Co., Oneonta.

RRs.: D. & H.; Ulster & Del.; Oneo. & Mo.
 Val. (El.) Ex.: Nat.

Capital stock, pref., \$75,000; com., \$100,000; ann. div., pref., 6 p. c.
 Bonds, \$200,000; due 1922; int., 5 p. c.
 President, Joseph K. Choate.
 Vice-president, J. I. Mange.
 Vice-president, T. W. Moffat.
 Vice-president, S. J. Magee.
 Secretary and treasurer, H. B. Brown.
 Purchasing agent, E. N. Chilson.
 Superintendent, E. L. Sellers.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$5.75.
 Price oil per gallon, delivered, 6.5c.
 Candle-power, 21.
 Calorific value, 635 B. t. u.
 Annual production, 22,000,000 c. f.
 Total gas holders capacity, 125,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 78,000 c. f.
 Miles of mains, approx., 14.
 Street main pressures, max., 4 in.; min., 4 in.
 Annual sales, approx., 20,000,000 c. f.
 Gas unaccounted for, 13 p. c.
 Pop. dist. supplied, 7,000; of city, 10,000.
 No. consumers, 1,350.
 No. meters, reg., 750; prepay., 600.
 Price gas: Light and Fuel, gross and net, \$1.50.
 Ranges in use, 800; water heaters, 200.
 Supplies Oneonta.

RELIABLE

ANGLIRON

RANGES

Special machinery and skilled workmanship contribute to a higher quality of stove construction than heretofore possible. N. C. G. A. specifications strictly followed. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C., incand., A. C., 60 cycle, 3 phase; power, D. C.
Generating capacity, kw. lighting, 425; power, 75.

Voltage: Arcs, 72; incand., 104; power, 550.
City lighting contract: Hours lighted per year, 4,000.

No. public arcs, 131; 470 watt. Price per year, \$72.50.

No. public incand., 30; 100 watt. Price per year, \$23.50.

Commercial lighting: No. arcs, 10; No. incand., 5,000, including about 3,000 Mazda, 40 and 60 watt.

Price current per kw. hr., gross, 10c. Disc., 10, 15, 20, 30 and 40 p. c.

Power circuits: No. motors, 62.

Price current per kw. hr., gross, 10c. Sliding scale.

Output of station, kw. hr. for year, 1,040,000.
Generating power used, Water and Steam; rated h. p., 500.

Cost of station boiler coal per ton, \$4.30.

Northern Westchester Lighting Co., Ossining.

RR.: N. Y. C. & H. R. Hudson Riv. S. Bs. from N. Y. City. Ex.: Am.

(Office, 127 Main St.)

(For capitalization and bonds, see Appendix.)

President, F. A. Stratton.

Vice-pres. and gen. mgr., Stuart Wilder.

Secretary, B. W. Stilwell.

Treasurer, R. A. Carter.

Asst. treasurers, O. G. Bennett and H. D. Swain.

Asst. gen. mgr., I. M. Beatty.

Process manufacture, Lowe.

Candle-power, 20.3.

Calorific value, 600 B. t. u.

Annual production, 61,793,000 c. f.

Total gas holders capacity, 148,500 c. f.

Max. day's send out, 233,000 c. f.

Miles of mains, approx., 33.26.

Street main pressures, max., 4 in.; min., 2.5 in.

Holder press., max., 7 in.

Annual sales, approx., 53,940,900 c. f.

Gas unaccounted for, 8.04 p. c.

Pop. dist. supplied with gas, 14,637; with elect., 16,875; of city, 16,443 (1910 census).

No. consumers, 3,161.

No. meters, reg., 921; prepay., 2,240.

Price gas: Light and Fuel, \$1.50.

No. gas ranges in use, 1,621.

Supplies Ossining, Briarcliff Manor, Pleasantville and Croton-on-Hudson.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 2 phase, 60 cycles; power, A. C. and D. C. for R. R.

Generating capacity: Lighting and power, 1,725 kw.

Voltage: Arcs, 110; incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, arc, 3,945; incand., 3,945.

No. public arcs, 16; 1,200 c. p.

No. public incand., 1,175; 25 c. p.

Commercial lighting: No. arcs and incand., 25,000, 16 c. p. equivalent.

Price current per kw. hr., gross, 15c.

Power circuits: Motors, 2,654 h. p.

Generating power used, Steam; rated h. p., 2,965.

Output of station, kw. hrs., total for year, 7,203,636.

Supplies Ossining, Croton, Briarcliff Manor, Pleasantville and towns of Ossining, Mt. Pleasant, Cortlandt, Yorktown, New Castle.

Peoples Gas and Electric Co., Oswego.

RRs.: D. L. & W.; N. Y., Ont. & W.; N. Y. C. & H. R. S. Bs.: L. O. & St. L. Riv. Line; Os. & Syr. Line; Des. Nav.; Tor. Nav.; Lake Ont. Nav. Ex.: Am.; Ad.

Managed by Chas. H. Tenney & Co.

Capital stock, auth., \$1,000,000; issued, \$604,200.

Annual dividend, 5 p. c.

Bonds, \$370,000; due 1930; int., 5 p. c., and \$295,800; due 1933; int., 5 p. c.

President, A. B. Tenney.

Clerk, Horace P. Wood.

Managers, Chas. H. Tenney & Co.

Treasurer, E. A. Bradley.

Purchasing agt., F. P. Mooney.

Engineer, Jas. Hurley.

Local mgr., R. F. Burnett.

Process manufacture, Coal.

Price coal per ton, delivered, \$6.07.

Annual production, 53,758,900 c. f.

By-products made: Coke, 3,361 tons; tar, 72,431 gals.; ammonia, 13,822 lbs.

Candle-power, 14. Calorific val., 612 B. t. u.

Max. day's send out, 191,470 c. f.

Total gas holder capacity, 190,000 c. f.

Miles of mains, approx., 34.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 48,449,000 c. f.

Gas unaccounted for, 9 p. c.

Pop. dist. supplied, 27,000; of city, 26,000.

No. consumers, 3,562.

No. meters, reg., 1,291; prepay., 2,271.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.40.

Ranges in use, 2,300; heaters, 140; water heaters, 135.

No. commercial gas arc lamps, 40.

Supplies Oswego.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$450,000.

System operated: Lighting: A. C., single phase, 60 cycles. Power: A. C., 3 ph., 60 cycles.

Generating capacity, kw. hrs., 2,350.

Voltage: Series, 4,500; incand., 120; power, 240.

City lighting contract: Hours lighted per year, arc and incand., 4,000.

No. public arcs, 111; 450 watt. Price per year, \$66.

No. public incand., 102—60 c. p.; 164—250 c. p.; 120—400 c. p.; 183—600 c. p.; 37—

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

1,000 c. p. Price per year, \$16, \$28.50, \$44, \$60 and \$70.

No. electric customers, 3,171.

Price current per kw. hr., gross, 10c. Disc., 10 p. c.

Rates for domestic use, 10c. to 4c.

Power circuits: Motors, 3,471 h. p.; price per kw. hr., sliding scale, 5c. to 1.8c.

Output of station, kw. hrs., total for year, 5,632,380.

Generating power used, Water and Steam; and purchased rated h. p., 3,000.

Cost of station boiler coal per ton, \$4.90.

Empire Gas & Electric Co., Owego.

RRs.: D., L. & W.; L. Val.; Erie. Ex.: W. F.

(Successor to Owego Gas Light Co.)

(For capital, bonds, etc., see "Appendix.")

President, E. H. Palmer.

Secretary, L. G. Hoskins.

Treasurer, C. H. Pierce.

Pur. agent, W. S. Osborne.

General manager, H. L. Coleman.

Engineer, H. O. Palmer.

Supt. and new bus. mgr., J. H. Kibler.

Process manufacture, Coal.

Calorific value, 650 B. t. u.

Price of coal per ton, delivered, \$4.75.

Annual production, 11,000,000 c. f.

By-products made: Coke, 2,000 tons; tar, 1,900 gallons.

Total gas holder capacity, 40,000 c. f.

Holder pressure, max., 2.8 in.

Max. day's send out, 38,000 c. f.

Miles of mains, approx., 7.

Street main pressures, avg., 2.8 in.

Annual sales, approx., 8,194,100 c. f.

Gas unaccounted for, 18.5 p. c.

By-products sold: Coke, 1,400 tons; tar, 1,900 gallons.

Pop. city supplied, 4,633.

No. consumers, 700.

No. meters, reg., 600; prepay., 100.

Price gas: Light and Fuel, \$1 per 1,000 c. f., plus 50c. consumer's charge. Penalty, 10c., 10 days.

Ranges in use, 400; heaters, 100; water heaters, 125.

No. commercial gas arc lamps, 50.

Supplies Owego.

Empire Gas & Electric Co., Palmyra.

RRs.: N. Y. C. & H. R.; W. Sh. Erie Canal.

Ex.: Am.; Nat'l.

Controlled by Empire Coke Co., Geneva, N. Y. (For capitalization, bonds, etc., see "Appendix.")

President, E. H. Palmer.

Secretary, L. G. Hoskins.

Treasurer, C. H. Pierce.

Pur. agent, W. S. Osborne.

General manager, H. L. Coleman.

Engineer, H. O. Palmer.

Supt. and new bus. mgr., W. J. Callanan.

Gas purchased from Empire Coke Co.

Gas purchased, 12,127,000 c. f.

Calorific value, 600 B. t. u.

Gas holder capacity, 18,000 c. f.; pressure (max.), 5 in.

Max. day's send out, 55,000 c. f.

Street mains, approx., 6 miles.

Street main pressures, max., 6 in.; min., 3 in.

Annual sales, approx., 9,559,100 c. f.

Gas unaccounted for, 16 p. c.

Pop. of city, 2,469; of dist. supplied, the same.

No. consumers, 516.

No. meters, reg., 488; prepay., 28.

Price gas: Light and Fuel: Consumer's charge, 50c. per month. Billed at \$1 per 1,000 c. f., 10c. per 1,000 c. f. added after 10th of month.

No. ranges in use, 250; heaters, 125; water heaters, 160.

No. commercial gas arc lamps in use, approx., 30.

Supplies Palmyra.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 7,200 alt.; power, A. C., 7,200 alt.

Generating capacity: Sub-station, 150 kw.

Voltage: Line, 2,300; incand., 110; power, 220.

City lighting contract: Hrs. lighted, incand., 4,000.

No. public incand., 131; 80 watt; price per year, \$27.

Price current per kw. hr., gross, \$1 per mo., plus 7c. per kw. hr. consumed.

Power price, 1.8c. to 4c., with 10 p. c. penalty, 10 days.

Power received from transmission line to sub-station, capacity of 150 kw.

Output of station, kw. hrs. for year, 652,569.

Patchogue Gas Co., Patchogue.

RR.: L. I. Ex.: L. I.

New York office, 50 Church St.

Capital stock, \$150,000.

Bonds, \$140,000; due 1933; int., 5 p. c.

President, George T. Peck.

Secretary and treas., Robert Taylor.

Gen. mgr. and pur. agt., Bruce S. Gramley.

Engineer, C. H. Burns.

New bus. mgr., Frank J. Stoltz.

Process manufacture, Lowe.

Gas purchased from Long Island Lighting Co.

Price of coal per ton, delivered, \$7.85.

Price of oil per gal., delivered, 9.5c.

Candle-power, 21. Calorific value, 625 B. t. u.

Annual production, 527,000 c. f.

Amount gas purchased, 21,425,300 c. f.

Gas holder capacity, 60,000 c. f.; pressure (max.), 6 in.

Max. day's send out, 95,000 c. f.

Street mains, approx., 23 miles.

Street main pressures, max., 5 in.; min., 3 in.

High pressure mains, 2.5 miles. Pressure, 10-30 lbs.

Annual sales, approx., 18,806,500 c. f.

Gas unaccounted for, 13 p. c.

Pop. of dist. supplied, est., 4,500; of city, est., 6,000.

No. consumers and meters, 851.

Price gas: Light and Fuel, \$1.50 to 90c.

No. public lamps, 10.

No. hours each lamp is lighted per year, 4,380.

Contract includes repairs, care, lighting and extinguishing.

You can shut off any size gas main in half a minute with a GOOD-MAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Gas appliances in use: Ranges, 750; water heaters, 165.
No. commercial gas arc lamps in use, 84.
Supplies Patchogue, Blue Point and Bellport.

Peekskill Lighting and Railroad Co., Peekskill.

RR.: N. Y. C. & H. R. Hudson Riv. S. Bs.
from N. Y. City. Ex.: Am.

Capital stock, pref., \$150,000; com., \$500,000;
annual div., pref., 6 p. c.
Bonds, \$646,000; due 1930; interest, 5 p. c.
President, F. A. Stratton.
Vice-pres. and gen. mgr., Stuart Wilder.
Secretary, B. W. Stilwell.
Treasurer, R. A. Carter.
Asst. treasurers, O. G. Bennett and H. D. Swain.
Asst. gen. manager, I. M. Beatty.
Process manufacture, Lowe.
Candle-power, 20.58.
Calorific value, 600 B. t. u.
Max. day's send out, 267,000 c. f.
Total gas holders capacity, 100,000 c. f.
Holder pressure, max., 5.2 in.
Miles of mains, approx., 24.01.
Street main pressures, max., 4 in.; min., 2.5 in.
Annual sales, approx., 49,363,000 c. f.
Gas unaccounted for, 13.77 p. c.
Pop. dist. supplied, 16,000; of city, 15,245.
No. consumers, 3,113.
No. meters, reg., 933; prepay., 2,180.
Price gas: Net, \$1.50 to \$1.
Supplies Peekskill, Cortlandt and Yorktown.

ELECTRICAL DEPARTMENT.

System operated: Lighting and Power, A. C.,
2 phase, 60 cycles; railroad power, D. C.,
600 volts.
Generating capacity: Lighting, 825; railroad
power, 250 and 1-300 kw. rotary con-
verter.
Voltage: Arcs, 110; incand., 110; power, 110-
220.
No. public arcs, 51; 450 watt.
No. incand., 431, 25 c. p.
Commercial lighting: No. arcs and No. incand.,
10,000, 16 c. p. equivalent.
Price current per kw. hr., gross, 15c.
Power circuits: Motors, 700 h. p.; price
per kw. hr., 10c. to 4c. Disc., sliding
scale.
Output of station, kw. hrs. total for year,
3,066,204.
Generating power used, Steam; rated h. p.,
600.
Cost of station boiler coal per ton, \$5.75.

Penn Yan Gas Light Co., Penn Yan.

RRs.: N. Y. C. & H. R.; No. Cen.; P. Y.;
K. P. & Br. (El.). S. B.: Lake K. Nav.
Ex.: Ad.; Am.; W. F.

Controlled by U. S. Gas & Electric Co.
Capital stock, \$24,750.
Bonds, \$55,000; due 1949; interest, 5 p. c.
President, William T. Morris.
Secretary, Morris Tracy.
Treasurer, William T. Morris.
Gen. mgr. and pur. agt., Morris Tracy.
Superintendent, M. F. Buckley.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.60.
Candle-power, 16.
Calorific value, 625 B. t. u.
Annual production, 8,707,500 c. f.
By-products made: Coke, 695 tons; tar, 12,500
gallons.
Total gas holder capacity, 44,000 c. f.
Holder pressure, 3 in.
Max. day's send out, 36,900 c. f.
Miles of mains, approx., 6.75.
Street main pres., max., 3 in.; min., 2 in.
Annual sales, approx., 8,688,600 c. f.
Gas unaccounted for, 9.4 p. c.
By-products sold: Coke, 322 tons; tar, 12,426
gallons.
Pop. dist. supplied, 4,597; of city, the same.
No. consumers, 678.
No. meters, reg., 441; prepay., 237.
Price gas: Light and Fuel, gross, \$1.80; net,
\$1.60 to \$1.40.
Ranges in use, 275; heaters, 10; water heat-
ers, 76.
No. commercial gas arc lamps, approx., 87.
Supplies Penn Yan.

Empire Gas & Electric Co., Phelps.

RRs.: N. Y. C.; Lehigh V. Ex.: Am.

Controlled by Empire Coke Co., Geneva, N. Y.
For capitalization, bonds, etc., see "Appendix."
President, E. H. Palmer.
Secretary, L. G. Hoskins.
Treasurer, C. H. Pierce.
Pur. agent, W. S. Osborne.
General manager, H. L. Coleman.
Engineer, H. O. Palmer.
Supt. and new bus. mgr., C. F. Brunt.
Gas purchased from Empire Coke Co.
Gas purchased, 2,409,700 c. f.
Calorific value, 585 B.t.u.
High pressure mains, 2 miles; pres., 20 lbs.
(individual regulators).
Max. day's send out, 6,600 c. f.
Annual sales, approx., 2,374,700 c. f.
Pop. of city, 1,354; of dist. supplied, 1,500.
No. consumers, 187.
No. meters, reg., 182; prepay., 5.
Price gas: Light and Fuel, \$1 per 1,000 c. f.,
plus 50c. consumer's charge per month;
10c. penalty, 10 days.
Gas appliances in use: Ranges, 115; heaters,
20; water heaters, 35.
Supplies Phelps and Oaks Corners.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C., 3
phase, 60 cycles.
Generating capacity: Lighting, 150 kw.;
power, 150 kw.
Voltage: Line, 2,300; incand., 110; power, 220.
City lighting contract: Hrs. lighted per year,
3,600 (dusk till dawn).
No. public incand., 114; 23-100 c. p.; price
\$34 per year, and 91-60 c. p.; price \$20
per year.
Price current per kw. hr., gross, 7c. kw., plus
\$1 consumer's charge per month.
Power circuits: No. motors, 24; price per
kw. hr., 1.8c. to 4c.

Recording Calorgraph automatically and constantly records the calorific power of any gas in gross or net heat units, with 60-day or 24-hour charts. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Output of sub-station, kw. hrs. for year, 261,590.
Current taken from Empire Gas & Elec. Co. transmission line.

Plattsburg Gas and Electric Co., Plattsburg.

RRs.: D. & H.; Champlain Trans. Ex.: Nat.

Capital stock, pref., \$100,000; com., \$125,000.
Bonds, \$360,000; due 1939; int., 5 p. c.
President, G. M. Cole.
Secretary, O. J. Nichols.
Treasurer, O. J. Nichols.
Gen. mgr. and purchasing agt., Geo. M. Cole.
Engineer, John Morey.
Superintendent, H. A. Stutchbury.
Process manufacture, Lowe.
Price coal per ton, delivered, \$6.50.
Price oil per gal., delivered, 6c.
Candle-power, 22. Calorific value, 620 B. t. u.
Annual production, 50,292,000 c. f.
Max. day's send out, 227,600 c. f.
Total gas holders capacity, 60,000 c. f.
Holder pressure, max., 3.2 in.
Miles of mains, approx., 19.
Street main pressures, max., 3.2 in.; min., 2.4 in.
Annual sales, approx., 46,281,400 c. f.
Gas unaccounted for, 9.2 p. c.
Pop. city, 10,138; dist. supplied, the same.
No. consumers and meters, 1,374.
Price gas: Light and Fuel, gross \$1.40; net \$1.30. Min. charge, 50c. per mo.
Ranges in use, 1,061; heaters, 869; water heaters, 518.
No. commercial gas arc lamps, 60.
Supplies city and town of Plattsburg.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C. (by rectifier), incand., A. C. single phase; power, D. C. and A. C.; 1 and 3 phase.
Generating capacity, kw. hrs.: Lighting, 700; power, 1,020.
Voltage: Arcs, 80; incand., 110; power, 220 110 and 500.
City lighting contract: Hours lighted per year, arc and incand., 4,000.
No. public arcs, 106; 320 watt. Price per year, \$71.
No. public incand., 58; 100 watt. Price per year, \$35.
Commercial lighting: No. arcs, 12; No. incand., 30,000.
Price current: \$1 per month, and 14c., 1st 20 kw.; 13c., next 100 kw.; 7c. per kw. hr. over 120 kw. Disc. 1c. per kw. up to 200 kw., 10 days.
Power circuits: Motors, 1,125 h. p.
Power price: Min. charge, \$1 for 1st 3 h. p., motor; 75c. next 2 h. p.; 50c. all over 5 h. p. and 10c. to 2c. per kw. hr.
Output of station, kw. hrs. for year, 2,093,059.
Generating power used: Water and Steam; rated h. p., 2,478.
Power used also for railroad operation.
Cost of boiler coal per ton, \$7.85.

Orange County Public Service Corporation, Port Jervis.

RRs.: Erie; N. Y., Ont. & W. Ex.: Ad.; W. F.

(See report under Middletown, N. Y.)

Public Service Corporation of Long Island, Port Washington.

RR.: L. I. Ex.: L. I.

Capital stock, auth., \$500,000; issued, \$180,400.
Bonds, \$700,000; due 1943; int., 5 p. c.
President, Henry MacDonald.
Secretary, Joseph MacDonald.
Treasurer, William H. B. Cooper.
Pur. agent, J. Kennedy.
General manager, Henry MacDonald.
Superintendent, T. V. Dempsey.
New bus. mgr., W. A. Doyle.
Gas purchased from Nassau & Suffolk Lighting Co.
Amount purchased, 35,000,000 c. f.
Candle-power, 22.
High pressure mains, miles, 85; pressure, 20 lbs.
Annual sales, approx., 77,634,500 c. f.
Pop. dist. supplied, 50,000 (estimated).
No. consumers, 2,200.
Price gas: Light, gross, \$1.50; net, \$1.35. 1st 5,000 c. f.; next, 1,000 c. f., \$1.45-\$1.30; next 1,000, \$1.40-\$1.25; next 1,000 c. f., \$1.35-\$1.20; next 1,000 c. f., \$1.30-\$1.15; next 1,000 c. f., \$1.25-\$1.10; next 1,000 c. f., \$1.20-\$1.05; next 1,000 c. f., \$1.15-\$1.00.
No. public Welsbach incand. lamps, 800.
Contract includes repairs, care, lighting and extinguishing.
No. hours lamp is lighted per year, 4,000.
Gas appliances in use: Ranges, 2,000; heaters, 1,000; water heaters, 1,500.
No. commercial gas arc lamps in use, 500.
Supplies Port Washington, Roslyn, Manhasset, New Hyde Park, Great Neck, Westbury, East Williston, Roslyn Heights, Plandome; towns of Hempstead and North Hempstead and Floral Park.

Central Hudson Gas and Electric Co., Poughkeepsie.

RRs.: N. Y. C. & H. R.; Cen. N. E.; N. Y., N. H. & H. S. Bs.: H. R., New. & Al. Ferry to Highland on W. Sh. Ex.: Am.; Ad.; Nat.

(For capitalization, bonds, etc., see Appendix.)
President, T. R. Beal.
Secretary, P. A. Burnes.
Treasurer, Wm. Schickle.
General manager, T. R. Beal.
Pur. agent, F. M. Stark.
Oper. manager, H. M. Bengler.
Commercial manager, L. H. Scherck.
Indus. fuel engineer (at Newburgh only), Chas. Waldron, Jr.
Process manufacture, Lowe.
Price of coal per ton, delivered: Newburgh, \$7.60; Poughkeepsie, \$7.24.
Calorific value, 588 B. t. u.
Annual production, 358,313,200 c. f.
By-products made: Tar, est. 124,037 gals.
Total gas holder capacity, 940,000 c. f.
Holder pressure, max., 9 in.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road

and 29th Street

PHILADELPHIA, PA.

Max. day's send out: Poughkeepsie, 803,500 c. f.; Newburgh, 466,600 c. f.
 Miles of mains, approx., 73.4.
 Booster mains: Miles, 3; pressure, 2.5 lbs.
 Street main pressures, max., 4.5 in.; min., 3.5 in.
 Annual sales, approx., 337,863,900 c. f.
 Gas unaccounted for, 5.37 p. c.
 By-products sold: Tar, 209,240 gals.
 Pop. dist. supplied with gas, 60,000; with electricity, 100,000; of cities, Newburg, 27,805; Poughkeepsie, 27,936.
 No. consumers, 13,137.
 No. meters, reg., 8,405; prepay., 5,385.
 Price gas: Light and Fuel, \$1.50 to \$1.05.
 Min. mo. bill, 50c. Indus. rate; yearly contract. Readiness to serve charge, \$2 per mo. 100 c. f. of customer's load plus a consumption charge from \$1.05 to 80c. per 1,000 c. f. Prepay., \$1.50.
 Ranges in use, 10,634; heaters, 3,042; water heaters, 2,370.
 No. commercial gas arc lamps, 1,385.
 Supplies Poughkeepsie and Newburgh.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., single phase, 60 cycle; power, 60 cycles and single phase.
 Generating capacity: Lighting and power, 11,620 kw.
 Voltage: Arcs, 72; incand., 112-224; power, 112-224.
 Miles of over-head wires, 1,398.8; under ground cables, 47.
 City lighting contract: Hours lighted per year: Arc, 4,000; incand., 4,000 and 2,000.
 No. public arcs, 348; 4 amp. mag. Price per year, \$76.
 No. public incand., 2,795; 32 to 100 c. p. Price per year: 32 c. p., \$18.70; 40 c. p., \$20; 100 c. p., \$28 and \$32.
 Commercial lighting: No. incand., 99,788.
 Price current per kw. hr., gross, 12c. and 5c. Wholesale discount up to 20 p. c.
 Power circuits: Motors, 11,266 h. p., price per kw. hr., 9c. and 4c. Maximum demand with wholesale dis., up to 60 p. c.
 Other uses, heating and other appliances.
 Output of stations, year, kw. hrs., 26,071,990.
 Generating power used, Steam and Water.
 Cost of station boiler coal per ton, \$3.81 to \$6.75 delivered.

Albany Southern Railroad Co., Rensselaer.

RRs.: N. Y. C. & H. R.; Bos. & Al.; Al. & Hud. (El.). Ex.: Am.

(For financial, see same Company, under Hudson, N. Y.)

President, Wm. Loeb, Jr.
 Secretary, I. W. Day.
 Treasurer, I. W. Day.
 General manager, James E. Hewes.
 Superintendent, J. E. Newman.
 Process of manufacture, Lowe.
 Price coal per ton, delivered, \$4.95.
 Price oil per gal, delivered, 4.8c.

Candle-power, 20.
 Max. day's send out, 60,000 c. f.
 Total gas holders capacity, 60,000 c. f.
 Miles of mains, approx., 7.4.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 11,100,000 c. f.
 Gas unaccounted for, 9.26 p. c.
 Pop. of city, 10,711; of dist. supplied, the same.
 No. meters, reg., 988; prepay., 3.
 No. consumers, 937.
 Price gas: Light, gross, \$1.50; net, \$1.35.
 Fuel, gross, \$1.50; net, \$1.35.
 Ranges in use, 491; hot plates, 252; water heaters, 56.
 Supplies Rensselaer.

ELECTRICAL DEPARTMENT.

System operated: Incand., 60 cycle, 1 phase; A. C.; power, 25 cycle, A. C., 3 phase.
 Transformer capacity, kw. hrs.: Lighting, 220; power, 225.
 Voltage: Incand., 104; power, 220.
 City lighting contract: Hours lighted per year, incand., 3,900.
 No. public incand., 419; 40 c. p. Price per year, \$20.56.
 Commercial lighting: No. arcs, 12; No. incand., 10,704.
 Price current per kw. hr., gross, 12c.
 Power circuits: No. motors, 31; price per kw. hr., 10c. to 2.5c.
 Output of sub-station, kw. hrs., for year 1,079,575.
 Power station at Stuyvesant Falls, 4,800 kw. capacity.
 Cost of coal per ton, \$3.85.
 (No 1918 report.)

Richmond Hill and Queens County Gas, Light Co., Richmond Hill.

RRs.: L. I.; B. El. Ry. Ex.: Am.; L. I.; N. Y. L.

Controlled by The Brooklyn Union Gas Co.
 Capital stock, \$250,000.
 President, E. R. Chapman.
 Vice-president, A. F. Staniford.
 Secretary, Henry E. McGowan.
 Asst. sec., Frederick R. Wogan.
 Treasurer, H. Wellington.
 Asst. treasurer, T. P. Payne.
 Auditor, James Gilmer.
 Purchasing agent, G. W. Gatehouse.
 Manager, H. A. Lovell.
 Purchases gas from Brooklyn Union Gas Co.
 Amt. gas purchased, 163,209,538 c. f.
 Candle-power, 23.41.
 Miles of mains, 35.
 Pumping mains, 2.53 miles; pressure up to 3 lbs.
 Annual sales, approx., 149,161,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. borough supplied, 284,041.
 No. consumers, 4,933.
 No. meters, reg., 5,023; prepay., 149.
 Price gas: Light and Fuel, \$1; public lighting, 75c.
 Supplies Richmond Hill, Boro of Queens, New York.

EXPERIMENTAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. We make various styles, including the calorimeter, photometer and laboratory meters. These are carried in stock.

Rochester Railway and Light Co., Rochester.

RRs.: N. Y. C. & H. R.; Erie; L. Val.; B. R. & P.; Penna.; W. Sh.; Erie Canal. Ex.: Am.; Nat.; Ad.; W. F.

Controlled by Mohawk Valley Co.
(For capitalization, bonds, etc., see Appendix.)

President, Horace E. Andrews.
Vice-president, Robt. M. Searle.
Secretary, J. C. Collins.
Treasurer, M. S. Barger.
Pur. agent, J. B. Eaton.
Gen. mgr., James T. Hutchings.
Engineer, F. J. Howes.
Superintendent, J. P. Haftenkamp.
New bus. mgrs. (Indus.), I. Lundgaard;
(Dom.), Joseph MacSweeney.

Process manufacture, Coal and Lowe.
Annual production: Coal gas, 329,614,000 c. f.;
water gas, 1,926,179,000 c. f.

Price coal per ton, delivered, \$4.35. Oil per
gallon, 6c.

Candle-power, 12.1. Calorific val., 592 B. t. u.
By-products made: Coke, 29,563.53 tons; tar,
1,426,818 gals.; ammonia, 150,475 lbs.

Gas holder capacity, 9,080,000 c. f.

Holder pressure, max., 14 in.

Max. day's send out, 7,724,000 c. f.

Miles of mains, approx., 487.37.

Street main pressures, max., 4 in.; min., 3 in.

High pressure mains, 25 miles.

Booster mains, miles, 17; pressure, 5 lbs.

Annual sales, approx., 2,155,201,000 c. f.

Gas unaccounted for, 4.25 p. c.

By-products sold: Coke, 514.62 tons; tar,
995,058 gals.; ammonia, 150,782 lbs.

Pop. city, 218,149; dist. supplied, 257,800.

No. consumers, 72,418.

No. meters, reg., 78,601; prepay., 56.

Price gas: Light, gross (Rochester), \$1.05;
net, 95c. Fuel, gross, \$1.05; net, 95c.

Price, Canandaigua: Light, gross, \$1.60;

net, \$1.50; Fuel, gross, \$1.35; net, \$1.25.

Gas appliances in use: Ranges, 47,181; heat-
ers, 13,100; water heaters, 22,684.

Supplies Rochester, Irondequoit, Greece, Gates
Brighton, Chili, Pittsford, Perinton and
Canandaigua.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$17,300,-
000.

System, A. C., 25 and 60 cycle, 3 phase and
D. C.

Generating capacity: Steam, 36,175 kw.; hy-
dro., 41,365 kw.

Miles of over-head wires, 2,344.

Miles of underground cable, 638.5.

Voltage: Arcs, 7.5 amp.; incand., 117; power,
234.

City lighting contract: Hours lighted per
year, arc, 4,000; incand., 4,000.

No. public arcs, 1,712; 325 to 550 watts.

Price, \$24 to \$91.25.

No. public incand., 8,653; 59 to 1,000 watts.

Price, \$18 to \$80.30.

Commercial lighting: No. arcs, 340; No. in-
cand., 126.

Price current per kw. hr., net, 8c.; 10 p. c. to
\$5; 2 p. c. over \$5 added on delinquent
accounts. 6c. per kw. hr. for charging
boards.

Power circuits: No. of motors, 4,836. Price
sliding rate and 3-rate based on consumer
chg.; demand chg., and kw. hr. chg.

Other uses, street railway, electric welding,
charging boards.

Output of station, kw. per year, 140,176,968.

Generating power used, Steam and Water;
rated h. p., steam, 48,455; water, 60,300.

Cost of station boiler coal per ton, \$5.21½.

Rome Gas, Electric Light and Power Co., Rome.

RRs.: N. Y. C. & H. R.; N. Y., Ont. & W.
S. Bs.: Chapman Line; Erie Canal; Black
River Canal. Ex.: Am.; Ad.

Operated by United National Utilities Co.,
Philadelphia, Pa.

Capital stock, \$400,000.

Bonds, \$400,000; due 1931; interest, 5 p. c.

Superintendent, A. B. Morton.

New business manager, R. A. Field.

Process manufacture, Coal and Lowe.

Mixture supplied, 65 p. c. coal; 35 p. c. water.

Candle-power, 18.

Annual production, 91,053,000 c. f.

Total gas holders capacity, 150,000 c. f.

Max. day's send out, 325,000 c. f.

Miles of mains, approx., 39.46.

Street main pressures, max., 3.5 in.; min.,
2.5 in.

Annual sales, approx., \$1,093,000 c. f.

Gas unaccounted for, 10.33 p. c.

Pop. dist. supplied, 15,500; of city, 25,000, est.

No. consumers, 3,556.

No. meters, 3,709.

Price gas: Light and Fuel, 55c. to \$1.20.

Supplies Rome.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$390,000.

System operated: 3-phase, 7,200 alt.

Voltage: Line, 4,000; incand., 110-220; power,
110-220-440-2080.

Commercial lighting: No. arcs, 30; No. in-
cand., 3,500.

Price current per kw. hr., 5.7c. to 12c.; 10 p. c.
added for non-payment.

Other lamps used, 12 flaming arcs.

Power circuits: No. motors, 481; price per
kw. hr., 8c. to 1.25c. Disc., 5 p. c.

Output of station, kw. for year, 8,461,300.

Generating power used, Steam.

Cost of station boiler coal per ton, \$3.20.

Current purchased from Utica Gas & Electric
Co.

Long Island Gas Corporation, Sag Harbor.

RRs.: L. I. S. Bs.: Mon. Ex.: L. I.

New York office, 50 Church street.

Capital stock, auth., \$100,000; issued, \$28,900.

Bonds, \$137,000; due 1940; int., 5 p. c.

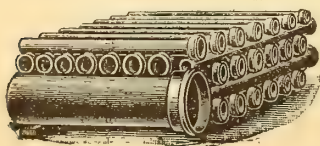
President, Archibald McLaren.

Vice-pres., Clarence R. Dean.

Secretary, Frank J. Stoltz.

Treasurer, R. F. Van Doorn.

General manager, R. C. Graveley.

**CAST IRON PIPE**

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

Engineer, R. C. Graveley.
 Purchasing agent, B. S. Gramley.
 New bus. mgr., Frank J. Stoltz.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$5.
 Price oil per gallon, delivered, 9.5c.
 Candle-power, 19.
 Annual production, 14,943,000 c. f.
 Max. day's send out, 58,400 c. f.
 Total gas holders capacity, 115,000 c. f.
 Holder pressure, 3.5 in.
 Miles of mains, approximate, 9.5.
 Street main pressures, max., 3 in.; min., 3 in.
 High pressure mains, 10 miles; pres., 30 lbs.
 Annual sales, approx., 12,245,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. dist. supplied, 7,900; of city, 3,408 (1910).
 No. consumers and meters, 770.
 Price gas: Light and Fuel, \$1.60 to \$1.25.
 Ranges and hot plates, about 500; water heaters, 10; heaters, 15.
 Supplies Sag Harbor, Southampton, Bridgehampton, Water Mill.

Saranac Lake Gas Co., Saranac Lake.

RRs.: D. & H.; N. Y. C. & H. R. Ex.: Am.; Nat.
 Owners, W. N. Wetterau (Poughkeepsie, N. Y.) and J. H. McNeal (Philadelphia).
 General mgr. and pur. agent, M. W. Bogue.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$8.35.
 Price oil per gallon, delivered, 9c.
 Candle-power, 17.
 Calorific value, 586 B. t. u.
 Annual production, 6,960,000 c. f.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, max., 3 in.
 Miles of mains, approx., 6.88.
 Street main pressures, max., 4 in.; min., 2 in.
 Max. days' send out, 70,000 c. f.
 Sales (9 mos.) approx., 6,649,700 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city, 6,600; of dist. supplied, 6,600.
 No. consumers, 463.
 No. meters, reg., 436; prepay., 6.
 Price gas: Light and Fuel, gross, \$1.65; net, \$1.50.
 Gas appliances in use: Ranges, 319; heaters, 46; water heaters, 131.
 No. commercial gas arc lamps in use, 4.
 Supplies Saranac Lake.

Adirondack Electric Power Corporation, Saratoga Springs.

RRs.: D. & H.; Bos. & Me.; Hud. Val. Ex.: Nat.
 Executive office, Glens Falls, N. Y.
 (For capitalization, bonds, etc., see Appendix.)
 President, James R. Hooper.
 Asst. treas., J. M. Seay
 Gen'l manager, Walter S. Wyman.
 Superintendent, P. F. Roohan.
 Engineer, H. J. Hunsicker.
 Purchasing agent, Lewis A. Jones.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.95.
 Price oil per gal., delivered, 6.25c.
 Calorific value, 595 B. t. u.

Annual production, 60,944,400 c. f.
 By-products made: Tar, 29,297 gallons.
 Total gas holder capacity, 200,000 c. f.
 Holder pressure, 3.5 in.
 Max. day's send out, 316,900 c. f.
 Miles of mains, approx., 26.7.
 Street main pressures, max., 3.5 in.; min., 1.4 in.
 Annual sales, approx., 48,870,800 c. f.
 Gas unaccounted for, 19 p. c.
 By-products sold: Tar, 23,319 gals.
 Pop. dist. supplied, 12,693; of city, 12,693.
 No. consumers, 2,031.
 No. meters, reg., 1,754; prepay., 389.
 Price gas: Light and Fuel, gross, \$1.45; net, \$1.31.
 Ranges, in use, 1,672; water heaters, 512.
 No. commercial gas arc lamps, 47.
 Supplies Saratoga Springs.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 1-phase, 40 cycles; power, A. C., single and 3-phase, 40 cycles.
 Voltage: Line, 2,300; incand., 127; power, 254-550.
 City lighting contract: Hours lighted, 3,766.
 No. public incand., 650; 60 c. p., \$25 per year; 80 c. p., \$29; 250 c. p., \$50; 400 c. p., \$60; 600 c. p., \$70.
 Commercial lighting: Incand., 1,576 kw., Price current per kw. hr., gross, 10c. to 5c. Disc., 10 p. c.
 Power circuits: No motors, 247; price 1.5c. to 4.5c., plus \$1 per h. p. per mo.
 Output of station, kw. for year, 2,434,701.
 Electricity obtained from Company's plant at Spier Falls.

Saugerties Gas Light Co., Saugerties.

RRs.: W. Sh. S. Bs: Saug.; Cen. Hud.; Ferry to Tivoli, N. Y.
 Capital stock, auth., \$85,000; issued, \$72,000.
 Annual dividend, 6 p. c.
 President, W. R. Kenan, Jr.
 Secretary, T. F. Walsh.
 Treasurer, R. B. Goodman.
 Engineer, Thomas F. Walsh.
 Pur. agent and supt., Thomas F. Walsh.
 New bus. mgr., Thos. F. Walsh.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.
 Candle-power, 15.8. Calorific value, 620 B.t.u.
 Annual production, 15,330,515 c. f.
 By-products made: Coke, 1,188 tons; tar, 17,712 gallons.
 Total gas holder capacity, 67,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 65,000 c. f.
 Miles of mains, approx., 8.7.
 Street main pressures, max., 4 in.; min., 3.2 in.
 Annual sales, approx., 14,400,000 c. f.
 Gas unaccounted for, 7 p. c.
 By-products sold: Coke, 691 tons; tar, 15,212 gallons.
 Pop. dist. supplied, 5,000; of city, 4,500, est.
 No. meters, reg., 655; prepay., 385.

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

Price gas: Light and Fuel, gross, \$1.80; net, \$1.40.
 Ranges, 650; water heaters, 185.
 No. commercial gas arc lamps, 110.
 Supplies Saugerties.

Mohawk Gas Co., Schenectady.

RRs.: N. Y. C. & H. R.; D. & H.; Erie Canal.
 Ex.: Am.; Nat.

Controlled by Schenectady Illuminating Co.
 Capital stock: Pref., \$154,000. Com.: auth., \$1,746,000; issued, \$376,900.

President, vacant.

Vice-pres. and gen. mgr., Henry W. Peck.

Sec'y and treas., D. E. Peck.

Purchasing agent, W. L. Fellows.

Eng'r and asst. gen. mgr., V. von Starzenski.

Superintendent, M. G. Welsh.

New bus. mgr., L. E. Cass.

Process manufacture, Lowe and Coal (Wood-all-Duckham).

Price coal per ton, delivered, \$5.75.

Price oil per gal., delivered, 9.3c.

Calorific value, 585 B. t. u.

Annual production: Water gas, 155,205,000 c. f.; coal gas, 328,852,000 c. f.

By-products made: Coke, 14,000 tons; tar, 400,000 gals.; ammonia sulphate, 144,000 lbs.

Total gas holder capacity, 2,950,000 c. f.

Holder pressure, 13 in.

Max. day's send out, 1,790,000 c. f.

Miles of mains, approx., 111.

Street main pressures, max., 5.5 in.; min., 2.5 in.

Annual sales, approx., 462,000,000 c. f.

Gas unaccounted for, 5 p. c.

By-products sold: Coke, 14,000 tons; tar, 400,000 gals.; ammonia sulphate, 144,000 lbs.

Pop. dist. supplied, 100,000; city, 72,800.

No. consumers, 17,300.

No. meters, reg., 16,300; prepay., 1,000.

Price gas: Light, gross, \$1.10; net, \$1. Fuel, gross, \$1.10; net, \$1.

Ranges in use, 12,800; heaters, 1,700; water heaters, 2,000.

No. commercial gas arc lamps, 1,000.

Supplies Schenectady, Scotia, Rotterdam and Niskayuna and Glenville.

SCHENECTADY ILLUMINATING CO.

(Operated by same management as gas company, and same general offices.)

Capital electric plant, \$2,080,000.

Superintendent, C. S. Van Dyke.

System operated: Arcs, com'l, 1 phase, 60 cycles; incand., 1 phase, 60 cycle, A. C.; power, 60 cycle, 3 phase, A. C. and single phase.

Power purchased from G. E. Co., 40 cycles, 3 phase; distributed in city, 60 cycles; two other distributing stations furnish 40 cycle, single phase current.

Voltage: Line, 2,300; incand., 118; power, 236.

Miles of overhead wires, 894.7; underground cables, 47.

City lighting contract: Hours lighted per year: Arc, 3,936; incand., 3,936.

No. public arcs, 893; 320 watt. Price per year, \$60, 69-500 watt; price per year, \$91.

No. public incand., 335-40 watt, price \$16; 131-60 watt, price \$18; 8-80 watt, price \$16 (old contract); 157-80 watt, prices \$27, \$28 and \$31; 24-100 watt, price, \$24; 29-250 watt, price \$40; 4-250 watt, price \$45.

Commercial lighting: No. incand., est. 500,000; 16 c. p. equiv.

Price current per kw. hr., gross, 10c. to 3.5c.; disc., 10 p. c. Cooking rate, 3c. per kw. hr.

Yearly contract: \$2.50 per kw. of max. demand per mo. and 3.5c. and 2c.

Power circuits: Motors, approx., 3,000 kw.

Price power current, 7c. per kw. hr. to 3.5c. Discount, 10 p. c.

Other uses, cooking outfits, elec. furnaces, flat-irons, toasters, etc.

Output of station, kw. hrs., total for year, 27,116,300.

Power purchased from water and steam plant.

Supplies Rotterdam Junction, Loudonville, Rexford Flats, Schenectady, South Schenectady, Burnt Hills, Scotia, Newtonville, West Albany, Ballston Lake, Niskayuna Patersonville and West Albany.

Empire Gas and Electric Co., Seneca Falls.

RRs.: N. Y. C. & H. R.; L. Val.; Cayuga and Seneca Canal. Ex.: Am.

Controlled by Empire Coke Co.

(For financial and officers, see this company's report under Appendix.)

President, E. H. Palmer.

Secretary, L. G. Hoskins.

Treasurer, C. H. Pierce.

Pur. agent, W. S. Osborne.

General manager, H. L. Coleman.

Engineer, H. O. Palmer.

Superintendent and new bus. mgr., G. Mayer.

Gas furnished by Empire Coke Co.

Calorific value, 590 B. t. u.

Gas purchased, 32,363,000 c. f.

Total gas holders capacity, 50,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 121,000 c. f.

Miles of mains, approx., 14.

Street main pressures, max., 5 in.; min., 4 in.

High pressure mains, 3 mi.; press., 12 lbs.

Annual sales, approx., 35,000,000 c. f.

Gas unaccounted for, 6 p. c.

Pop. dist. supplied, 7,000; of city (est.), same.

No. meters, reg., 900; prepay., 500.

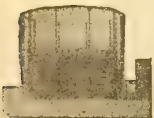
No. consumers, 1,400.

Price gas: Light and Fuel: Consumer's charge, 50c. per month. Gas billed at 90c. per 1,000 c. f. net; 10c. per 1,000 c. f. added after 10th of month.

Ranges in use, 1,000; heaters, 600; water heaters, 600.

No. commercial gas arc lamps, 150.

Supplies Seneca Falls.



HOLDER PAINTS:—

Our line includes No. 31 Williamsport Red.

The standard holder paint of many of the largest companies. No. 1908 Green on holder frames makes a pleasing contrast.

Write for

REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

ELECTRICAL DEPARTMENT.

System operated: Incand., single phase, 60 cycles; power, 3 phase, 60 cycles, A. C.
Voltage: Incand., 110; power, 220.
Miles of overhead wires, 71; underground cables, 10.
City lighting contract: Hours lighted per year, incand., 4,000.
No. public incand., 525; 40 and 60 c. p.; price per year, \$18 to \$45.
Price current: Demand charge, \$1 per 2½ kw. hr.; current at 7c. per kw. hr.
Power price, \$1 per h. p. demand, plus 1.5c. per kw. hr.
Output of station, kw. for year, 898,000.
Current taken from Empire Gas & Electric Co. transmission line.

New York and Richmond Gas Co., Stapleton, Staten Island.

RRs.: B. & O. Ex.: N. Y. L.

Controlled by Dawes Bros., Chicago, Ill.
Capital stock, \$1,500,000. Annual divid., 4 p. c.
Bonds, \$1,500,000; due 1921; int., 5 p. c.
President, Wm. J. Welsh.
Secretary and treasurer, John Kohout.
Manager, Wm. J. Welsh.
Engineer, G. F. Goodnow.
Superintendent, William McCleary.
Purchasing agent, John Kohout.
Process manufacture, Lowe.
Price of coal per ton, del'd, \$6.81; oil per gal., 5.9c.
Candle-power, 22.
Annual production, water gas, 505,954,900 c. f.
By-products made: Tar, 332,003 gals.
Total gas holders capacity, 1,465,000 c. f.
Holder pressure, 11 in.
Max. day's send out, 2,400,000 c. f.
Miles of mains, approx., 122.36.
Street main pressures, max., 6 in.; min., 2 in.
Annual sales, approx., 468,171,600 c. f.
Gas unaccounted for, 7.03 p. c.
By-products sold: Tar, 321,465 gals.
Pop. dist. supplied, 70,000.
No. meters, reg., 11,639; prepay., 5,972.
No. consumers, 17,611.
Price gas: Light and Fuel, gross and net, \$1.00.
No. gas ranges in use, 9,765; water heaters, 3,777.
No. commercial gas arc lamps, 400.
Supplies Borough of Richmond, New York City.

Suffern Gas Co., Suffern.

RR.: Erie. Ex.: W. F.

Capital stock, \$100,000.
Bonds, \$100,000; due 1940; interest, 5 p. c.
President, Edward Oakes.
Secretary, D. W. La Fetra.
Treasurer, (vacant).
General manager, Albert H. Kelsall.
Supt. and pur. agent, Albert H. Kelsall.
Process manufacture, Lowe (oil).
Price oil per gal., delivered, 4.25c.
Candle-power, 22; calorific value, 640 B. t. u.
Max. day's send out, 30,000 c. f.
Total gas holders capacity, 50,000 c. f.

Miles of mains, approx., 6.
Street main pressures, max., 2.5 in.; min., 2.5 in.
Annual sales, approx., 7,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 3,000; of city, 2,663.
Consumers and meters, 560.
Price gas: Gross \$1.50; net \$1.40.
Ranges in use, 200; heaters, 20; water heaters, 15.
No. commercial gas arc lamps, 3.
Supplies Suffern.
(No 1918 report.)

Syracuse Lighting Co., Syracuse.

RRs.: N. Y. C. & H. R.; D., L. & W.; W. Sh.
S. Bs.: Chapman Line; Os. & Syr. Line;
Erie Canal. Ex.: Am.; Nat.; W. F.

(For capitalization and bonds, see Appendix.)
President, J. C. De Long.
Secretary, G. W. Curran.
Treasurer, A. D. Dudley.
Assistant treas., James Ball.
Auditor, Ernest Johnston.
Gas engineer, G. I. Vincent.
Electrical engineer, W. C. Pearce.
Purchasing agent, J. A. Pearson.
Process manufacture, Lowe.
Calorific value, 585 B. t. u.
Miles of mains, approx., 247.
Annual sales, approx., 1,067,638,800 c. f.
Pop. dist. supplied, 161,790; of city, 155,750.
No. meters, reg., 32,689; prepay., 9,082.
No. consumers, 41,550.
Price gas: first 30,000 c. f. or less, 95c. net; next 20,000, 75c.; next 50,000, 70c.; all in excess of 100,000, 63c.
Ranges, 30,048; heaters, 4,220; water heaters, 7,879.
No. commercial gas arc lamps, 1,500.
Supplies Syracuse and Villages of Solvay and Eastwood and part of town of Salina and Onondaga and Dewitt.

ELECTRICAL DEPARTMENT.

System operated: Arc, 4.0 amp. D. C. Magnetite and 6.6 and 7½ amp. A. C. series
Street incand., 2,300-volt single phase; power, 2,300-volt 3 phase, 11,000-volt 3 phase, 500-volt D. C.
Generating capacity: Light and power A. C., 25,920 kw.; D. C. power, 1,850 kw.; arcs, 1,030 kw.
Voltage: Arcs, series; incand., 110-220; power, 110, 220, 440, 2,300, 11,000 volt A. C.; 550-volt D. C.
City lighting contract; Hours lighted per year: Arc and incand., 4,000.
No. public arcs, 2,064; 350-watt Magnetite.
No. public incand., 4,331; 40-watt Tungstens, 40 c. p., 100 c. p. and 250 c. p.
Commercial lighting: No. arcs, 288; No. incand., 474,366.
Price current per kw. hr., gross, 8c.; disc., 10 to 40-p. c.
Power circuits: Motors, 2,186; price per kw. hr., 8c. to 1.75c.

THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio



Output of station, kw. for year: Generated, 2,939,749 kw. hr.; purchased, 95,055,549 kw. hr.; total, 97,995,298 kw. hr.
Generating power used, 10,800 kw. steam-driven generators; 18,000 kw. trans. for purchased power.

The Niagara Light, Heat and Power Co., Tonawanda.

RRs.: Int. (El.); N. Y. C. & H. R.; Erie Canal. Ex.: Am.; W. F.

Controlled by Henry L. Doherty & Co., New York, N. Y.
Capital stock, authorized, \$250,000; issued, \$249,500.
Bonds, \$404,000; due 1925; int., 5 p. c.
President, Henry L. Doherty.
Vice-pres., F. W. Frueauff.
Secretary and treasurer, H. N. Beckett.
Gen'l mgr., C. W. Wallace.
Process manufacture, Coal and Lowe.
Mixture supplied, 75 p. c. coal; 25 p. c. water.
Price coal per ton, delivered, \$5.13.
Price oil per gal., 5.1c.
Candle-power, 16.
Calorific value, 586 B. t. u.
Max. day's send out, 423,000 c. f.
Total gas holders capacity, 130,000 c. f.
Miles of mains, approx., 55.3.
Street main pressures, max., 4 in.; min., 2.7 in.
High pressure mains, miles, 4; pressure, 10 lbs.
Annual sales, 105,411,100 c. f.
Gas unaccounted for, 17.9 p. c.
Pop. dist. supplied, 24,500 (franchise area).
No. consumers, 3,189.
No. meters, reg., 3,354.
Price gas: Light and Fuel, gross \$1.20; net \$1.
Supplies Tonawanda, North Tonawanda, Kenmore.

Semet-Solvay Co., Tonawanda.

(No report furnished.)

Troy Gas Co., Troy.

RRs.: N. Y. C. & H. R.; D. & H.; Bos. & Me.; Troy & N. E. (El.). S. Bs.: Citizens; Murrays; Ferry to Albany, N. Y. Ex.: Am.; Nat.
Capital stock, auth., \$5,000,000; issued, \$2,500,000; ann. div., 8 p. c.
Bonds, \$400,000; due 1939, int. 5 p. c., and \$500,000; due 1923, int. 6 p. c.
President, Edward Murphy, 2nd.
Vice-pres. and gen. mgr., H. C. Shields.
Sec. and treas., W. C. Coleman.
Engineer, H. C. Shields.
Process manufacture, Lowe.
Price coal per ton, delivered, \$4.80.
Price oil per gal., delivered, 3.5c. to 4c.
Annual production, 437,131,000 c. f.
Candle-power, 20.
Calorific value, 585 B. t. u.
Max. day's send out, 1,615,000 c. f.
Total gas holders capacity, 2,000,000 c. f.
Miles of mains, approx., 90.
Street main pressures, max., 2.5 in., min., 2 in.
Annual sales, approx., 400,000,000 c. f.
Gas unaccounted for, about 10 p. c.
Pop. dist. supplied, 82,826; of city, 76,813.

No. meters, reg., 10,903; prepay., 7,444.
Price gas: Light, \$1; Fuel (block), \$1 to 70c.
No public lamps, 200.
Price includes care, lighting and extinguishing.
Lighting hours per lamp per year, 4,000.
Supplies Troy and Waterford.

ELECTRICAL DEPARTMENT.

(Operated under same name.)
System operated: Arc and incand., A. C.; power, A. C. and D. C.
Transformer capacity: 5,158 kw., normal.
Voltage: Arc, 80; incand., 110; power, 110-220.
City lighting contract: Hours lighted per year: Arcs, 2,000 and 4,000; incand., 2,000.
No. public arcs, 1,032; 300 watt gas filled; \$76.65 all night; \$60.22, 1 o'clock.
Price current per kw. hr., gross, 9c. to 2c.; domestic, gross, 5c.
Power circuits: Motors connected, h. p. 3,293 A. C.; 422 D. C.
Price power current per kw. hr., 4.5c. to 1.5c.
Output of station, kw. for year, 10,103,104.
Power purchased from Adirondack Elec. Power Corp. at 12,000 volts; transformed and distributed at 2,300 volts. Power and lighting off same circuits.

Utica Gas and Electric Co., Utica.

RRs.: D., L. & W.; N. Y. C. & H. R.; N. Y., Ont. & W.; W. Sh. S. Bs.: Chapman Line; Erie Canal. Ex.: Am.; Nat.; Ad.

(For capitalization, bonds, etc., see Appendix.)

President, James C. Brady.
Vice-president, Wm. E. Lewis.
Secretary, M. Jesse Brayton.
Treasurer, Geo. H. Stack.
Auditor, Wm. J. McSorley.
Gen. manager gas dept., Wm. J. Cahill.
Gen. manager elect. dept., W. J. D. Porter.
Process manufacture, Lowe (Williamson).
Annual production, 630,000,000 c. f.
Candle-power, 20.
Calorific value, 600 B. t. u.
Gas holder capacity, 2,500,000 c. f.
Holder pressure, max., 3.5 in.
Max. day's send out, 2,300,000 c. f.
Miles of mains, approx., 145.
Street main pressures, max., 4.5 in.; min., 3.5 in.
High-pressure mains, miles, 73; pressure, 15 lbs.
Annual sales, approx., 556,346,000 c. f.
Gas unaccounted for, 11 p. c.
Pop. dist. supplied, 125,000; of city, 85,000.
No. meters, reg., 36,000.
Price gas: Light, gross \$1.10, net \$1. Sliding scale for quantity, \$1 to 65c. net.
Ranges in use, 17,500.
No. commercial gas arc lamps, 1,500.
Supplies Utica, New Hartford, New York Mills, Whitesboro, Deerfield, Schuyler, Frankfort, Ilion, Mohawk, Herkimer, Little Falls and Yorkville.

HUNT INDUSTRIAL RAILWAYS for handling coal are built in a variety of special forms, for side or bottom dumping, or for emptying with minimum labor with shovels. Standard designs of cars, track, curves, switches, etc., can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand., A. C.; power, 60 cycle, 2 and 3 phase.

Generating capacity: Lighting and power, 22,000 kw.

Voltage: Arc, 85; incand., 110-220; power, 220-440.

City lighting contract: Hours lighted per year: Arc and incand., 4,000.

No. public arcs, 203; 475 watt; price per year, \$75 and \$85 Inc. 1276.

Commercial lighting: No. incand., 140,000 (some Tungsten included).

Price current per kw. hr.: first 60 kw. hr., 11c.; next 60, 9c.; next 150, 7c.; next 900, 5.5c.; excess over 1,170 kw. hr., 4c. Min. rate, \$1. Disc., 1c. per kw., 10 days.

Power circuits: Motors, 25,000 h. p. Price per kw. hr., 7.5c. to 1.45c.

Output of station, kw. for year, 78,000,000.

Generating power used, Steam and Water; rated h. p., 29,000.

Cost of station boiler coal, per ton, \$5.

Supplies Rome (in addition to cities and towns above, through Rome Gas & Electric Light & Power Co.).

Empire Gas and Electric Co., Waterloo.

RRs.: N. Y. C. & H. R.; L. V.; Cayuga and Seneca Canal. Ex.: Am.

Controlled by Empire Coke Co., Geneva, N. Y. (For financial, see this company under Appendix.)

President, E. H. Palmer.

Secretary, L. G. Hoskins.

Treasurer, C. H. Pierce.

General manager, H. L. Coleman.

Supt. and new bus. mgr., J. E. McSweeney.

Engineer, H. O. Palmer.

Pur. agent, W. S. Osborne.

Gas purchased from Empire Coke Co.

Amount purchased, 17,021,600 c. f.

Calorific value, 600 B. t. u.

Gas holder capacity, 30,000 c. f.

Holder pressure, 3.2 in.

Max. day's send out, 68,000 c. f.

Miles of mains, approx., 9.5.

Street main pressures, max., 3.2 in.; min., 2.8 in.

Annual sales, approx., 16,000,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. city, 4,764; of dist. supplied, 4,343.

No. consumers, 811.

No. meters, reg., 460; prepay., 351.

Price gas: Light and Fuel, 90c. per 1,000 c. f., plus consumer's charge 50c. per month. 10c. per 1,000 c. f. added after 10th of month.

Gas appliances in use: Ranges, 725; water heaters, 250.

No. commercial gas arc lamps in use, 125.

Supplies Watertown.

ELECTRICAL DEPARTMENT.

System operated: Incand., single phase, 60 cycles; power, 3 phase, 60 cycles.

Voltage: Arcs, 80; incand., 110; power, 110-220-2,300.

Generating capacity: Lighting, 2,240 kw.; power, 2,240 kw.

City lighting contract: Hours lighted per year, arc., 4,000; incand., 4,000.

No. public arcs, 22; 500 watt; price per year, \$70.

No. public incand.: 139-50 c. p., at \$18 per year.

No. public 1 lt. ornamental posts, 34; price, \$24; and 20-5 lt., price per year, \$54.

Price of current: Consumer's charge, \$1 per mo. plus 7c. per kw. hr.

Output of station, kw. hrs. per year, 1,060,105.

Generating power used, Water; rated 2,960 h. p.

Northern New York Utilities, Inc., Watertown.

RR.: N. Y. C. & H. R. Ex.: Am.

For capitalization, bonds, officers, etc., see Appendix.

President, J. B. Taylor.

Vice-president, F. A. Rogers.

General manager, F. A. Rogers.

Purchasing agent, F. A. Rogers.

Supt. and engineer, Peter Young.

New-business manager, G. A. Dunn.

Process manufacture, Coal and Lowe.

Annual production: Coal gas, 22,390,900 c. f.; water gas, 112,363,200 c. f.

Price coal per ton, delivered, \$5.43.

Price oil per gal., delivered, 9c.

Candle-power, 20.

Max. day's send out, 459,400 c. f.

Total gas holders capacity, 380,000 c. f.

Holder pressure, 4.5 in.

Miles of mains, approx., 43.4.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 120,000,000 c. f.

Gas unaccounted for, 10.41 p. c.

Pop. dist. supplied, 18,000; of city, 26,730.

No. consumers, 5,705.

Price gas: Light and Fuel, net, sliding scale, \$1.75 to \$1.20.

No. public lamps, American, 5. Price per year, \$30.

Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,000.

Ranges in use, 3,123; heaters, 236; water heaters, 309.

No. commercial gas arc lamps, 100.

Supplies Watertown.

ELECTRICAL DEPARTMENT.

Bond issue apportioned to electric plant, \$3,000,000.

System operated: Arc and incand., A. C.; power, A. C., 3 phase, 60 cycle.

Generating capacity: Lighting and power, 12,030 kw.

Voltage: Incand., 110; power, 220-550.

City lighting contract: Hours lighted per year: Arc, 4,000.

No. public arcs, 343 magnetite: 320 watt, Price per year, \$53.40.

No. public incand.: 53, 75-watt, price per year, \$20; 84 5-light, 60-watt, price per year, \$73.30; 191 3-light, 60-watt, price per year, \$58.

RECOVER TOLUOL AND BENZOL by scrubbing your gas to remove the light oils. We will be pleased to advise you in regard to a plant for this purpose.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Price current, per kw. hour; sliding scale, 9c. to 2c. net.
 Power circuits: No. motors, 130; price per kw. hr., 9c. to 2c.
 Output of station, kw. for year, 49,990,812.
 Generating power used: Steam; rated h. p. 2,250; water, 10,680 kw.
 Cost of station boiler coal, per ton, \$8.25.

Waterville Gas and Electric Co., Waterville.

(Company has ceased operation of its gas plant.)

Watkins Illuminating and Power Co., Watkins.

RRs.: El. & Sen. L. Trac. (El.); N. Y. C. & H. R.; No. Cen; 3 mi. from Burdett, on L. Val. Ex.: Am.; Ad.; W. F.; S. B.; Sen. Co.

Capital stock, \$50,000.
 Bonds, \$50,000; int., 5 p. c.
 President, Geo. A. Walter.
 Secretary, C. M. Durland.
 Treasurer, C. M. Durland.
 Purchasing agent, Clarence Seeley.
 Superintendent, Clarence Seeley.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.50, avg.
 Candle-power, 17.
 Annual production, 1,000,000 c. f.
 Gas holder capacity, 20,000 c. f.
 Holder pressure, 3.3 in.
 Max. day's send out, 70,000 c. f.
 Miles of mains, approximate, 5.
 Street main pressures, max., 3.5 in.; min., 3 in.
 Population of city, 2,817; of dist. supplied, the same.
 No. consumers and meters, 140.
 Price gas: Light and Fuel, gross, \$1.60 to \$1.25; net, \$1.50 to \$1.25.
 Supplies Watkins.

The Gas Light Co. of Waverly, Waverly.

RRs.: D., L. & W.; L. Val.; Erie. Ex.: W. F.

(Also owns and operates Athens and Sayre Gas Co., Athens, Pa.)

Capital stock, \$150,000.
 Bonds, \$150,000; due 1929; interest, 5 p. c.
 President, R. F. Page.
 Secretary, J. G. Pemberton.
 Treasurer, O. L. Haverly.
 General manager, O. L. Haverly.
 Supt. and pur. agt., O. L. Haverly.
 New bus. mgr., O. L. Haverly.
 Process manufacture, Lowe.
 Gas purchased, 14,000,000 c. f.
 Candle-power, 20; calorific value, 600 B. t. u.
 Max. day's send out, 40,000 c. f.
 Total gas holder capacity, 20,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 13.
 Street main pressures, max., 3 in.; min., 2.5 in.
 High pressure mains, 3.5 miles; pressure 5 lbs.
 Annual sales, approx., 14,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 5,000; of city, 4,855 (1910).
 No. consumers, 869.
 No. meters, reg., 683; prepay., 186.

Price gas: Light and Fuel, \$1.50 gross; \$1.35 net.

Ranges in use, 525; heaters, 350; water heaters, 375.

No. commercial gas arc lamps, 100.

Supplies Waverly and South Waverly.

The Bronx Gas and Electric Co., Westchester.

RR.: N. Y., N. H. & H. Ex.: Ad.

Capital stock, \$500,000 com. auth.; \$486,500 issued; ann. div., 6 p. c.
 Bonds, \$1,171,000; due 1960; int., 5 p. c.
 President, E. H. Rosenquest.
 Secretary and treas., J. M. Butler.
 Pur. agent, J. M. Butler.
 General manager, E. H. Rosenquest.
 New bus. mgr., William A. Root.
 Process of manufacture, Lowe.
 Candle-power, 22.
 Calorific value, 656 B. t. u.
 Price of coal per ton, delivered, \$6.
 Price of oil per gal., 5.3c.
 Total gas holders capacity, 650,000 c. f.
 Max. day's send out, 1,038,000 c. f.
 Holder pressure, 4 in.
 Miles of mains, approx., 65.
 Street main pressure, max., 4 in.; min., 2 in.
 Annual sales, approx., 200,000,000 c. f.
 Gas unaccounted for, 13 p. c.
 Pop. borough, 430,980; dist. supplied, approx., 35,000.
 No. consumers, 8,200.
 No. meters, reg., 7,800.
 Price gas: Light and Fuel, net \$1.00.
 Supplies Westchester, Borough of Bronx, New York City.

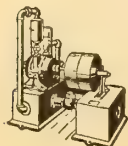
ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C., 2 phase, 60 cycle.
 Generating capacity: 3,600 kw.
 Miles of overhead wires, 200.
 Voltage: Lamps in series, incand., 110; power, 220.
 City lighting contract: Hours lighted per year, 3,950.
 No. public incand., 1,863, 100 c. p.; price per year, \$30. 443 400 c. p.; price per year, \$90. 145 250 c. p.; price per year, \$60.
 Price current per kw. hr., gross, 12c.; wholesale, 10c.
 Power circuits; price current per kw. hr., 10c.; disc., sliding scale.
 Output of station, kw. per year, 3,300,000.
 Generating power used, Steam; rated, 3,600 kw.

U. S. Government Gas Plant, West Point.

RR.: W. Sh. S. Bs.: H. R.; Cen. Hud; Ferry to Garrison, N. Y. Ex.: Nat.

Officer in charge, Col. E. J. Timberlake, Q. M. C.
 Superintendent, Ira N. Goff.
 Engineer elec. dept., H. L. Brown.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.60.
 Candle-power, 15.5. Calorific value, 600 B. t. u.
 Annual production, 12,800,000 c. f.



THE NEEDHAM HIGH PRESSURE GAS SYSTEM is the ideal system to accomplish fuel conservation. It satisfies the customer's requirements.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

By-products made: Coke, 1,100 tons; tar, 21,316 gals.
 Total gas holder capacity, 100,000 c. f.
 Holder pressure, 3.4 in.
 Max. day's send out, 60,000 c. f.
 Miles of mains, approx., 7.5.
 Street main pressures, max., 4.5 in.; min., 2.8 in.
 Annual sales, approx., 12,800,000 c. f.
 Gas unaccounted for, 10 p. c.
 Coke and tar is sold, and also used on reservation.
 Pop. reservation supplied, 2,550.
 No. meters, reg., 164.
 Price gas: Light and Fuel, 80c.
 No. public gas lamps, 10; lighted about 3,650 hrs.
 Contract includes repairs, care, lighting and extinguishing.
 Ranges in use, 165; heaters, 50; water heaters, 56.
 No. commercial gas arc lamps, 7.
 Supplies West Point Military Reservation.

ELECTRICAL DEPARTMENT.

System operated: Lighting, arcs, D. C.; incand., D. C. and A. C., single phase, 60 cycle; power, D. C. and A. C.
 Generating capacity: Lighting and Power, 1,000 kw., D. C.; 375 kw., A. C.
 Voltage: Arcs, 120 D. C.; incand., 120 A. C., 240 D. C.; power, 240 D. C., 120 A. C.
 Miles of overhead wire, 1; underground cables, 35.
 Commercial arcs, 36; incand., 1,800.
 Price, commercial, per kw. hr., gross, 5c.
 Power circuits: No. motors, 125.

Price power current per kw. hr., 5c.
 Output of station, kw. for year, 1,021,000.
 Generating power, Steam; rated 1,500 h. p.
 Cost of station boiler coal, per ton, \$3.95.
 Current used on the government reservation for street lighting, all government buildings, and power.

Woodhaven Gas Light Co., Woodhaven.

RRs.: B. El. Ry.; L. I. Ex.: L. I.; Am.
 Controlled by The Brooklyn Union Gas Co.
 Capital stock, \$20,000.
 President, E. R. Chapman.
 Vice-president, A. F. Staniford.
 Secretary, Henry E. McGowan.
 Asst. sec., Frederick R. Wogan.
 Treasurer, H. Wellington.
 Asst. treas., T. P. Payne.
 Auditor, James Gilmer.
 Asst. auditor, T. P. Payne.
 Purchasing agent, G. W. Gatehouse.
 Manager, H. A. Lovell.
 (Purchases gas from Brooklyn Union Gas Co.)
 Gas purchased, 360,852,440 c. f.
 Miles of mains, approx., 95.
 Pumping mains, 4.58 miles; pressure up to 3 lbs.
 Candle-power, 23,41.
 Annual sales, approx., 330,632,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. borough supplied, 284,041.
 No. meters, reg., 13,649, prepay., 477.
 No. consumers 13,576.
 Price gas: Light and Fuel, \$1; public lighting, 75c.
 Supplies Woodhaven, Borough of Queens, New York City.

NORTH CAROLINA.

Total population, 2,418,559.

Asheville Power and Light Co., Asheville.

RR: So. Ex.: So.

Controlled by Carolina Power & Light Co.)
 (For capitalization, bonds and officers, see Appendix.)

General manager, H. W. Plummer.
 Superintendent, F. A. Woodcock.
 Process manufacture, Coal.
 Candle-power, 14; cal. val., 580 B. t. u.
 Annual production, 34,286,000 c. f.
 By-products made: Coke, 2,217 tons; tar, 34,000 gals.
 Max. day's send out, 125,000 c. f.
 Total gas holders capacity, 100,000 c. f.
 Holder pressure, 8 in.
 Miles of mains, approx., 26.6.
 Street main pressures, max., 6 in.; min., 2.5 in.
 Annual sales, approx., 30,067,400 c. f.
 Gas unaccounted for, 12 p. c.
 By-products sold: Coke, 1,328 tons.
 Pop. dist. supplied, 9,000; of city, 18,762.
 No. consumers, 1,377.
 No. meters, reg., 1,353; prepay., 24.
 Price gas: Light, gross, \$1.60; net, \$1.50.
 Fuel, gross, \$1.60; net, \$1.50; over 5,000 c. f. per mo., \$1 net.

Ranges, 1,104; heaters, 316; water heaters, 292.
 No. commercial gas arc lamps, 13.
 Supplies Asheville.

ELECTRICAL DEPARTMENT.

System operated: Arcs, series D. C.; incand., A. C., single phase, 7,200 alt.; power, A. C., 3 phase, 60 cycles.
 Generating capacity: 650 kw. (Steam); 200 kw. (Water).
 Voltage: Arcs series; incand., 110; power, 440.
 Miles of overhead wires, 73.
 City lighting contract: Hours lighted per year: 3,756.
 No. public arcs, 265-328 watt. Price per year, \$55.
 No. public incand., 138-50 and 60 watt. Price per year, \$20.
 Public boulevard posts, 107, 5 lights; price per year, \$24.
 Commercial lighting: No. arcs, 20; No. incand., 119,057.
 Price current per kw. hr., gross, 15c. for first 30 hrs. use con. load, balance at 7.5c.
 Disc., 5 p. c.



Tycos Temperature Instruments for Gas Works

INDICATING—CONTROLLING—RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Power circuits: No. motors, 472; price per kw. hr., 8c. and 4c. Disc., 5 p. c.
 Other uses, Street railway.
 Output of station, kw. per year, 7,010,831.
 Most of power purchased from hydro-electric plants of North Carolina Electric Power Co.
 Cost of station boiler coal per ton, \$4.80.

Burlington Gas Co., Burlington.

RR.: So. Ex.: So.
 (Plant under construction.)
 Capital stock, auth. and issued, \$100,000.
 Bonds, \$100,000; due 1947; int., 6 p. c.
 President, S. G. Moore.
 Secretary, I. C. Mosee.
 Gen'l mgr. and pur. agt., B. Van Steenburgh.
 Engineer, B. Van Steenburgh.
 New bus. mgr., J. B. Lydecker.
 Process manufacture, Coal.
 Gas holder capacity, 60,000 c. f.
 Miles of mains, approx., 9.
 Pop. of city, 8,500; dist. to be supplied, 12,500 (est.).
 Price of gas, gross, \$1.60; net, \$1.50.
 Will supply Burlington, Graham, Haw River.

Southern Public Utilities Co., Charlotte.

RRs.: S. A. L.; So.; P. & N.; Norf. So. Ex.: So.
 (Successor to Charlotte Gas & Electric Co.)
 For capitalization, bonds, etc., see this company's report in Appendix.
 President, Z. V. Taylor.
 Treasurer, E. C. Marshall.
 Secretary, W. C. Parker.
 Pur. agent, Mill Power Supply Co.
 General manager, E. F. Taylor.
 Local manager, D. G. Calder.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.50.
 Candle-power, 17.
 Max. day's send out, 430,000 c. f.
 Total gas holder capacity, 400,000 c. f.
 Miles of mains, approx., 65.
 Annual sales, approx., 99,500,000 c. f.
 Gas unaccounted for, 14 p. c.
 Pop. dist. supplied, 22,500; of city, 34,014.
 No. meters, reg., 2,500; prepay., 1,250.
 Price gas: Light and Fuel, gross, \$1.25; net, \$1.15.
 Supplies Charlotte.

The Concord and Kannapolis Gas Co., Concord.

RRs.: So. Ex.: So.
 (Successor to The Concord Gas Co.)
 Capital stock, \$150,000.
 President, Wm. B. Anderson.
 Vice-pres., J. S. Palmer.
 Secretary and treas., Walter E. Daniels.
 Gen. manager, J. S. Palmer.
 Engineer, N. H. Gellert.
 Supt. and pur. agent, J. S. Palmer.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$5.10; coke, \$9.50.
 Price of oil per gal., 11.28c.

Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual production, 18,000,000 c. f.
 Gas holder capacity, 60,000 c. f.
 Max. day's send out, 60,000 c. f.
 High pressure mains, 32 mi.; press., 8 lbs.
 Annual sales, approx., 18,000,000 c. f.
 Pop. of cities, est., 15,000; of dist. supplied, 10,000.
 No. consumers, 1,040.
 No. meters, reg., 578; prepay., 462.
 Price of gas: Light and Fuel, gross, \$1.85; net, \$1.70.
 No. ranges, 975; heaters, 200; water heaters, 150.
 No. commercial gas arc lamps, 150.
 Supplies Concord and Kannapolis.

Carolina Power and Light Co., Durham.

RRs.: N. & W.; So.; S. A. L.; Dur. & So. Car.; Dur. & So. Ex.: So.
 Fiscal agent, Electric Bond and Share Co.
 (For financial and officers, see this company's report under Appendix.)
 President, Charles E. Johnson.
 Secretary and treasurer, E. P. Summerson.
 Purchasing agent, R. C. Howison.
 General manager, H. H. Carr.
 Assistant general manager, P. A. Tillery.
 New bus. mgr., J. L. Gates.
 Superintendent, Noble L. Clay.
 Process manufacture, Coal.
 Candle-power, 16; calorific value, 600 B. t. u.
 Annual production, 39,244,200 c. f.
 By-products made: Coke, 2,474 tons; tar, 43,681 gals.
 Total gas holder capacity, 190,000 c. f.
 Holder pressure, max., 7 in.
 Max. day's send out, 158,000 c. f.
 Miles of mains, approx., 30.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 33,220,800 c. f.
 Gas unaccounted for, 15 p. c.
 By-products sold: Coke, 1,839 tons; tar, 10,266 gallons.
 Pop. of city, 18,241; dist. supplied, 20,000.
 No. consumers, 1,518.
 No. meters, reg., 854; prepay., 664.
 Price gas: Light and Fuel, gross, \$1.50 to 90c. per 1,000 c. f.; net, \$1.40 to 80c.
 No. public Cleveland incand. lamps, 24.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 4,000.
 No. ranges, 1,509; water heaters, 586.
 No. commercial gas arc lamps, 417.
 Supplies Durham.

Southern Gas Improvement Co., Elizabeth City.

SBs.: Nor. & So. Lines; Leroy; Banks; Fairfield & Eliz. City; Eastern Carolina. Ex.: So.
 General office, 1142 Real Estate Trust Bldg., Philadelphia.
 Capital stock, auth., \$1,000,000; issued, \$300,000.
 Bonds, \$300,000; due 1943; interest, 5 p. c.
 President, John D. Shattuck.

GAS EXHAUSTERS

Superior Design



GAS BOOSTERS

Careful Construction

Secretary, E. C. Worrell.
 Treasurer, E. C. Worrell.
 Superintendent, Jas. T. Stallings.
 New bus. mgr., Jas. T. Stallings.
 Process manufacture, Lowe.
 Annual production, 12,000,000 c. f.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 30,000 c. f.
 Holder pressure, 6 in.
 Max. day's send out, 35,000 c. f.
 Miles of mains, 12.
 Street main pressures, max., 4.5 in.; min., 3.5 in.

Annual sales, approx., 11,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city, 9,000; dist. supplied, 10,000.
 No. consumers and meters, 1,050.
 Price gas: Light and Fuel, net, \$1.90 for first 1,000 c. f.; next 4,000 c. f., \$1.70; next 5,000 c. f., \$1.50; next 5,000 c. f., \$1.30; next 10,000 c. f., \$1.10; all over 25,000 c. f., \$1. Min. charge, \$1.
 Gas appliances in use: Ranges, 374; heaters, 200; water heaters, 125.
 No. commercial gas arc lamps in use, 265.
 Supplies Elizabeth City.

Fayetteville Light and Power Co., Fayetteville.

RRs.: A. C. L.; Ral. & Sopt. Strs. from Wilmington, N. C., daily. Ex.: So.

President's office, 233 Broadway, New York, N. Y.

Capital stock, auth., \$150,000; issued, \$75,000.
 President, Wm. W. Randolph.
 Vice-pres., John Bucklin.
 Sec. and treas., A. R. Moffitt.
 Manager, A. R. Moffitt.
 Process manufacture, Coal.
 Miles of mains, approx., 9.
 Annual sales, approx., 14,500,000 c. f.
 Pop. of town supplied, 7,045.
 No. meters, 550.
 Price of gas: Light and Fuel, gross, \$2; net, \$1.75 for first 5,000 c. f.; \$1.70 net per 1,000 c. f. for next 5,000 c. f.; \$1.65 for next 5,000 c. f., etc. All over 25,000 c. f., \$1.50.

Gastonia Suburban Gas Co., Gastonia.

(Company in process of organization.)

Gaston County Gas Co., Gastonia.

RRs.: Caro. & No. W.; So. Ex.: So.

Controlled by United Chemical & Industrial Cos., Philadelphia.
 Capital stock, \$300,000.
 Bonds, \$140,000; due, 1943; int., 6 p. c.
 President, T. L. Tierney.
 Secretary and treasurer, R. R. Landes.
 Gen'l mgr., F. H. Hickok.
 Engineer, J. D. Shattuck.
 Superintendent, H. K. Logan.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$3.25; oil per gal., 5c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.

Gas holder capacity, 60,000 c. f.
 Miles of mains to be laid, 30.
 Pop. of city, 5,759; of dist. to be supplied, 30,000.
 No. consumers, 99.
 No. meters, reg., 96; prepay., 3.
 Price of gas. Light and Fuel, gross, \$1.40; net, \$1.33.
 Will supply Gastonia, Dallas, Bessemer City, Kings Mountain, Lowell and McAdenville.
 (Property sold at auction March, 1917, to W. B. Anderson of Philadelphia, Pa.)

Goldsboro Gas and Fuel Co., Goldsboro.

RRs.: A. C. L.; Norf. & So.; So. Ex.: So.

Controlled by W. M. Crane Co.
 Capital stock, \$100,000.
 Bonds, \$50,000; due 1940; int. 5 p. c.
 President, W. M. Crane.
 Vice-pres., G. H. Warner.
 Secretary, Geo. Vaughan.
 Treasurer, G. H. Warner.
 Purchasing agent, B. D. Harriman.
 Engineer, Odell Watson.
 Superintendent, B. D. Harriman.
 New business manager, B. D. Harriman.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$11.40; coal per ton, \$9.
 Price of oil per gal., 9c.
 Candle-power, 18.
 Calorific value, 650 B. t. u.
 Annual production, 20,000,000 c. f.
 Gas holder capacity, 41,000 c. f.
 Max. day's send out, 85,000 c. f.
 High pressure mains, miles, 10; press., 7 lbs.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 12,500 (est.); of dist. supplied, 7,000.
 No. consumers, 618.
 No. meters, reg., 395; prepay., 223.
 Price gas: Light, gross, \$2; net, \$1.85. Fuel, gross, \$1.90; net, \$1.75.
 No. ranges, 480; heaters, 320; water heaters, 170.
 No. commercial gas arc lamps, 180.
 Supplies Goldsboro.

North Carolina Public Service Co., Greensboro.

RR: So. Ex.: So.

(For capitalization and bonds, see Appendix.)
 President, Charles B. Hole.
 Secretary, L. H. Hole, Jr.
 Treasurer, L. H. Hole, Jr.
 General manager, R. H. Hole.
 Superintendent, C. M. Crawford.
 Engineer, C. M. Crawford.
 New bus. mgr., B. F. Pickard.
 Process manufacture, Coal (W. Gas Mach. Co.) and Lowe (for emergency).
 Annual production, coal gas, 75,000,000 c. f.
 Price coal per ton, delivered, \$6.60.
 Candle-power, 16; calorific value, 600 B. t. u.
 Gas holder capacity, 160,000 c. f.
 Holder pressure, 4 in.

WASH OIL PUMPS

Trouble-free Operation



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

Max. day's send out, 286,000 c. f.
 Miles of mains, approx., 27.
 Street main pressures, max., 4.5 in.; min., 3.5 in.
 Annual sales, approx., 65,000,000 c. f.
 Gas unaccounted for, 14 p. c.
 Pop. of city, est. 18,000; of dist. supplied, 14,000.
 No. consumers, 2,042.
 No. meters, reg., 1,000; prepay., 1,042.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.
 Gas appliances in use: Ranges, 1,703; heaters, 348; water heaters, 387.
 No. commercial gas arc lamps in use, 289.
 Supplies Greensboro.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C.; power, A. C., 60 cycle, 3 phase.
 Generating capacity: Lighting and Power, 500 kw.
 Voltage: Arcs, 5,000 series; incand., 110; power, 2,200-220-110.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 137; 325 watt. Price per year, \$58.
 No. public incand., 319; 60, 80 and 100 watt. Price per year, \$15 and \$20.
 Commercial lighting: No. incand., 38,000 (60 watt equiv.).
 Price current per kw. hr., gross, 12c., sliding scale to 5c. Discounts, 5 p. c.
 Power circuits: No. motors, 272; price per kw. hr., sliding scale 6c. to 1.75c. Disc., 5 p. c.
 Output of station, kw. per year, 6,500,000.
 Power used: Steam, rated 750 h. p.
 Power purchased from Southern Power Co.
 Cost of station boiler coal, per ton, \$5.

Southern Gas Improvement Co., Henderson.

RRs.: So.; S. A. L. Ex.: So.

General office, 1142 Real Estate Trust Bldg., Philadelphia.
 (For capitalization and officers, see Elizabeth City.)

Gen. mgr. and supt., T. W. Upton.
 New bus. mgr., T. W. Upton.
 Process manufacture, Lowe.
 Annual production, 15,000,000 c. f.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 50,000 c. f.
 High pressure mains, miles, 30. Pressure, 26-15 lbs.
 Max. day's send out, 50,000 c. f.
 Annual sales, approx., 13,500,000 c. f.
 Gas unaccounted for, 22 p. c.
 Population of towns supplied: Henderson, 4,503; Oxford, 3,018. Dist. supplied, 10,500.
 No. consumers and meters, 650.
 Price gas: Light and Fuel, gross, \$2.10; net, \$2.

No. ranges, 300; heaters, 200; water heaters, 50.
 No. commercial gas arc lamps, 150.
 Supplies Henderson, Dabney and Oxford.

North Carolina Public Service Co., High Point.

RR.: So. Ex.: So.

(Owned and operated by North Carolina Public Service Co., of Greensboro, which see.)
 Superintendent, C. M. Crawford.
 Process manufacture, Lowe.
 Price oil per gallon, 7c.
 Candle-power, 18.
 Annual production, 15,000,000 c. f.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, 8.2.
 High pressure mains, miles, 8.2. Pressure, 5 lbs.
 Street main pressure, max., 4.5 in.; min., 3.5 in.
 Annual sales, approx., 12,500,000 c. f.
 Gas unaccounted for, 15 p. c.
 Population of city, 9,525.
 Population dist. supplied, 5,000.
 No. consumers, 523.
 No. meters, reg., 180; prepay., 343.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.
 Gas appliances: Ranges, 348; heaters, 234; water heaters, 170.
 No. commercial gas arc lamps in use, 199.
 Supplies High Point.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand. and power, A. C.
 Voltage: Arcs, line, 5,000; incand., 110; power, 2,300.
 City lighting contract: Hours lighted per year: Arc, 4,000.
 No. public arcs, 161; 325 watt. Price per year, \$60.
 Current for commercial lighting sold to city, and retailed by them to consumers at 6c. per kw. hr.
 Power circuits: No. motors, 367.
 Power price per kw. hr., 6c. to 1.75c. Disc., 5 p. c., 10 days.
 Output of station, kw. for year, 5,000,000.
 Power purchased from Southern Power Co.

New Bern Gas and Fuel Co., New Bern.

RRs.: A. C. L.; Norf. & So. S. Bs.: Ind. Line; Vanceboro Co.; Grifton Co.; Norf. & So. Lines. Ex.: So.

Capital stock, \$100,000.
 Bonds, \$75,000; due 1939; int., 5 p. c.
 President, William M. Crane.
 Vice-pres. and treas., Geo. H. Warner.
 Secretary, George Vaughan.
 Gen. mgr., engr. and pur. agt., H. D. Wood.
 Superintendent, H. D. Wood.
 Process manufacture, Lowe (Sutherland).
 Price of coal per ton, delivered, \$3.30; oil per gal., 5c.
 Candle-power, 19.
 Max. day's send out, 50,000 c. f.



Williams' "Agrippa" Turning-Tool Holder

CAM LOCK, Rapid and Positive

J. H. WILLIAMS & CO., 74 Richards St., Brooklyn, N. Y.

Gas holder capacity, 45,000 c. f.
 Holder pressure, 4 in.
 Miles of mains, approx., 8.
 Street main pressures, avg. 3 in.
 Annual sales, approx., 18,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city, 9,961 (1910); now est., 15,000.
 No. consumers, 660.
 No. meters, reg., 376; prepay., 296.
 Price gas: Light, gross, \$2; net, \$1.85. Fuel,
 gross, \$1.90; net, \$1.75.
 No. ranges, 550.
 No. commercial gas arc lamps, 240.
 Supplies New Bern.

Carolina Power and Light Co., Raleigh.

RRs.: Ral. & Sopt.; S. A. L.; So.; Norf. &
 So. Ex.: So. _____

Fiscal agent, Electric Bond & Share Co.
 (For capitalization, bonds, etc., see Appendix.)
 President, Charles E. Johnson.
 Secretary and treasurer, E. P. Summerson.
 General manager, H. H. Carr.
 Engineer and asst. gen. mgr., P. A. Tillery.
 Pur. agent, R. C. Howison.
 Superintendent, N. L. Clay.
 New bus. mgr., S. N. Smith.
 Process manufacture, Coal.
 Candle-power, 16; calorific value, 600 B. t. u.
 Annual production, 65,377,800 c. f.
 By-products made: Coke, 4,236 tons; tar,
 68,147 gals.; ammonia, 19,320 gals.
 Total gas holders capacity, 210,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 239,000 c. f.
 Miles of mains, approx., 33.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 55,657,000 c. f.
 Gas unaccounted for, 15 p. c.
 By-products sold: Coke, 3,188 tons; tar, 27,775
 gals.; ammonia, 12,656 gals.
 Pop. of city, 19,218; of dist. supplied, 24,000.
 No. consumers, 2,279.
 No. meters, reg., 1,254; prepay., 1,025.
 Price gas, gross, \$1.50 to 90c.; net, \$1.40 to
 80c.
 No. ranges, 2,049; water heaters, 751.
 No. commercial gas arc lamps, 322.
 Supplies Raleigh and West Raleigh.

ELECTRICAL DEPARTMENT.

(Raleigh, Henderson, Franklinton, Roxboro,
 Oxford, Sanford, Jonesboro, Fayetteville,
 Cumberland, Selma, Clayton, Pine Level,
 Smithfield, Goldsboro and Wake Forest
 and Cary divisions; connected by 60 kw.
 transmission system.)
 System operated: Arcs, A. C., 1 phase, 60
 cycles, and D. C.; incand., A. C., 1 phase,
 60 cycles; power, A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting and power,
 7,650 kw.
 Voltage: Incand., 115; power, 230.
 City lighting contract: Hours lighted per
 year: Arc and incand., 4,000.

No. public arcs, 496; 320-500 watt. Price per
 year, \$60.
 No. public incand., 570.
 Commercial lighting: No. incand., 5,672 kw.
 equiv.
 Price current per kw. hr., gross, 15c.; dis-
 counts, 0 to 55 p. c.; dom. rate, gross 15c.,
 net 13.5c. to 6.75c.
 Price for cooking and heating, gross, 3.33c.;
 net, 3c.
 Power circuits: Motors, 23,168 h. p.
 Price power per kw. hr., receding scale, 6.4c.
 to 1c.
 Output of station and purchased power, kw.
 per year, 45,452,351.
 Generating power used: Steam and water,
 rated 7,650 kw.
 Cost of station boiler coal, per ton, \$5.25.
 Purchases power from Yadkin River Power
 Co.

City of Rocky Mount Gas Works, Rocky Mount.

RRs.: A. C. L. Ex.: So. _____

(Municipal plant.)
 Bonds, \$65,000; due, 1954; int., 5 p. c.
 Supt. and pur. agent, L. M. Jordan.
 Eng'r and new bus. mgr., L. M. Jordan.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$10; oil per gal.,
 8.5c.
 Candle-power, 19.
 Annual production, 26,500,000 c. f.
 Gas holder capacity, 100,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 103,000 c. f.
 Street mains, approx., 14 miles.
 Street main pressures, max., 3.5 in.; min., 3
 in.
 Annual sales, approx., 26,500,000 c. f.
 Pop. of city, est., 14,000; dist. supplied, 12,000.
 No. consumers, 710.
 No. meters, reg., 450; prepay., 260.
 Price gas: Light and Fuel, gross, \$1.50; net,
 \$1.35.
 Gas appliances in use: Ranges, 600; heaters,
 450; water heaters, 375.
 No. commercial gas arc lamps, 65.
 Supplies Rocky Mount.

ELECTRICAL DEPARTMENT.

(Operated under the name of Rocky Mount
 Public Works.)
 Bonds, \$70,000.
 Supt. El. Plant, A. S. Lyon.
 System operated, A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting, 900 kw.
 Voltage: Line, 2,300; incand., 110; power, 110-
 220.
 Miles of overhead wires, est., 75.
 City lighting contract: Lamps lighted from
 dusk to daylight every night.
 No. public arcs, 74; 1,000 watts. Price per
 year, \$40 (allowed).
 No. public incand., 180; 100 and 250 watts.
 Price per year, \$18 (allowed).



1803

R. D. WOOD & CO., PHILA., PA.

1918



Commercial lighting: Price per kw. hr., gross, 10c. Discounts from 10 to 40 p. c.
 Power circuits: No. motors, 70; price per kw. hr., 5c. Discount, 10 to 60 p. c.
 Output of station, kw. hrs., total for year, 1,600,000 (estimated).
 Generating power used: Steam: rated, 530 h. p.
 Cost of station boiler coal, per ton, \$6.08.

Salisbury and Spencer Railway Co., Salisbury.

RR.: So. Ex.: So.

(Property controlled and operated by North Carolina Public Service Co., Greensboro.)

President, Charles B. Hole.
 Vice-pres., Wescott Roberson.
 Secretary and treasurer, L. H. Hole.
 General manager, R. J. Hole.
 Manager, J. H. Robertson.
 Engineer, gas, C. M. Crawford.
 Superintendent, R. G. Hobbs.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.50.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual production, 40,000,000 c. f.
 Total gas holders capacity, 95,000 c. f.
 Holder pressure, 3.5 in.
 Max. day's send out, 140,000 c. f.
 Miles of mains, approx., 20.
 High pressure mains, miles, 10; pressure, 6 lbs.
 Street main pressures, max., 3.5 in.; min., 3 in.
 Annual sales, approx., 30,000,000 c. f.
 Gas unaccounted for, 25 p. c.
 Pop. dist. supplied, 20,000; of city, 7,153.
 No. consumers, 1,151.
 No. meters, reg., 850; prepay., 331.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 Ranges in use, 890; heaters, 77; water heaters, 242.
 No. commercial gas arc lamps, 248.
 Supplies Salisbury and Spencer.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C.; power, A. C.
 Generating capacity: Lighting and power, 350 kw.
 Voltage: Incand., 110; power, A. C., 110-220-2,300.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 121; 325 watt. Price per year, \$62.50.
 No. public incand., 6; 55 watt. Price per year, \$30.
 Price current per kw. hr., gross, 12c. Disc., 5 p. c. per kw.
 Power circuits: No. motors, 93; price per kw. hr., 6c. to 1.75c. Disc., 5 p. c.
 Output of station, kw. hrs. for year, 2,500,000.
 Current is largely purchased from Southern Power Co. and converted for railway use.
 Cost of boiler coal per ton, \$4.90.

Statesville Gas Light & Fuel Co., Statesville.

RRs.: So. Ex.: So.

Capital stock, \$50,000.
 Bonds, \$100,000; int., 6 p. c.
 President, F. D. Moses.
 Secretary and treas., Geo. M. Bridgman.
 Supt. and pur. agent, M. L. Love.
 Engineer, F. D. Moses.
 New business manager, M. L. Love.
 Process manufacture, Lowe (oil).
 Annual production, 5,000,000 c. f.
 Price coke per ton, delivered, \$5.25; oil per gallon, 5c.
 Candle-power, 20. Calorific value, 650 B. t. u.
 Gas holder capacity, 20,000 c. f.
 Max. day's send out, 30,000 c. f.
 High pressure mains, 7 miles. Press., 5 lbs.
 Street mains pressures, max., 4 in.; min., 3 in.
 Booster mains, 4 miles. Press., 3 lbs.
 Annual sales, approx., 5,000,000 c. f.
 Gas unaccounted for, 6 p. c.
 Population of city, 4,599 (1910); dist. supplied, 6,000 (est.).
 No. consumers and meters, 275.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 Gas appliances in use: Ranges, 162; heaters, 42; water heaters, 35.
 No. commercial gas arc lamps in use, 135.
 Supplies Statesville.

Washington Gas Co., Washington.

RRs.: A. C. L.; Norf. & So.; Wash. & Van. S. Bs.: Norf. & So. Lines; Black Star. Ex.: So.

(Successor to Washington Lighting Co.)
 Capital stock, auth., \$100,000; issued, \$25,000.
 Bonds, \$50,000; due 1938; int., 5 p. c.
 President, L. A. Watres, Scranton, Pa.
 Secretary, S. C. Bragaw, Washington, N. C.
 Treasurer, Judson E. Harney, Scranton, Pa.
 Gen'l manager, Geo. T. Leach, Washington, N. C.
 Engineer and new bus. mgr., J. T. Bland.
 Supt. and pur. agent, J. T. Bland.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$11.
 Price oil per gal., 8.27c.
 Candle-power, 16. Calorific value, 575 B. t. u.
 Annual production, 12,807,000 c. f.
 By-products made: Tar, 5,000 gals.
 Max. day's send out, 80,000 c. f.
 Total gas holders capacity, 60,000 c. f.
 Holder pressure, 2.75 in.
 Miles of mains, approx., 7.
 St. main pressures: max., 3 in.; min., 2.5 in.
 Annual sales, approx., 12,807,000 c. f.
 Gas unaccounted for, 15 p. c.
 By-products sold: Tar, 100 bbls.
 Pop. of city supplied, 6,211.
 No. meters, reg., 288; prepay., 244.
 No. consumers, 532.
 Price gas: Light and Fuel, \$1.50 and sliding scale.
 Ranges in use, 375; heaters, 200; water heaters, 75.
 No. commercial gas arc lamps, 75.
 Supplies Washington.

RELIABLE

"ANGLIRON"

RANGES

Rust proof aluminum coated interiors can be furnished on "RELIABLE 'ANGLIRON'" ranges with oven rack supports and broiling pan supports of dark blue porcelain enameled steel. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Tidewater Power Company, Wilmington.

RRs.: A. C. L.; S. A. L. S. Bs.: Clyde; Clear Run; Wilm. & So'pt; Wilm. & Little Riv.; Wilm.-Fayetteville. Ex.: So.

Capital stock, pref., auth., \$600,000; issued, \$595,900; com., \$600,000.

Annual div., pref., 6 p. c.; com., 7 p. c.

Bonds, 1st 5s. \$839,000; due 1949; gen'l mtge. 6s. \$350,000; due 1920.

Underlying bonds Cons. Rys. Lt. & Pr. Co. 1st 5s. \$476,000; due 1932.

President, Hugh Mac Rae.

Secretary, H. Woolcott.

Treasurer, R. J. Jones.

Purchasing agent, H. Woolcott.

General manager, A. B. Skelding.

Asst. gen. mgr., R. Hunt.

Superintendent, E. C. Hudson.

New bus. mgr., H. M. Bremer.

Process manufacture, Coal and Lowe.

Mixture supplied, 65 p. c. coal; 35 p. c. water. Candle-power, 20.31.

Max. day's send out, 317,800 c. f.

Total gas holder capacity, 270,000 c. f.

Miles of mains, approx., 42.56 (incl. 12 high pressure).

St. main pressures: max., 3.5 in.; min., 2.5 in.

Annual sales, approx., 70,350,266 c. f.

Gas unaccounted for, 18 p. c.

Pop. city, est., 32,000; dist. supplied, 36,000.

No. consumers, 2,068.

Price gas: Light and Fuel, gross, \$1.45; net, \$1.25.

No. public Welsbach lamps, 147.

Price includes care, repairs, lighting and extinguishing.

Hours lighted per year, 3,600.

Ranges in use, 2,042; heaters, 1,580; water heaters, 648.

No. commercial gas arc lamps, 288.

Supplies Wilmington and Wrightsville Beach.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, alt. cur., 2 phase, 7,200 alt.; power, A. C. and D. C.

Generating capacity: Lighting and power, 3800 kw.

Voltage: Arcs, 80-106; incand., 106; power, 106-212.

City lighting contract: Hours lighted per year: Arc and incand., 3,000.

No. public arcs, 128; 600 watt. Price per year, \$57.50.

No. public Tungsten incand., 37 arches of 11; 75 watt. Price per year, \$75.24 per arch. 226 single, 75 watt. at \$19.34 per year.

Commercial lighting: Incand., 50,308 60 watt equiv.

Price current per kw. hr., gross 12c. to 5c. Disc., 10 p. c.

Power circuits: Motors, 3,244 h. p.

Price current per kw. hr.: 7c. to 2c. Disc., 10 p. c. and 20 p. c.

Output of station, kw. for year, 6,241,411 (including current used by system).

Generating power used, Steam; rated h. p., 1,600.

Cost of station boiler coal, per ton, \$3.30.

Wilson Gas Plant, Wilson.

RRs.: A. C. L.; Norf. & So. Ex., So.

(Municipal plant. Gas turned on Jan. 4, 1917.)

Bonds, \$75,000; due 1921-1935; int., 5 p. c.

Superintendent, R. J. Grantham.

Process manufacture, Lowe.

Annual prod., 12,000,000 c. f.

Price of coal per ton, delivered, \$10; oil per gal., 10c.

Gas holder capacity, 90,000 c. f.

Street mains, approx., 13 miles.

Pop. of city, 6,715 (1910); now est., 10,000.

No. consumers and meters, 420.

No. public gas lamps, 25, incl. 10 Welsbach incand.

No. gas ranges in use, 350; heaters, 225; water heaters, 200.

Winston-Salem Gas Co., Winston-Salem.

RRs.: N. & W.; So. Ex.: So.

Operated by W. E. Moss & Co., Detroit.

(For capitalization and bonds, see Appendix.)

President, J. W. Thompson.

Vice-pres., E. B. Jones.

Secretary, B. O. Tippy.

Auditor and purchasing agent, H. M. Eaton.

Treasurer, W. E. Moss.

Gen'l mgr., B. O. Tippy.

Local mgr., J. B. Smith.

Process manufacture, Coal.

Candle-power, 16.

Max. day's send out, 298,000 c. f.

Total gas holders capacity, 140,000 c. f.

Miles of mains, approx., 26.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, 52,898,400 c. f.

Gas unaccounted for, 15.01 p. c.

Pop. dist. supplied, 30,000.

Consumers and meters, 1,950.

Price gas: Light and Fuel, gross \$1.50; net \$1.30.

Ranges in use, 1,800; heaters, 517; water heaters, 350.

No. commercial gas arc lamps, 650.

Supplies Winston-Salem.

NORTH DAKOTA

Total population, 752,260.

Bismarck Gas Co., Bismarck.

RRs.: Minn., St. P. & S. S. C.; No. Pac.; Mo. River S. Boats. Ex.: No.; Western.

Capital stock, auth., \$200,000; issued, \$60,000.

President, Frank E. Ployhar.

Sec. and treas., E. M. Ployhar.

Gen. mgr. and pur. agent, Frank E. Ployhar.

Superintendent, G. B. Hawley.

Engineer, G. B. Hawley.

New bus. mgr., G. B. Hawley.

Process manufacture, Coal.

Price of coal per ton, delivered, \$10.30.

Candle-power, 17. Calorific value, 600 B. t. u.



Annual prod., 10,000,000 c. f.
 By-products made: Coke, 1,000 tons; tar, 35,000 gals.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, max., 3.5 in.
 Max. day's send out, 55,000 c. f.
 Miles of mains, approx., 8.
 St. main pressures, max., 3.5 in.; min., 3.5 in.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 2 p. c.
 Pop. of city supplied, est., 7,500.
 No. consumers, 470.
 No. meters, reg., 300; prepay., 170.
 Price of gas: Light and Fuel, gross \$1.85; net, \$1.65.
 No. gas ranges, 390; water heaters, 182.
 No. commercial gas arc lamps, 12.
 Supplies Bismarck.

Ellendale Light and Power Co., Ellendale.

(Company reported out of business.)

Union Light, Heat and Power Co., Fargo.

RRs.: C. M. & St. P.; G. N.; No. Pac. Ex.: G. N.; No.; Wells-Fargo.

(Controlled by Northern States Power Co., for whose capitalization and officers see "Appendix.")

Gen. managers, H. M. Byllesby & Co., Chicago.
 Purchasing agt. and manager, M. L. Hibbard.
 Superintendent gas, E. E. Harnish.
 Superintendent elec., L. L. Schooley.
 New bus. mgr., A. G. Buchholz.
 Process manufacture, Coal.
 Annual production, 119,863,000 c. f.
 By-products made: Coke, 7,293 tons; tar, 150,008 gals.; ammonia, 24,550 lbs.
 Price coal per ton, delivered, various.
 Candle-power, 16. Calorific value, 585 B. t. u.
 Max. day's send out, 370,600 c. f.
 Total gas holders capacity, 500,000 c. f.
 Miles of mains, 46.3.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 101,182,500 c. f.
 Gas unaccounted for, 17.7 p. c.
 By-products sold: Coke, 4,897 tons; tar, 80,846 gals.; ammonia, 16,437 lbs.
 Pop. dist. supplied, 26,452; of Fargo, 20,456. (actual); of Moorhead, 5,702 (est'd).
 No. consumers, 3,878.
 No. meters, reg., 3,840; prepay., 38.
 Price gas, gross, \$1.50 to \$1.00; 10 p. c. disc.
 Ranges in use, 3,397; heaters, 170; water heaters, 846.
 No. commercial arc lamps, 88.
 Supplies Fargo, N. D., and Moorhead, Minn.

ELECTRICAL DEPARTMENT.

System operated: Arc, series A. C.; incand., A. C. and D. C.; power, A. C. and D. C., single or 3 phase, 60 cycles.
 Generating capacity, 4,200 kw.
 Voltage: Arcs, 70; incand., 110-220; power, 220.
 City lighting contract: Hours lighted per year: Arcs and incand., all night every night, approx., 4,000.
 No. public arcs, 124; 550 watt. Price per year, \$60.

No. public incand., 396; 40 watt. Price per year, \$12.
 No. public ornamental posts, 217; 340 watt. Price per year, \$38.80.
 No. single-light ornamental posts, 105; 80 watt. Price per year, \$12.
 Commercial lighting: No. arcs, 126; No. incand., 63,571; also 9,559 lamps in signs.
 Basic rate (net): Light, 8.8c. to 3.46c.
 Power circuits: Motors, 607. Basic rate (net) 6.66c. to 3.33c.
 Output of station, kw. for year, 6,070,169.
 Generating power used, Steam; rated h. p., boilers, 2,946.
 Cost of station boiler coal, per ton, various.
 Furnish current to Traction Co.
 Also supplies electric light and power by transmission line to Dilworth, Minn.

Red River Power Co., Grand Forks.

RRs.: G. N.; No. Pac. Ex.: G. N.; No.

(Controlled by Northern States Power Co.; for capitalization, bonds, officers, etc., see "Appendix.")

Gen'l mgrs., H. M. Byllesby & Co., Chicago, Ill.

Pur. agt and mgr., Wm. H. Brown.

Process manufacture, Coal and Lowe (Oil).
 By-products made: Coke, 2,687 tons; tar, 65,941 gals.

Price coal per ton, delivered, various.

Price of oil per gal., delivered, 9c.

Candle-power, 18.

Calorific value, 600 B. t. u.

Annual prod., coal gas, 56,456,400 c. f.

Total gas holder capacity, 280,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 197,200 c. f.

Miles of mains, approx., 25.5.

Street main pressures, max., 3.3 in.; min., 2.8 in.

Annual sales, approx., 51,361,100 c. f.

Gas unaccounted for, 7 p. c.

By-products sold: Coke, 2,687 tons; tar, 65,941 gals.

Pop. dist. supplied, 15,500: cities, Grand

Forks, 12,708; East Grand Forks, 2,792.

No. gas consumers, 2,155.

No. meters, reg., 1,682; prepay., 473.

Price gas: Light and Fuel, basic rate (net), \$1.48 to 99c.

Ranges in use, 1,987; heaters, 92; water heaters, 456.

No. commercial gas arc lamps, 216.

Supplies Grand Forks, N. D., East Grand Forks, Minn.

ELECTRICAL DEPARTMENT.

System operated: Incand., D. C. and A. C., 60 cycles; power, D. C. and A. C., 3 phase, 60 cycles.

Generating capacity, 2,085 kw.

Voltage: Incand., 110; power, 110-220; street railway, 550.

Commercial lighting, incand., 32,489.

Price commercial, per kw. hr.: Basic rate (net), 10.9c. to 3.51c.

Other lamps, 6,366 sign lamps.

For twenty years the largest Gas Companies in America and England have used the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Power circuits: No. motors, 211; price, basic rate (net), 6.59c. to 3.57c.

Used also for 175 desk and fan motors, 1,710 flat irons and appliances, 2 auto charging, 8 moving picture machines, 838 miscellaneous appliances.

No. of consumers, 2,913.

Output of station, kw. hrs. for year, approx., 3,480,721.

Power used, Steam; rated h. p., 2,718.

Hydro-electric power received over 30 miles, 33,000 volt line, from Crookston, Minn.

Serves Grand Forks, N. D.: Fisher, Red Lake Falls and St. Hilaire, Minn.

Jamestown Gas Co., Jamestown.

RR.: No. Pac. Ex.: No.

Capital stock, \$50,000.

Bonds, \$20,000; due 1937; int., 7 p. c.

President, J. J. Merling.

Sec. and treas., H. P. Taylor.

Gen'l mgr. and pur agent, T. J. Ahearn.

Superintendent, T. J. Ahearn.

Process manufacture, Lowe.

Candle-power, 18.

Price of coal per ton, delivered, \$2.85; coke, \$14.09.

Price of oil per gal., delivered, 9.41c.

Annual prod., 8,728,300 c. f.

Gas holder capacity, 30,000 c. f.

Holder pressure, 3½ in.

Miles of mains, 10; pressure, 3.5 in.

Annual sales, approx., 8,728,300 c. f.

Gas unaccounted for, 1 p. c.

Pop. city, est., 7,000; dist. supplied, 6,000.

No. consumers, 416.

No. meters, reg., 307; prepay., 100.

Price gas: Light and Fuel, gross, \$1.85; net, \$1.70.

Ranges in use, 275; heaters, 25; water heaters, 50.

Supplies Jamestown.

Peoples Gas Co., Minot.

RRs.: G. N.; Minn., St. P. & S. S. M. Ex.: G. N.; Western.

(Company being organized.)

The Valley City Gas Co., Valley City.

RRs.: Minn., St. P. & S. S. M.; No. Pac. Ex.: No.; West.

Capital stock, auth., \$100,000; issued \$58,000.

Bonds, \$30,000; due 1933; int., 7 p. c.

President, Frank E. Ployhar.

Secretary, H. N. Walker.

Treasurer, H. N. Walker.

General manager, Frank E. Ployhar.

Purchasing agent, A. Bruce Cox.

Superintendent, A. Bruce Cox.

Process manufacture, Lowe (W. Gas Cons. Co.).

Candle-power, 18; calorific value, 625 B. t. u.

Price of coke per ton, delivered, \$11.70.

Price of oil per gal., 8.6c.

Annual production, 18,700,000 c. f.

Gas holder capacity, 30,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 80,000 c. f.

Miles of mains, approx., 11.6.

Street main pressures, max., 3.5 in.; min., 3 in.

Annual sales, approx., 17,770,000 c. f.

By-products sold: Tar, 1,050 gals.

Population of city, 4,606.

No. meters, reg., 503; prepay., 127.

Price gas: Light and Fuel, gross, \$1.75; net, \$1.55; 10 p. c. emergency surcharge on net bills (from Jan. 1, 1918), making net price \$1.705.

Gas appliances in use: Ranges, 525; heaters, 76; water heaters, 138.

No. commercial gas arc lamps in use, 213.

Supplies Valley City.

OHIO

Total population, 5,181,220.

The Archbold & Stryker Gas Co., Archbold.

R. R.: L. S. & M. So. Ex.: Am.

Capital stock, auth., \$30,000; issued, \$23,900.

Annual dividend, 6 p. c.

President, J. A. Sloan.

Secretary, O. L. Yackee.

Treas. and gen. mgr., J. V. Mullen.

Gas purchased from The Ohio Gas Light & Coke Co., at Bryan.

Candle-power, 16. Calorific value, 650 B. t. u.

Gas holder capacity, 30,000 c. f.

High pressure mains, 27 miles. Pressure, 20 to 5 lbs.

Max. day's send out, 30,000 c. f.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 4 p. c.

Population of city supplied, 2,400.

No. consumers and meters, 400.

Price gas: Light and Fuel, gross, \$1.45; net, \$1.35.

Ranges, 350; heaters, 60; water heaters, 38.

No. commercial gas arc lamps in use, 65.

Supplies Archbold and Stryker.

Bellefontaine City Gas Works, Bellefontaine.

RRs.: C., C., C. & St. L.; Tol. & O. Cen.; Ohio El. Ex.: Am.

(Municipal plant. In charge of Director of Public Service.)

Bonds, \$86,000; due annually; int., 5 p. c.

Dir. of Pub. Service, C. A. Inskeep.

Pur. agent, C. A. Inskeep.

Superintendent, M. D. Ehrhart.

New bus. mgr., C. A. Inskeep.

Process manufacture, Lowe.

Price of coke per ton, delivered, \$9.10 to \$13.10.

Price of oil per gallon, 5.25c. to 6.5c.

Candle power, 22.

Calorific value, 750 B. t. u.

Test Meters, steel cases, with capacities from 1/10 to 1 cubic foot per revolution, reading fractional quantities direct and adding up and indicating large volumes. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

Annual production, 65,000,000 c. f.
 Gas holder capacity, 125,000 c. f.
 Holder pressure, max., 2 in.
 Miles of mains, approx., 18.
 Street main pressure, max., 2 in.; min., 1.5 in.
 Annual sales, approx., 65,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 5,000; of city, 8,239.
 No. consumers, 1,815.
 No. meters, reg., 2,406.
 Price gas: Light and Fuel, gross, \$1.15; net, \$1.035.
 No. gas ranges in use, 1,800.
 Supplies Bellefontaine.

ELECTRICAL DEPARTMENT.

Bellefontaine Electric Works. Operated by City of Bellefontaine.
 System: A. C., 60 cycles.
 Generating capacity: Total, 620 kw.
 Voltage: Incand., 110; power, 220.
 No. public ares, 150.
 No. public incand., 125.
 Commercial, price per kw. hr., gross, 8.5c. Disc., 10 p. c.
 Power price per kw. hr., 2c. to 3c. Disc., 10 p. c.
 Output of station, kw. hrs. for year, 1,282,880.
 Generating power used: Steam and Oil, rated 950 h. p.
 Cost of station boiler coal per ton, \$5.

Ohio Gas Light and Coke Co., Bryan.

(See report under Napoleon, O.)

Dover Coke & By-Products Co., Canal Dover.

RRs.: B. & O.; Penna.; C. & M.

Controlled by M. A. Hanna Co., Cleveland, O.
 President, F. B. Richards.
 Vice-pres., H. M. Hanna, Jr.
 Secretary, H. S. Ream.
 Treasurer, S. W. Folsom.
 Gen'l manager, P. J. Moran.
 Chief engineer, M. W. Ditto.
 Superintendent, Geo. A. Morrissey.
 Pur. agent, T. F. Cadden.
 24 Roberts flueless ovens; length, 41 ft.; width, 14 in.; height, 13.7 ft.
 Coal charged per oven, 15 net tons.
 Coke yield, 68 p. c., furnace coke.
 Time required for coking, 14 hours.
 100 p. c. high volatile coal used.
 45 p. c. of gas used for heating ovens; 15 p. c. used under boilers; 40 p. c. sold for industrial use.
 Calorific value: Heating gas, 520 B. t. u.; surplus gas, 610 B. t. u.
 By-products made: Gas, 10,000,000 c. f. (4,000,000 c. f. sold, 6,000,000 c. f. used by company); tar, 10 gals. (all sold); ammonia sulphate, 20 lbs. (sold); crude benzol, 2.4 gals. (converted); pure benzol, 2 gals. (sold); crude toluol, 0.8 gals. (converted); pure toluol, 0.7 gals. (sold); xylol, 0.3 gals. (sold); solvent naphtha, 0.5 gals. (sold); naphthalene, 0.5 lbs. (sold).
 Coke used at blast furnaces of Penn Iron & Coal Co.; surplus gas used in foundry of Penn Mold & Mfg. Co.

The United Furnace Co., Canton.

RRs.: Penna.; B. & O.; W. & L. E.; No. O. Trac. Ex.: Am.; Ad.; W. F.

(Commenced operations Oct. 2, 1916.)
 Main office, Western Reserve Bldg., Cleveland, O.
 President, H. G. Dalton.
 Vice-president, H. R. Jones.
 Secretary, E. L. Hang.
 Treasurer, E. P. Williams.
 General manager, G. H. Beaumont.
 Superintendent, C. F. Kaufholz.
 Pur. agent, H. S. Pickands.
 47 Koppers ovens; length, 37 ft.; width, 17 in. to 19.5 in.; height, 9 ft. 10 in.
 Coal charged per oven, 12.25 net tons; coke yield, 74 p. c.
 Coal used: High volatile, 80 p. c.; low volatile, 20 p. c.
 Time required for coking, 16.4 hours.
 Furnace, foundry, domestic coke made.
 Gas used for heating ovens, 43 p. c.; sold for industrial use, 47 p. c.
 Calorific value: Surplus gas and heating gas, 535 B. t. u.
 By-products made: Gas, 3,136,904,000 c. f. (1,487,419,000 c. f. sold; 1,350,933,000 used by company; 298,552,000 unaccounted for); tar, 2,626,103 gals. (all sold); am. sulphate, 7,093,773 lbs. (all sold); pure benzol, 577,940 gals. (all sold); pure toluol, 121,749 (all sold); solvent naphtha, 25,787 (all sold); naphthalene, 72,703 lbs. (all sold); blast furnace coke made, 200,404 tons; 26,905 tons used by company. Surplus gas sold to United Alloy Steel Corporation.

American Steel & Wire Co., Cleveland.

(Controlled by U. S. Steel Corporation.)
 180 Koppers ovens under construction.
 Coke and gas produced will be used in their own plant.

Cleveland Furnace Co., Cleveland.

(Operates Semet-Solvay coke-ovens.)

East Ohio Gas Co., Cleveland.

RRs.: C., C. & St. L.; B. & O.; L. S. & M. S.; N. Y. C. & St. L.; E. O. Trac.; Erie; Penna.; W. & L. E.; C., So. W. & Col.; L. E.; Al. & Wh.; No. O. Trac. S. Bs.; Rutld. Trans.; Anchor Line; C. & B. Trans.; Ohio Canal; Mer.; Mont. Line; Clev. & Geo. Bay Line; Det. & Clev. Nav.; Mutual Trans. Ex.: Ad.; Am.; Nat.; W. F.; Pac.

(For detailed financial information, see Appendix.)

President and gen'l mgr., Martin B. Daly.
 Vice-president, A. C. Bedford.
 Sec'y and treas., H. V. Shulters.
 Purchasing agent, G. H. Horsley.
 Asst. gen. mgr., R. W. Gallagher.
 Comptroller, Geo. H. Jones.
 Superintendent, J. G. Hanks.
 Process manufacture, Coal and Lowe.
 Mixture supplied, 70 p. c. coal, 30 p. c. water.
 Candle-power, 16.
 Calorific value, 600 B. t. u.

WE BUY SPENT OXIDE FROM COAL GAS WORKS
SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road **PHILADELPHIA, PA.**
 and 29th Street

Miles of mains, approx., 580.
 Max. day's send out, 2,000,000 c. f.
 Annual sales, approx., 200,000,000 c. f.
 Pop. city, 560,663; pop. dist. supplied, 613,270.
 No. consumers and meters, 3,600.
 Price gas: Light and Fuel, gross, 85c; net, 80c.
 Supplies Cleveland and suburbs. (The East Ohio Gas Co. also supplies natural gas.)

The River Furnace Co., Cleveland.

(RRs.: See East Ohio Gas Co. above.)

Controlled by Corrigan, McKinney & Co.
 Office, Perry Payne Building.
 President, Price McKinney.
 Vice-pres., J. W. Corrigan.
 Sec'y and treas., J. E. Ferris.
 General manager, J. A. Nichols.
 Chief engineer, H. T. Harrison.
 Superintendent, J. Drewson.
 Purchasing agent, F. W. Steinen.
 204 Koppers ovens: length, 37 ft.; width, 18½ in.; height, 9 ft. 10 in.
 Coal charged per oven, 12¼ tons.
 Time required for coking, 18 hours.
 Coke yield, 73 p. c. blast furnace, domestic and braize coke made.
 Gas sold for city use, 10 p. c.; used for heating ovens, 45 p. c.; used under boilers, 10 p. c.; sold for industrial use, 35 p. c.
 Calorific value: Surplus gas, 520 B. t. u.; heating gas, 520 B. t. u.
 High volatile coal used, 85 p. c.; low volatile, 15 p. c.
 By-products made: Gas, 12,775,000 c. f.; tar, 10,950,000 gals.; ammonia, 29,200,000 lbs.; pure benzol, 2,372,500 gals.; pure toluol, 438,000 gals.; solvent naphtha, 182,500 gals.; naphthalene, 365,000 lbs.; coke, dom., 36,500 tons; blast furnace coke, 811,760 tons.

Defiance Gas and Electric Co., Defiance.

RRs.: B. & O.; Ohio El. Ry.; Wabash. Ex.: W. F.: Ad.

(Controlled by United Public Utilities Co. See Appendix.)

Capital stock, auth., \$300,000; issued, \$297,000.
 Bonds, \$911,500; due 1942; int., 5 p. c.
 President, H. L. Crawford, New York City.
 Secretary, J. F. Deatruck, Defiance, O.
 Treasurer, J. F. Deatruck, Defiance, O.
 Gen. mgr., W. P. Wallace, Defiance, O.
 Asst. gen. mgr. and pur. agt., J. F. Deatruck,
 Engr. and supt., W. L. Stevens.
 New bus. mgr., J. F. Deatruck.
 Process manufacture, Coal.
 Candle-power, 18; calorific value, 600 B. t. u.
 Annual production, 33,000,000 c. f.
 By-products made: Coke, 1,000 tons; tar, 60,000 gals.
 Gas holder capacity, 100,000 c. f.
 Holder pressure, 5 in.
 Max. day's send out, 130,000 c. f.
 Miles of mains, approx., 30.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 23,000,000 c. f.
 Gas unaccounted for, 30 p. c.

By-products sold: Coke, 750 tons; tar, 60,000 gals.

Pop. city, 10,000 (est.); dist. supplied, the same.

No. consumers, 1,540.

No. meters, reg., 1,000; prepay., 540.

Price gas: Light and Fuel, gross, \$1.35; net, \$1.25.

Ranges in use, 1,400; heaters, 150; water heaters, 225.

No. commercial gas arc lamps, 40.

Supplies Defiance.

ELECTRICAL DEPARTMENT.

System operated: Lighting, arcs, incand., A. C., single phase, 60 cycle; power, A. C., 3 phase, 60 cycles and 25 cycles.

Generating capacity: Lighting and power, 4,150 kw.

Voltage: Arcs, 80; incand., 115; power, 220-440.

Miles of overhead wires, 153.

City lighting contract: Lamps lighted all night and every night.

No. public arcs, 250; 320 watt. Price per year, \$70, \$45 and \$50.

No. public incand., 26; 100 c. p. Price per year, \$30.

Commercial lighting: Price per kw. hr., 9c. Disc., 1c. per kw.

Domestic rate, 5c. per kw.

Power circuits: Motors, 2,000 h. p. Price, sliding scale.

Output of station, kw. hrs., total for year, 10,887,000 (all plants).

Generating power, Steam and Water; rated 4,150 kw.

Cost of station boiler coal per ton, \$5.25.

Power purchased also from hydro-elec. plant of the Auglaize Power Co., Defiance, O.

Also owns and operates the electric distributing plants in Maumee and Perrysburg, O., formerly operated as the Valley Light & Power Co.

The Delphos Gas Co., Delphos.

RRs.: C., H. & D.; Penna.; L. E. & W.; Tol. St. L. & W.; Ohio Elec. Ex.: Ad.; Am.; W. F.; Nat.

Capital stock, \$40,000.

Bonds, \$53,000; due 1946; int., 6 p. c.

President, A. F. Lloyd, Detroit, Mich.

Secretary, A. G. Lloyd, Detroit, Mich.

Gen'l mgr., Frank A. Lane, Adrian, Mich.

Treasurer and pur. agt., Frank A. Lane.

Supt. and new bus. mgr., W. M. Moran.

Process manufacture, Coal.

Price coal per ton, delivered, \$2.70.

Candle-power, 16.

Calorific value, 650 B. t. u.

Annual production, 14,000,000 c. f.

By-products made: Coke, 1,100 tons; tar, 22,000 gals.

Gas holder capacity, 73,000 c. f.

Holder pressure, 4 in.

Max. day's send out, 47,800 c. f.

Miles of mains, approx., 14.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 13,800,000 c. f.

COST METERS

American Meter Company

561 W. 47th St., New York, N. Y.

AND LARGE DIAL DEMONSTRATION DRY METERS

Both these meters should be in the gas sales and demonstration rooms of every gas company in the country. The Cost Meter shows the hourly cost in cents and tenths of a cent to operate gas appliances. The Large Dial Demonstration Dry Meter is used to show the comparative consumption between flat flame and mantle burners.

Gas unaccounted for, 4.1 p. c.
 By-products sold: Coke, 1,100 tons; tar, 22,000 gals.
 Pop. of city, 5,038; of dist. supplied, 4,400.
 No. consumers and meters, 796.
 Price gas: Light and Fuel, gross, \$1.35 for first 3,000 c. f.; next 2,000 c. f., \$1.30; next 2,000 c. f., \$1.25; next 3,000 c. f., \$1.20; next 10,000 c. f., \$1.15; all over 20,000 c. f., \$1. Disc., 10c., 10 days.
 Gas appliances in use: Ranges, 455; heaters, 128; water heaters, 94.
 No. commercial gas arc lamps in use, 237.
 Supplies Delphos.

Hamilton-Otto Coke Co., Hamilton.

RRs.: B. & O.; C. I. & W.; Penna. Ex.: Ad.

President, E. M. Peters.
 Vice-president, J. C. Thoms.
 Sec'y and treas., E. C. Siemers.
 Superintendent, C. M. Peters.

COKE-OVEN OPERATIONS.

No. of ovens, 100 Otto-Hoffman.
 Coal charged per oven, 6.75 tons.
 Coke yield, 72 p. c.; foundry and domestic coke.
 Hours required for coking, 21.
 Proportion gas sold for city use, 40 p. c.; used for heating retorts, 60 p. c.
 Candle-power, 15. Calorific value, 685 B. t. u.
 Coal used, 80 p. c. high volatile; 20 p. c. low volatile.

Hamilton Utilities Co., Hamilton.

RRs.: B. & O.; Penna.; C. I. & W. Ex.: Ad.

Capital stock, auth. and issued, \$255,000.
 President, E. M. Peters.
 Secretary and treas., E. C. Siemer.
 Otto Hoffman Coke Ovens. (Gas purchased in raw state and purified by reporting company.)
 Candle-power, 16. Cal. value, 685 B. t. u.
 Price of coal per ton, delivered, \$3.79.
 Total gas holders capacity, 500,000 c. f.
 Miles of mains, approx., 38.
 Street main pres., max., 4 in.; min., 2 in.
 High pressure mains, 10 mi.; pressure, 7 lbs.
 Pop. city supplied, 35,279 (1910); now est., 40,000.
 No. consumers, 3,200.
 No. meters, reg., 2,800; prepay., 400.
 Price gas: Light and Fuel, 30c.
 Supplies Hamilton.

ELECTRICAL DEPARTMENT.

System: Lighting, A. C., 3 phase, 7,200 alt.
 Power, D. C. and A. C.
 Generating capacity: Lighting, 750 kw.
 Power, 750 kw.
 Voltage: Incand., 110; power, 220 A. C., 500 D. C.
 Price per kw. hr., gross, 6c. to 2.5c.
 Distribute electricity furnished by Hamilton Otto Coke Co.

Ironton Solvay Coke Co., Ironton.

(Operate Semet-Solvay coke-ovens.)

Hillsboro Light and Fuel Co., Hillsboro.

RRs.: B. & O. So. W.; N. & W.; Cin. & Col. (El.). Ex.: S.; U. S.

(Controlled by Ohio Utilities Co. Operated by National Utilities Co.)
 Capital stock, \$40,000.
 President, I. McD. Smith.
 Secretary, J. C. Martin.
 Treasurer, J. C. Martin.
 Purchasing agent, J. C. Martin.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$2.50.
 Candle-power, 16.
 Miles of mains, approximate, 10.
 Annual output, approx., 6,000,000 c. f.
 Pop. dist. supplied, 4,296.
 No. consumers and meters, 325.
 Price gas: Light, gross, \$1.50. Fuel, \$1.35 to \$1.
 Ranges in use, 150; heaters, 75; water heaters, 50.
 Supplies Hillsboro.

ELECTRICAL DEPARTMENT.

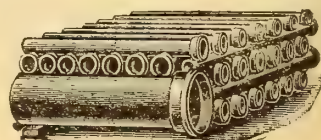
Capital apportioned to electric plant, \$35,000.
 System operated: A. C., 60 cycle, single phase, 7,200 alt.
 Generating capacity: Lighting, 225 kw.
 Voltage: Arcs, series.
 City lighting contract: Hours lighted per year: Arc and incand., 3,000.
 No. public arcs, 87; 450 watt. Price per year, \$79.50.
 No. public incand., 12; 60 watt. Price per year, \$27.00.
 Commercial lighting: No. arcs, 20; No. incand., 4,000.
 Price-current per kw. hr., gross, 10c.
 Power circuits: No. motors, 50; price per kw. hr., 5c.
 Generating power used, Steam; rated h. p., 300.
 Cost of station boiler coal, per ton, \$2.15.

Lebanon Gas Works., Lebanon.

RRs.: Cin., Leb. & No.; Day., Leb. & Cin. Ex.: Ad.

(Municipal plant.)
 Bonds, \$15,000.
 President, W. Randall (Trustees of Public Affairs).
 Clerk, William Carson.
 Superintendent, William Carson.
 Process manufacture, Oil.
 Price of coke per ton, delivered, \$4.05.
 Price oil per gal., delivered, 4.5c.
 Candle-power, 22.
 Max. day's send-out, 18,000 c. f.
 Total gas holders capacity, 15,000 c. f.
 Miles of mains, approx., 5.
 Street main pressures, max., 1.7 in.
 Annual sales, approx., 4,000,000 c. f.
 Pop. dist. supplied, 2,000; of city, 2,698.
 No. meters, reg., 221.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
 R. D. WOOD & CO. : PHILADELPHIA, PA.



No. consumers, 221.
 Price gas, gross, \$1.
 Ranges, 154; heaters, 10; water heaters, 40.
 Supplies Lebanon.
 (No 1918 report.)

Lima Gas Light Co., Lima.

RRs.: C., H. & D.; L. E. & W.; Erie; Penna.;
 D., T. & I.; Ohio El. Ry.; West. O. (El.).
 Ex.: Ad.; W. F.; Pac.; Am.

Capital stock, \$200,000.
 Bonds, \$200,000; due 1939; int., 5 p. c.
 President, E. R. Curtin.
 Vice-president, Walton Clark.
 Secretary, G. W. Curran.
 Asst. sec. and treas., H. C. Miller.
 Assistant treasurer, B. P. Shearon.
 Purchasing agent, J. A. Pearson.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.29.
 Price oil per gal., delivered, 3.99c.
 Candle-power, 20.
 Annual production, approx., 43,623,000 c. f.
 Total gas holders capacity, 118,000 c. f.
 Holder pressure, 3.5 in.
 Miles of mains, approx., 31.52.
 Street main pressures, max., 3.5 in.; min.,
 3.5 in.
 Annual sales, approx., 35,598,400 c. f.
 Gas unaccounted for, 18.39 p. c.
 Pop. city, 42,000.
 Consumers and meters, 1,344.
 Price gas: Light, to residence consumers,
 gross and net, \$1.
 No. public gas lamps, 307; lighted, 3,900 hrs.
 Contract includes repairs, care, lighting and
 extinguishing.
 No. commercial gas arc lamps, 978.
 Supplies Lima.
 (Natural gas competition.)

Mechanicsburg Gas Light Co., Mechanicsburg.

RRs.: C., C. & St. L. Ex.: Am.

Capital stock, \$15,000; annual div., 6 p. c.
 President, J. C. Scera.
 Secretary and treasurer, P. J. Burnham.
 Purchasing agent, V. G. Riddle.
 General manager, V. G. Riddle.
 Superintendent, V. G. Riddle.
 Process manufacture, Smith-McKaig (oil).
 Price coal per ton, delivered, \$6.00.
 Price oil per gal., 2.3c.
 Candle-power, 19.
 Max. day's send out, 2,000 c. f.
 Gas holder capacity, 5,300 c. f.
 Miles of mains, approx., 4.5.
 Street main pressures, max., 2 in.; min., 1.7 in.
 Annual sales, approx., 700,000 c. f.
 Pop. city supplied, 1,600 (1915).
 No. consumers, 125.
 No. meters, 168.
 Price gas: Light, gross, \$7; net, \$5.50. Fuel,
 gross, \$3.50; net, \$3.50.
 Ranges, 100; heaters, 5; water heaters, 15.
 Supplies Mechanicsburg.
 (No 1918 report.)

The Ohio Gas Light and Coke Co., Napoleon.

RRs.: D. T. & I.; Wabash. Ex.: Am. Pac.

(A consolidation of Napoleon and Wauseon
 Gas Co., the Bryan & Montpelier Gas Co.
 and Delta Gas & Electric Co.)
 Capital stock, auth. \$500,000; issued \$179,000
 common; \$67,200 preferred.
 Annual dividends, 6 p. c. com.; 7 p. c. pref.
 Bonds, \$210,000; due 1934; interest, 6 p. c.
 President, G. B. Orwig.
 Secretary, B. A. Sloan.
 Treasurer, and pur. agent, J. A. Sloan.
 Asst. treas., D. Hartigan.
 General manager, J. A. Sloan.
 Process manufacture, Coal.
 Annual production, 85,000,000 c. f.
 Price coal per ton, delivered, \$2.50.
 Candle-power, 16.
 Calorific value, 650 B. t. u.
 Gas holder capacity, 130,000 c. f.
 Holder pressure, max., 5 lbs.
 Max. day's send out, 220,000 c. f.
 Street main pressures, max., 5 lbs.; min., 4 lbs.
 High pressure mains, 100 miles; press., 5 lbs.
 Annual sales, approx., 85,000,000 c. f.
 Gas unaccounted for, 4 p. c.
 Population of cities, 20,000 (est.); dist. sup-
 plied, the same.
 No. consumers and meters, 3,900.
 Price gas: Light and Fuel, gross, \$1.35; net,
 \$1.25.
 Gas appliances in use: Ranges, 3,600; heat-
 ers, 500; water heaters, 500.
 No. commercial gas arc lamps in use, 800.
 Supplies Napoleon, Wauseon, Bryan, Mont-
 pelier, Delta, Archbold and Stryker.

ELECTRICAL DEPARTMENT.

System operated: incand., A. C.; power, A. C.
 Voltage: incand, 110; power, 220.
 City lighting contract: hours lighted, per year,
 4,000.
 No. public incand., 40; 250 watt. Price per
 year, \$45.
 Price current per kw. hr., gross, 11c. Dis-
 counts, 1c. per kw. hr.
 Power circuits: No. motors, 10; price per kw.
 hr., 5c. to 3c.
 Power purchased from Toledo & Indiana R.
 R. Co.

Painesville Gas Light and Coal Co., Painesville.

RRs.: B. & O.; L. S. & M. S.; N. Y., C. & St. L.
 Ex.: Am.; Nat.

Capital stock, \$80,000.
 Annual dividend, 6 p. c.
 Bonds, \$6,000; due 1963; int., 5 p. c.
 President, George P. Steele.
 Secretary, H. R. Collacott.
 Treasurer, George P. Steele.
 Pur. agent, Geo. P. Steele.
 Manager, Geo. R. Moody.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$2.70.
 Candle-power, 16.
 Max. day's send out, 80,000 c. f.
 Gas holder capacity, 50,000 c. f.

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM

UNITED LEAD COMPANY
 111 BROADWAY, NEW YORK

Holder pressure, 3.5 in.
Miles of mains, approximate, 12.
Street main pressures, max., 3.5 in.; min., 3 in.
Annual sales, 22,000,000 c. f.
Gas unaccounted for, 8.2 p. c.
Pop. city supplied, 5,501.
No. consumers and meters, 750.
Price gas: Light and Fuel, \$1.50.
Supplies Painesville.

Paulding Gas Light and Fuel Co., Paulding.

RR.: Cin. & No. Ex.: Am.
Capital stock, \$15,000.
Bonds, \$10,000; due 1923; int., 5 p. c.
President, T. S. Atkinson, Van Wert, O.
Secretary and treas., H. C. Glenn, Van Wert.
Gen. mgr. and pur. agent, T. S. Atkinson.
Superintendent, V. B. McConahay.
Process of manufacture, Lowe.
Candle-power, 18.
Annual production, 6,000,000 c. f.
Max. day's send out, 22,000 c. f.
Total gas holders capacity, 25,000 c. f.
Holder pressure, 3.4 in.
Miles of mains, approx., 5.
Street main pressures, max., 3.4 in.; min., 3 in.
Annual sales, approx., 6,000,000 c. f.
Gas unaccounted for, 1 p. c.
Pop. dist. supplied, 1,600; of city, 2,081.
No. consumers, 325.
No. meters, reg., 125; prepay., 200.
Price gas: Light and Fuel, gross, \$1.80; net \$1.60.
Ranges, 157; water heaters, 64; heaters, 98.
No. commercial gas arc lamps, 58.
Supplies Paulding.

The Portsmouth Solvay Coke Co., Portsmouth.

RRs.: B. & O.; So. W.; Ches. & O.; Norfolk & W. Ex.: Ad.; So.
Capital stock, \$2,000,000.
Bonds, \$1,500,000; int., 6 p. c.
President, J. H. Frantz.
Vice-pres., R. B. Parker.
Sec'y and treas., M. D. Whitford.
Superintendent, W. R. Knapp.
Pur. agent, J. A. Whaling.
108 Semet-Solvay ovens.
Dimensions: Length, 36 ft.; width, 21 in.; height, 12 ft.
Surplus gas sold for industrial use; none sold for city use.

Ripley Gas and Electric Works, Ripley.

RRs.: C. & O.; O. R. & Col. S. Bs.: Pitts. & Cin. Packet; Cin., Pom. & Charles Packet.
Ex.: Ad.
(Municipal plant.)
Price coal per ton, delivered, \$2.10.
Miles of mains, approx., 4.
Max. day's send out, 4,000 c. f.
Total gas holders capacity, 12,000 c. f.
Annual sales, approx., 1,900,000 c. f.
Pop. of city, 1,840; of dist. supplied, same.
Consumers and meters, 175.
Price gas: Light and Fuel, gross and net, \$1.50.
No. water heaters, 10.
Candle-power, 20.
Supplies Ripley.

ELECTRICAL DEPARTMENT.

Capital, electric plant, \$15,000.
System operated: Arc, incand. and power.
A. C., 60 cycles.
Voltage: Incand., 104.
City lighting contract: Hours lighted per year: 4,015.
No. public arcs, 48; 6.6 amp. Price per year, \$94.
No. public incand., 5; 32 c. p.; price per year, \$40.
Commercial lighting: No. incand., 700 16 c. p.
Price current per kw. hr., gross, 10c.
Generating power used, Steam; rated h. p., 125.
Cost of station boiler coal, per ton, \$1.65.
(No 1918 report.)

Springfield Gas Co., Springfield.

(See report in Natural Gas Dept.).

La Belle Iron Works, Steubenville.

(Operate Koppers by-product coke ovens.)
All gas produced used in their own works.

Atlas Chemical Co., Toledo.

(Furnishes gas to Toledo Railways & Light Co.)

Toledo Furnace Co., Toledo.

RRs.: W. & L. E.; Toledo Term. Ex.: Ad.; Am.; Nat.; W. F. (See the Toledo Rys. & Light Co.)

Controlled by Pickands, Mather & Co.

Main office, Western Reserve Bldg., Cleveland, O.

President, H. S. Pickands.

Vice-president, W. P. Murray.

Secretary, S. E. Bool.

Treasurer, E. P. Williams.

General manager, G. H. Beaumont.

Superintendent, E. B. Hull.

Purchasing agent, H. S. Pickands.

94 Koppers by-product coke ovens (cross regenerative).

Dimensions: Length, 37 ft.; width, 17 to 19.5 in.; height, 9 ft. 10 in.

Foundry, furnace, nut, pea and breeze coke yield, 73.5 p. c.

Time required for coking, 16.33 hours.

Coal used, 85 p. c. high volatile; 15 p. c. low volatile.

Foundry, furnace, nut, pea and breeze coke made.

Gas used for heating ovens, 47 p. c.; sold for city use, 9 p. c.; sold for public utility use, 44 p. c.

Calorific value: Heating gas, 540 B. t. u.; surplus gas, 595 B. t. u.

By-products made: Gas, 6,326,237,000 c. f.; sold, 3,340,065,000 c. f.; used by company, 2,985,172,000. Tar, 5,444,500 gals. (all sold). Ammonia sulphate, 15,492,893 lbs. (all sold). Pure benzol, 1,166,983 gals. (all sold). Pure toluol, 267,562 gals. (all sold). Solvent naphtha, 60,216 gals. (all sold). Naphthalene, 74,163 gals. (all sold). Domestic coke, 34,999 tons (all sold). Foundry coke, 18,251 tons (all sold). Blast furnace coke, 380,161 tons. Surplus gas sold to the Atlas Chemical Co.



PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



Toledo Railways and Light Co., Toledo.

RRs.: A. A.; C. H. & D.; Hock. Val.; L. S. & M. S.; C. C. C. & St. L.; Mich. Cen.; Penna.; Tol. & O. Cen.; Tol. & Ind. Ry.; Tol. A. & W.; Tol. St. L. & W.; Pere Marq.; Tol. & West.; Wabash; W. & L. E.; L. S. (El.); Tol. Ry. & Term.; Tol. Ur. & Interur.; Det. & Clev. Nav.; White Star Line; C. & B. Trans.; Algoma Cen.; Clev. & Geo. Bay Line; Mer. Mont. Line; N. W. O. Ry. & Pwr.; Det. & Tol. Sh. Line; Det., Monroe & Tol. Sh. Line; Tol., O. B. & No. Ry.; Tol. Fos. & Find. Ry.; M. Valley R. & S. Co. Ex. Ad.; Am.; Nat.; Pac.; W. F.

Toledo Traction, Light & Power Co. owns 92 p. c. of this company's stock.

Operated by the Doherty Organization.

(For detailed financial information see Appendix.)

President, Frank R. Coates.

Vice-pres., Frank W. Frueauff.

Vice-president, Rathbun Fuller.

Secretary, A. C. Van Driesen.

Treasurer, Spencer D. Carr.

Gas purchased from Atlas Chemical Co., Toledo, O.

Max. day's send out, 3,490,000 c. f.

Total gas holders capacity, 1,860,000 c. f.

Miles of mains, approx., 372.3.

Street main pressures, max., 3.5 in.; min., 3 in.

Annual sales, 468,234,000 c. f.

Gas unaccounted for, 7.1 p. c.

Pop. dist. supplied, 230,000; of city, 168,497.

No. consumers, 4,770.

Price gas: Light, gross \$1.10; net 95c. Fuel, gross 85c.; net 70c.

Supplies Toledo.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. and D. C., 25-60 cycles; incand., A. C. and D. C., 60 cycles; power, A. C. and D. C., 25-60 cycles.

Generating capacity: Lighting and power, 66,780.

Voltage: Arcs, 80; incand., 113-226; power, 220-440.

City lighting contract: Hours lighted per year: Arc, 4,000.

No. public arcs, 3,272. Price per year, \$45.

Commercial lighting: Connected load, 26,638.58 kw.

Price current per kw. hr., gross, 8c.; net, 7c.

Power circuits: Disc., 10 p. c.

Other uses: Railway.

Generating power used, Steam.

Cost of station boiler coal, per ton, \$3.55.

Troy Gas Co., Troy.

(Company out of business. Troy is being supplied with natural gas by the Ohio Fuel Supply Co.).

Van Wert Gas Light Co., Van Wert.

RRs.: Cin. No.; Penna. Ex.: Ad.; Am.

Controlled by Associated Gas & Electric Co.

Operated by J. G. White, Mgt. Corp.

Capital stock auth., \$150,000; issued, \$100,000.

Bonds, \$117,000; due 1949; int., 5 p. c.

President, J. I. Mange.

Vice-presidents, H. C. Glenn, C. A. Greenridge,

T. W. Moffat and S. J. Magee.

Sec'y and treas., H. B. Brown.

Managers and pur. agents, The J. G. White Management Corp.

Superintendent, T. S. Atkinson.

Process manufacture, Lowe.

Price of coke per ton, delivered, \$11.19.

Price of oil per gal., 5c.

Candle-power, 20.

Max. day's send out, 130,000 c. f.

Total gas holders capacity, 120,000 c. f.

Miles of mains, approx., 24.3.

Street main pres., max., 3 in.; min., 2.7 in.

Annual sales, approx., 37,595,000 c. f.

Gas unaccounted for, 7.1 p. c.

Pop. city, 7,157; of dist. supplied, 7,400.

No. consumers, 1,868.

No. meters, 1,868.

Price gas: Light and Fuel, \$1.50 net.

Ranges in use, 1.147; water heaters, 218.

No. commercial gas arc lamps, 335.

Supplies Van Wert.

Trumbull Public Service Co., Warren.

RRs.: Erie; Penna.; B. & O. Ex.: Ad.; W. F.

(Operated by Doherty Organization.)

(For capitalization and bonds see Appendix.)

President, Henry L. Doherty.

Vice-president, W. C. Ward.

Sec. and treas., Fred F. Ledgwick.

General Manager, E. L. Franklin.

Process manufacture, Coal.

Price coal per ton, delivered, \$4.96.

Max. day's send out, 152,300 c. f.

Total gas holders capacity, 200,000 c. f.

Miles of mains, approx., 25.

Street main pressure, max., 3 in.

Annual sales, approx., 36,392,000 c. f.

Gas unaccounted for, 3.8 p. c.

Pop. city, 11,081; dist. supplied, 25,000.

No. consumers, 150.

No. meters, 163.

Price gas: Light, gross, 95c.; net, 85c.; over 10,000 c. f., gross, 90c.; fuel, gross, 77c.

Supplies Warren.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3-phase, 60 cycles. Power, A. C. and D. C.

Generating capacity: Lighting and power, 7,250 kw.

Voltage: Incand., 115; power, 2,300-500-440-220.

City lighting contract: Hours lighted per year, midnight and all night.

No. public incand., 721—50 watts; 111—75 watts; 288—100 watts; 91 electric signs.

Ornamental lighting, 1-3 and 5 light poles.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Commercial lighting: No. arcs, 10; No. incand., 3,000; 16 c. p. equiv.

Price per kw. hr., 10c. 1st 10 hrs. and 5c. excess 40 hrs.

Power circuits: Motors, 5,100 h. p. conn.; price per kw. hr., sliding scale and Doherty rate.

Output of station, kw. hr. for year, 26,828,267. Generating power used, Water, Gas and Steam.

Cost of station boiler coal, per ton, \$4.83.

Supplies Newton Falls, Parkman, Leavittsburg, Warren, Niles, Garrettsville, Hiram, Windham, Phalanx.

Wilmington Gas Light and Coke Co., Wilmington.

RRs.: B. & O.; So. W.; Cin. & Musk. Val
Ex.: Ad.

Capital stock, \$62,500.

Bonds, \$20,000; due 1926; int., 5 p. c.

President, G. N. Clapp.

Secretary, A. L. Cole.

Treasurer, S. G. Smith.

Purchasing agent, G. N. Clapp.

Gen. mgr., G. N. Clapp.

Superintendent, E. Tugitt.

Process manufacture, Coal.

Price of coke per ton, delivered, \$6.60.

Candle-power, 16.

Miles of mains, approx., 6.

Gas holder capacity, 40,000 c. f.

Max. days send out, 50,000 c. f.

Annual sales, approx., 12,000,000 c. f.

Pop. village supplied, 4,491.

No. consumers and meters, 830.

Price gas: Light and Fuel, less than 1,000 c. f.,
gross \$1.50; net \$1.40; over 1,000 c. f.,
gross \$1.10; net \$1. Min. charge, 25c.

Ranges in use, 350.

No. commercial gas arc lamps, 60.

The Brier Hill Steel Co., Youngstown.

RRs.: Erie; Penna.; B. & O.; L. E. & W. Ex.:
Ad.; Am.; W. F.

President, W. A. Thomas.

Vice-pres., Geo. F. Alderdice.

Secretary, J. E. Parker.

Treasurer, John Stairbough.

General manager, Wm. H. Warren.

Superintendent, F. T. Moran.

Chief engineer, H. Z. Bixler.

Pur. agent, John Allen.

84 Koppers cross regenerative ovens under construction.

Length, 315 ft.; width, 39 ft. 6 in.; height, 23 ft. (dimensions of entire battery).

Coal charged per oven, 12¼ net tons.

Time required for coking, 17 hours.

Furnace coke made.

Surplus gas used for soaking pits and O. H. auxiliaries.

No gas sold for city use.

Mahoning and Shenango Railway and Light Co., Youngstown.

RRs.: L. S. & M. S.; Erie; Penna.; Pitts. & Lake E.; B. & O.; Y. & So. (El.). Ex.:
Ad.; Am.; W. F.

Successor to Youngstown and Sharon Street Ry. Co.

(Controlled by Republic Railway and Light Co.)

Capital stock, pref., auth., \$10,000,000; issued, \$3,500,000; com., auth., \$11,000,000; issued, \$10,748,300.

Annual dividend, pref. 7 p. c.; com. 2 p. c.

Bonds, \$10,350,000; due 1920; int., 5 p. c.

President, R. P. Stevens.

Secretary, W. M. Coleman.

Asst. sec'y, A. E. Dedrick.

Treasurer, E. G. Dunlap.

Pur. agent, R. J. Pike.

Gen'l manager, R. T. Sullivan.

Superintendent, Fred S. Coombs.

Process manufacture, Coal.

Price of coal per ton, delivered, \$4.38.

Candle-power, 16.

Calorific value, 550-600 B. t. u.

Annual production, 60,627,000 c. f.

By-products made: Coke, 4,228 tons; tar, 89,227 gals.; ammonia, 10,000 gals.

Gas holder capacity, 118,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 220,000 c. f.

Miles of mains, approx., 28.

Street main pressure, max. 2.8 in.; min. 1.6 in.

Booster mains, 1 mile; press., 2.8 in.

Annual sales, approx., 44,506,800 c. f.

Gas unaccounted for, 27.06 p. c.

By-products sold: Coke, 2,627 tons; tar, 67,192 gals.; ammonia, 8,000 gals.

Pop. dist. supplied, 50,000; of city, 79,066.

No. consumers and meters, 870.

Price gas: Light and Fuel, under 1,000 c. f., \$1.20; 1,000 to 10,000 c. f., \$1.15; 10,000 to 25,000 c. f., \$1.10; over 25,000 c. f., \$1. Disc., 10c. and 5c.

No. commercial gas arc lamps, 1,500.

Supplies Youngstown.

(Natural gas used for fuel purposes.)

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

Mgr. light and power, E. H. Beil.

Elec. engineer, C. A. Harrington.

Supt. power stations, H. W. Bromley.

System: A. C., 1 and 2 phase, 60 cycle, and D. C.

Generating capacity, 44,250 kw.

Voltage: A. C. 2,200; D. C. 550.

City lighting: Hours lighted, 4,000.

4,078 100 c. p.; price \$13.55; 50 600 c. p., all night, \$60.16; 235 600 c. p., midnight, \$44.10; 55 1,000 c. p., all night, \$66.33; 205 1,000 c. p., midnight, \$47.36.

Price arc and incand., Com'l. per kw. hr., avg. 5c.; disc., 5 p. c. Dom., 6c., less 5 p. c.

Output of station, kw. hrs., total for year, 163,460,617.

Power used, Steam; rated 59,000 h. p.

Cost of boiler fuel per ton, \$3.65.

HUNT COAL AND COKE VALVES are made in a variety of forms—simplex, duplex, Seaton or "S," Briggs, etc.—in designs and materials especially adapted to gas works and coke oven requirements. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Youngstown Sheet and Tube Co., Youngstown.

RRs.: Pa.: N. Y. C.; B. & O.; Erie; L. E. & E.
Ex.: Ad.; Am.: W. F.

Capital stock, auth., \$30,000,000; issued,
\$28,500,000.

Annual div., pref., 7 p. c.; com., 8 p. c.

President, J. A. Campbell.

Vice-presidents, H. G. Dalton, C. S. Robinson,
Richard Garlick, W. E. Manning, L. J.
Campbell.

Secretary, Wm. E. Manning.

Treasurer, Richard Garlick.

Asst. secr. and asst. treas. W. J. Morris.

Pur. agent, E. G. Murray.

Engineer, William Forstrom.

Consulting engineer, Lief Lee.

Publicity manager, R. J. Kaylor.

306 Koppers coke ovens.

Dimensions: Length, 39 ft. 6 in.; width, 17
to 19½ in.; height, 9 ft. 10⅝ in.

Coal charged per oven, 12¼ net tons; coke
yield, 68 p. c.

Time required for coking, 18 hours.

Coke used for blast furnaces; 40 p. c. used
for heating retorts. Surplus gas used in
steel plant.

By-products made: Gas, 20,777,625,000 c. f.;
tar, 14,454,000 gals.; ammonia sulphate,
39,750,000 lbs.; coke, 1,250,000 tons, net.

Other by-products made: Benzol, toluol, sol-
vent naphtha, naphthalene.

OKLAHOMA.

Total population, 2,245,968.

Chickasha Gas and Electric Co., Chickasha.

RRs.: C., R. I. & P.; Okla. Cen.; St. L. & S.
F. Ex.: Am.: W. F.

Controlled by Middle West Utilities Co.,
Chicago.

Capital stock, pref., \$250,000; common, \$500,-
000.

Bonds, \$165,000 1st mtg. 6s; due annually to
1928; \$38,000 1st and refund. 5s; due 1934.

President, Fred. W. Insull.

Vice-pres. and mgr., F. D. Shaffer.

Secretary, R. F. Frank.

Treasurer, R. F. Frank.

Pur. agent, H. D. Jenkins.

Engineer, J. T. Thompson.

Process manufacture, Coal and Lowe.

Candle-power, 14.

Annual prod., coal-gas, 10,000,000 c. f.; water-
gas, 16,000,000 c. f.

By-products made: Coke, 400 tons; tar, 10,000
gals.

Total gas holders capacity 60,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 95,000 c. f.

Miles of mains, approx., 14.

Street main pressures, max., 3.5 in.; min., 3 in.

Annual sales, approx., 21,000,000 c. f.

Gas unaccounted for, 19 p. c.

By-products sold: Tar, 5,000 gals.

Pop. dist. supplied, 8,000; of city, 10,320.

No. consumers, 802.

No. meters, reg., 472; prepay., 332.

Price gas: Light and Fuel, gross, \$1.30; net,
\$1.20.

Ranges in use, 809; heaters, 37; water heat-
ers, 80.

Supplies Chickasha.

ELECTRICAL DEPARTMENT.

System operated: A. C. and D. C., two and
3 phase, 60 cycles.

Generating capacity, 955 kw. (steam); 925
kw. (water power).

Voltage: Line, 2,200; incand., 110; power, 220.

City lighting contract: Hours lighted per
year, 4,000.

No. public arcs, 51; 420 watt. Price per year,
\$60.

No. public incand., 96; 400 c. p. Price per
year, \$60.

Commercial lighting: No. incand., 20,000 16
c. p. equiv.

Price current per kw. hr., gross, 8c. Sliding
scale to 1.5c., dom.

Power circuits: No. motors, 80; price per kw.
hr., 6c. to 1.5c.

Other uses, moving picture rectifier.

Output of station for year, kw. hrs., 2,900,000.

Generating power used: Steam and Water,
rated, 2,250 h. p.

Cost of station boiler fuel, coal, per ton, \$3.60.

OREGON.

Total population, 848,866.

Oregon Gas and Electric Co., Ashland.

RRs.: So. Pac. Ex.: W. F.

General office, San Francisco, Cal. Controlled
by the W. F. Boardman Co.

(For capitalization and officers see Parent
Companies.)

Superintendent, Clifford Jenkins.

Process manufacture, Oil (straight shot). Gas
furnished at high pressure from Medford.

High pressure mains, 11 miles; pressure, 5 to
15 lbs.

Candle-power, 18.

Calorific value, 600 B. t. u.

Annual sales, 6,000,000 c. f.

Gas unaccounted for, 11 p. c.

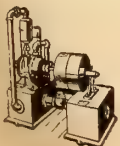
Population of city, 5,020; of dist. supplied,
3,000.

No. consumers and meters, 404.

Price gas: Light and Fuel, gross, \$1.75; net,
\$1.50.

No. commercial gas arc lamps in use, 60.

Supplies Ashland.



THE SYSTEM THAT STAYS SOLD. THE NEEDHAM
HIGH PRESSURE GAS SYSTEM demonstrates by high efficiency other fuels
can be permanently displaced without increasing manufacturing costs.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Pacific Power and Light Co., Astoria.

RRs.: Spok., Port. & Seat.; Ilwaco. SBs.: Pac. Nav. Co.; Van Trans.; O. W. R. R. & Nav.; S. F. & Port. S. S.; N. P. S. S. Co. Ex.: N. P.

(For capitalization, bonds, officers, etc., see Parent Companies and Appendix.)

Controlled by American Power & Light Co.
Vice-pres. and gen'l mgr., Lewis A. McArthur.
Local mgr., J. B. Killmore.
Process manufacture, Crude Oil.
Price oil per gal., delivered, 1.77c.
Calorific value, 600 B. t. u.
Gas holder capacity, 40,000 c. f.
Max. day's send out, 71,821,000 c. f.
Miles of mains, approx., 10.7 c. f.
Street main pressures, max., 4 in.; min., 3 in.
Annual sales, approx., 14,500,000 c. f.
Gas unaccounted for, 12 p. c.
Pop. of city, 9,599 (1910); of dist. supplied, est., 18,000.
No. consumers, 779.
No. meters, reg., 586; prepay., 181.
Price gas: Light and Fuel, \$1.85 to 85c. Disc., 10c., 5 days.
No. ranges in use, 280; water heaters, 128.
Supplies Astoria.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C. magnetite; incand., A. C., 3 phase, 60 cycles; power, A. C., 3 phase, 60 cycles and D. C.
Voltage: Incand., 110 and 120; power, 220 A. C., 550 D. C.
City lighting contract: Hours lighted per year, arcs, all night.
No. public arcs, 150; 4 amp. mag. Price per mo., \$5.50; public inc. 210.
Commercial lighting: No. incand., 3,703 kw. equiv.
Mazda lamps used extensively.
Price current per kw. hr., gross, 15c. to 5c.
Domestic rates, 15c. and 7.5c.
Power circuits: Motors, 747 h. p.; price per kw. hr., 3.5c. to 1c.
Output of sub-station, kw. hrs. for year, 4,571,000.
Generating power, Steam; rated 1,740 kw. stand by.
Current purchased from Hammond Lumber Co., capacity 2,600 kw.

Eastern Oregon Light and Power Co., Baker.

RRs.: Sumpt. Val.; Or. R. R. & Nav. Ex.: Pac.

Capital stock, pref., \$343,500; com., \$1,500,000.
Annual dividend, pref., 7 p. c.
Bonds, \$1,310,000; due 1921; int., 6 p. c.
President, Clement C. Smith.
Secretary, F. A. Harmon.
Treasurer, Howard Greene.
General manager, F. A. Harmon.
Engineer, A. H. Kellog.
Superintendent, A. H. Kellog.
Auditor and new bus. mgr., J. P. Lottridge.
Process manufacture, Coal.
Price coke per ton, delivered, \$10.
Candle-power, 16.

Annual production, 3,607,000 c. f.
By products made: Coke, 95 tons; tar, 3,369 gals.
Gas holder capacity, 12,000 c. f.
Holder pressure, max., 3 in.
Miles of mains, approx., 7.
Street main pressures, max., 3 in.; min., 2.5 in.
Avg. day's send out, 9,909 c. f.
Annual sales, approx., 3,028,900 c. f.
Gas unaccounted for, 16 p. c.
By products sold: Coke, 95 tons; Tar, 3,369 gals.
Pop. of city, 6,742 (1910); now est. 7,500.
No. consumers, 185; No. meters, reg., 175.
Price gas: Light, \$2.00; Fuel, \$2.00.
Supplies Baker.

ELECTRICAL DEPARTMENT.

System operated: A. C., 1 and 3 phase, 60 cycles.
Generating capacity: Total, 3,000 kw.
Voltage: Arcs, 80; incand., 120; power, 220-440-2,300.
City lighting contract: hours lighted, arcs and series incand., 4,015; mult., incand., 2,555.
No. public arcs, 75; 400 watt.; price per year, \$66.
No. public incand. 31 (series); 250 c. p.; price per year, \$36; 32 (mult.) 100 watt; price per year, \$12.
Commercial lighting: No. arcs, 2; No. incand., 20,000.
Price current per kw. hr., gross, 10c. to 4c.; heating devices, 3c.; dom., 12c. to 5c. for small towns; 10c. to 4c. for larger towns.
Power prices, 10c. to 1c.
Output of stations, kw. hrs. total for year, 8,980,060.
Generating power used, Steam and Water; rated h. p., 4,000.
Lights Baker City, Bourne, Haines, La Grande, Union, Telocaset, Cove, Rock Creek, North Powder, Imbler, Alicel and Elgin, Island City and Summerville.

Oregon Power Co., Eugene.

(See report under Springfield, Ore.)

Oregon Gas and Electric Co., Grant's Pass.

RRs.: S. Pac. Ex.: W. F.

General office, San Francisco, Cal. Controlled by The W. F. Boardman Co.
(For capitalization and officers see Parent Cos.)

Superintendent, James T. White.
Asst. supt., Geo. H. Dorman.
Process manufacture, Oil (straight shot).
Price oil, per gal., delivered, 3.4c.
Candle-power, 18; cal. value, 600 B. t. u.
Gas holder capacity, 50,000 c. f.
Max. day's send out, 25,000 c. f.
Miles of mains, approx., 9.5.
Street main pressures, max., 6 in.; min., 3 in.
Annual sales, approx., 4,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city, 3,897; of dist. supplied, 3,000.
No. consumers and meters, 237.

COMPLETE SYSTEMS for the handling of oil or gas. Consult us in regard to gas and oil lines, pumping stations and gasoline plants.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Price gas: Light and Fuel, gross, \$1.75; net, \$1.50.
No. commercial gas arc lamps in use, 81.
Supplies Grant's Pass.

Oregon Power Co. (Coos Bay Division), Marshfield.

RRs.: Coos Bay; R. & East. SBs.: Ore.
Coal & Nav.; Cal. & Ore. Coast S. S. Ex.:
W. F.

Controlled by Mountain States Power Co.
President, Elmer Dover.
Secretary, Richard Shore.
General manager, A. L. Martin.
Superintendent, F. E. McKenna.
Process manufacture, Crude Oil.
Average candle-power, 18.
Calorific value, 650 B. t. u.
Annual prod., oil-gas, 13,334,500 c. f.
Gas holder capacity, 30,000 c. f.
Holder pressure, 6 in.
Max. day's send out, 43,850 c. f.
Miles of mains, approx., 18.
Street main pressures, max., 6 in.; min., 2 in.
High pressure mains, miles, 3.86; pressure, 12 lbs.
Annual sales, approx., 10,108,900 c. f.
Gas unaccounted for, 24 p. c.
By-products sold: Tar, 50 gals.
Pop. of Marshfield, 5,367; of North Bend, 3,000. Pop. of dist. supplied, 8,367.
No. consumers, 594.
No. meters, reg., 579; prepay., 15.
Price gas: Light and Fuel, basic rate, net, \$1.50 to 70c.
Ranges in use, 399; heaters, 153; water heaters, 144.
No. commercial gas arc lamps, 12.
Supplies Marshfield and North Bend.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 3 phase, 60 cycle.
Generating capacity, 2,500 kw.
Voltage: Arcs, 110; incand., 110; power, 220.
Miles of overhead wires, 225.
City lighting contract: Hours lighted per year, arcs, all night every night.
No. public incand, 384, 250 and 100 c. p.
Price per year, \$22 and \$36.
Commercial lighting: No. incand., 27,900.
Lamps in signs, 2,194; 2,210 consumers.
Price per kw. hr., basic rates, net, 10.8c. to 4.5c. Domestic rates, 12c. to 5c.
Power circuits: No. motors, 224; price current per kw. hr., 5.5c. to .009c.
Output of stations, kw. hrs. for year, approx., 2—285,000.
Generating power used, Electricity; purchased from C. A. Smith Lumbering & Mfg. Co. and supplied from company's plant at Coquille.
Towns served: North Bend, Marshfield, Coquille and Myrtle Point.

Oregon Gas and Electric Co., Medford.

RRs.: Rogue River Valley; So. Pac. Ex.:
W. F.

General office, San Francisco, Cal. Controlled by The W. F. Boardman Co.
(For capitalization and officers see Parent Companies.)
Superintendent, James T. White.
Process manufacture, Oil (straight shot).
Price oil, per gal., delivered, 3c.
Candle-power, 18.
Calorific value, 600 B. t. u.
Gas holder capacity, 75,000 c. f.
Miles of mains, approx., 23.
High pressure mains, 19.5 miles; pressure 15 lbs. to 5 lbs.
Max. day's send out, 75,000 c. f.
Annual sales, approx., 12,000,000 c. f.
Gas unaccounted for, 11 p. c.
Population of city, 8,840; population dist. supplied, 6,000.
No. consumers and meters, 600.
Price gas: Light and Fuel, gross, \$1.75; net, \$1.50.
No. commercial gas arc lamps in use, 134.
Supplies Medford, Ashland, Phoenix and Talent.

Pacific Power and Light Co., Pendleton.

RRs.: No. Pac.; O.-W. R. R. & Nav. Ex.:
N. P., W. F.

Controlled by American Power & Light Co.
(For capital, bonds and officers, see same company under Parent Cos. and Appendix.)
Vice-pres. and gen'l mgr., Lewis A. McArthur.
Local manager, F. W. Vincent t.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.05.
Candle-power, 14; calorific value, 620 B. t. u.
Gas holder capacity, 20,000 c. f.
Max. day's send out, 40,200 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 4 in.
Annual sales, approx., 12,800,000 c. f.
Gas unaccounted for, 5.3 p. c.
Pop. of city supplied, 7,000 approx.
No. consumers, 932.
No. meters, reg., 571; prepay., 365.
Price gas: \$2 to \$1.50 gross.
No. ranges, 638; water heaters, 240.
No. commercial gas arc lamps in use, 45.
Supplies Pendleton.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycle.
Voltage line: 2,300; incand., 110; power, 2,200-220-110.
City lighting contract: Hours lighted per year: Arc and incand., all night.
No. public arcs, 81; 550 watt. Price per month, \$5.50.
No. public incand., 31; 60 watt. Price per year, \$8.40.
Commercial lighting: No. incand., 1,614 kw. equiv.
Price current per kw. hr., net, 10c. and 6c.
Disc., 10 p. c., 10 days.



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Residence lighting, 10c. and 8c. net; commercial, 10c. and 6c. with quantity discounts.

(Power furnished from transmission system of P. P. & L. Co.)

Price power current per kw. hr., 3c. to 0.5c. Disc., 10 p. c., 10 days.

Sub-station, 750 k. v. a., transformer capacity.

Output of branch kw. hrs. for year, 2,285,500.

Portland Gas and Coke Co., Portland.

RRs.: No. Pac.; O.-W. R. R. & Nav.; So. Pac.; G. N.; Ore. El.; Spok., Port. & Seat.; United Rys. (El.); Port. Ry., Lt. & Pr. Co. (El.). SBs.: Kellogg; N. P. S. S.; Regulator Line; Shaver; O.-W. R. R. & Nav.; S. F. & Port. S. S.; D., P. & A. Nav.; Dalles Trans.; O. City Trans.; Van Trans.; Lewis R. Trans. Ex.: N. P.; W. F.

Controlled by American Power & Light Co. (For capitalization, bonds, officers, etc., see Appendix.)

President, G. W. Talbot.

Vice-presidents, F. G. Sykes, A. S. Grenier and E. W. Hill.

Sec'y and treas., Geo. F. Nevins.

General manager, Hilmar Papst.

Superintendent, E. L. Hall.

Process manufacture, Lowe (crude oil—Papst improved).

Price oil per gal., delivered, 1.774c.

Calorific value, 570 B. t. u.

Max. day's send out, 6,052,000 c. f.

Total gas holders capacity, 6,185,000 c. f.

Miles of mains, approx., 990.

Street main pressure, 4 in.

High pressure mains, miles, 444; pressure, 20 lbs.

Annual sales, approx., 1,406,500,000 c. f.

Gas unaccounted for, 18.5 p. c.

Pop. dist. supplied, 284,700; of city, 265,000.

No. consumers, 50,063.

No. meters, reg., 45,336; prepay., 5,991.

Price gas: Gross, \$1. Disc., 12 days, cash 5 p. c.; quantity disc., 25,000 to 50,000 c. f., 10 p. c.; 50,000 to 75,000 c. f., 20 p. c.; 75,000 to 150,000 c. f., 30 p. c.; 150,000 to 250,000 c. f., 40 p. c.; over 250,000 c. f., 45 p. c. Gas engine, 45 p. c.; house heating, 45 p. c.; min. mo. chg., 50c. Prepay., no discount.

No. gas ranges in use, 36,255; water heaters, 13,844.

No. commercial gas arc lamps, 12,570.

Supplies Portland and East Portland and St. Johns. Oregon City and intermediate towns, and supplies, at wholesale, the requirements of the Pacific Power & Light Co.'s gas service at Vancouver, Wash.

Oregon Gas and Electric Co., Roseburg.

RRs.: So. Pac.; Ex.: W. F.

(For capitalization and officers, see Parent Companies.)

General office, San Francisco, Cal.

Controlled by The W. F. Boardman Co.

Process manufacture, Oil (straight shot).

Price oil per gal., delivered, 3.148c.

Candle-power, 18.

Calorific value, 600 B. t. u.

Gas holder capacity, 50,000 c. f.

Max. day's send out, 35,000 c. f.

Miles of mains, approximate, 10.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 6,000,000 c. f.

Gas unaccounted for, 3 p. c.

Population of city, 4,738; population dist. supplied, 3,000.

No. consumers and meters, 307.

Price gas: Light and Fuel, gross, \$1.75; net, \$1.50.

No. commercial gas arc lamps in use, 83.

Supplies Roseburg.

Portland Railway, Light and Power Co., Salem.

RRs.: So. Pac.; Ore. El.; O. City Trans. Ex.: W. F.; G. N.; Ad.

(For capitalization, bonds, etc., see Appendix.)

General office, Portland, Ore.

President, Franklin T. Griffith.

Secretary, G. L. Estabrook.

Treasurer, C. N. Huggins.

Gen'l supt., O. B. Coldwell.

Salem mgr., W. M. Hamilton.

Superintendent, H. H. Stanton.

Pur. agent, W. J. Morris, Portland, Ore.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.55.

Candle-power, 17.

Calorific value, 620 B. t. u.

Annual prod., 21,000,000 c. f.

By-products made: Coke, 2,582,090 tons; tar, 23,150 gals.

Max. day's send out, 78,000 c. f.

Total gas holder capacity, 63,000 c. f.

Holder pressure, 3.4 in.

Miles of mains, approx., 30.

Street main pressures, max., 4 in.; min., 2.25 in.

High-pressure mains, 1.125 miles; pressure, 5 to 7 lbs.

Annual sales, approx., 17,700,000 c. f.

Gas unaccounted for, 11.3 p. c.

By products sold: Coke, 1,261,223 tons; tar, 26,266 gals.

Pop. of city, 14,094 (1910); of dist. supplied, approx., 11,000.

No. consumers, 1,560 (light, fuel and indus. uses, each counted as one consumer).

No. meters, 1,318.

Price gas: Light, gross, \$1.60 and net, \$1.50.

Less than 30,000 c. f., \$1.50 net; over 30,000 c. f., \$1.40 net.

No. commercial gas arc lamps, 300.

Supplies Salem.

ELECTRICAL DEPARTMENT.

(Salem Branch only.)

System operated: A. C., 60 cycle, single phase; power, 3 phase A. C. and D. C.

Generating capacity: Lighting, 1,000 kw.; power, 400 kw.

Voltage: Incand., 117; power, 220; and 500 D. C.

Williams' "AGRIPPA" Cutting-Off and Side-Tool Holder

a tool that performs both cutting off and side work by the mere substitution of suitable cutters tells its own story of economy.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.



City lighting contract: Hours lighted per yr., arcs, 4,000; incand., 2,000.
No. public arcs, 75; 650 watt. Price per year, \$52.80. 128-400 watt. Price per year, \$52.80.
No. public incand., 150; 100 and 60 watt. Price per year, \$2.50 per post.
Commercial lighting: No. arcs, 9; No. incand., 71,400; 50 watt.
Price current per kw. hr., gross, 9c.; disc., 5 p. c. to 50 p. c.
Price power per kw. hr., 5c. Disc., 5 to 50 p. c.
Output of station, kw. hrs. for year, 5,017,110.
Generating power used, Hydro-elec. and Steam, rated 1,300 h. p.
Cost of station boiler fuel, oil per bbl., \$1.12.
Town fed by transmission lines from Portland and Silverton.

Oregon Power Co., Springfield.

RR.: So. P. Ex.: W. F.
(Property leased from Northern Idaho and Montana Power Co.)
President, E. R. Bryson.
Secretary, R. S. Smith.
Treasurer, A. L. Ingalls.
Gen. agent, H. T. Shea.
Manager, H. S. Joslin.
Engineer, W. A. Emery.
Process manufacture, Lowe (Oil).
Candle-power, 18.
Calorific value, 600 B. t. u.
Annual production, 30,000,000 c. f.
Gas holder capacity, 170,000 c. f.
Holder pressure, max., 8 in.
Max. day's send out, 120,000 c. f.
Miles of mains, approx., 37.48.
Street main pressures, max., 4.4 in.; min., 3.8 in.
High pressure mains, miles, 3; pressure, 5 lbs.
Annual sales, approx., 27,000,000 c. f.
Gas unaccounted for, 6.9 p. c.

Pop. cities, est., 10,009; dist. supplied, 15,000.
No. consumers, 1,683.
No. meters, reg., 891; prepay., 792.
Price gas: Light and Fuel, basic rates, net, \$1.35 to 45c.
Gas appliances in use: Ranges, 1,183; heaters, 77; water heaters, 386; other appliances, 1,178.
No. commercial gas arc lamps in use, 174.
Supplies Eugene and Springfield.

ELECTRICAL DEPARTMENT.

System, A. C., 60 cycle, 3 phase.
Generating capacity: 3,000 kw.
Voltage: Arcs, 80; incand., 110; power, 2,300-220-110.
City lighting contracts: Arcs and incand., lighted all night.
No. public arcs, 7; 500 watts. Price per year, \$66.
No. public incand., 87-32 c. p.; 7-100 c. p. Prices, \$15 and \$22.
Commercial lighting: No. incand., 4,402, 50 watt equiv.
Price per kw. hr., basic rates, net, 9.9c. to 4.5c.
Power circuits: No. motors, 95.
Power prices, 6.3c. to 1.98c. net.
Other uses: Street railway service, flat irons, auto-charging sets, picture machine and other appliances.
Output of station, kw. per year, approx., 6,271,630 (Springfield).
Generating power used, Steam; rated 4,000 h. p.
Towns served: Eugene, Springfield, Albany, Corvallis, Dallas, Monmouth, Independence, Junction City, Harrisburg, Coburg, Halsey, Tangent, Shedd, Philomoth and Brownsville. Also supplies current for the Eugene St. Ry. System and has stand-by service for the City of Eugene.

PENNSYLVANIA

Total population, 8,591,029.

Allentown-Bethlehem Gas Co., Allentown District.

1.Rs.: Cen. of N. J.; L. Val.; Perk.; P. & R.
Ex.: Am.

(For capitalization, bonds, etc., see Appendix.)
President, Walton Clark.
Secretary, G. W. Curran.
Treasurer, James Ball.
Purchasing agent, J. A. Pearson.
General manager, John A. Frick.
Process manufacture, Lowe.
Miles of mains, 76.59.
Calorific value, 575 B. t. u.
Annual sales, approx., 272,550,000 c. f.
Pop. cities, Allentown, 75,975.
No. consumers, 14,900.
No. meters, reg., 5,518; prepay., 9,382.
Price gas: Light and Fuel, 1st 10,000 c. f., \$1.10; next 20,000 c. f., \$1; next 20,000 c. f., 90c.; all over 50,000 c. f., 80c. Disc., 10c., 10 days.

Ranges, 9,431; heaters, 2,584; water heaters, 2,369.
No. commercial gas arc lamps, 725.
Supplies Allentown, South Allentown, Fullerton, Whitehall and South Whitehall Township and Salisbury Township.

Altoona Gas, Light and Fuel Co., Altoona.

RRs.: Penna. Ex.: Ad.
Controlled by United Gas and Electric Co.
Capital stock, pref., \$305,000; common, \$100,000.
Bonds, \$750,000; due 1932; int., 5 p. c., and \$250,000 due 1942; int., 5 p. c.
President, J. F. Wessel.
Vice-pres., J. G. Davis.
Secretary and asst. treas., J. A. McKenna.
Treasurer and asst. sec'y, M. E. Clabaugh.
Gen'l mgr., J. C. Rabold.
New bus. mgr., J. C. Rabold.



1803

1918

R. D. WOOD & CO., PHILA., PA.

HOLDERS, CAST IRON PIPE,
SCRUBBERS, CONDENSERS, ETC.

1803

1918



Engineer and pur. agent, United Gas & El. Eng. Corp.

Process manufacture, Lowe.

Candle-power, 19.1.

Annual prod., 51,902,800 c. f.

Max. day's send out, 223,500 c. f.

Total gas holder capacity, 1,000,000 c. f.

Miles of mains, approx., 63.35.

Annual sales, approx., 37,345,789 c. f.

Gas unaccounted for, 26.12 p. c.

Pop. city, 52,127; of dist. supplied, 88,283.

No. consumers and meters, 1,892.

Price gas: Light and Fuel, gross \$1.20; net \$1.10.

Ranges, 847; water heaters, 577.

No. commercial gas arc lamps, 176.

Supplies Altoona, Hollidaysburg, Juniata and Lakemont Terrace.

(Natural gas competition.)

Counties Gas and Electric Company, Main Line District, Ardmore.

RR.: Penna. Ex.: Ad.

(For capitalization, officers, etc., see Appendix.)

Manager, J. L. Mather.

Engineer, Howard Hoffman.

Purchasing agent, J. A. Pearson.

Process manufacture, Lowe.

Miles of mains, approx., 176.

Calorific value, 570 B. t. u.

Annual sales, approx., 355,829.152 c. f.

Pop. dist. supplied, 46,700.

No. consumers, 8,469.

No. meters, reg., 5,485; prepay., 2,984.

Price of gas: Light and Fuel, first 10,000 c. f., \$1.10; next 20,000 c. f., \$1; next 20,000 c. f., 90c.; over 50,000 c. f., 80c. Discount, 10c. per 1,000 c. f.

No. public lamps, 375, all Welsbachs.

Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,000.

Ranges, 8,503; heaters, 2,603; water heaters, 4,439.

No. Welsbach gas arc lamps, 244.

Supplies Overbrook, Merion, Bala, Cynwyd, Narberth, Wynnewood, Ardmore, Haverford, Bryn Mawr, Rosemont, Wayne, St. Davids, Strafford, Devon, Berwyn, Paoli, Llanerch, Malvern, Radnor, Villa Nova, Gladwyne, Oakmont, Brookline, Beechwood, Llanerch Manor, Penfield and So. Ardmore.

ELECTRICAL DEPARTMENT.

System operated: Incand., 2,300-volt, single phase; power, 2,300-volt, single and 2 phase.

Generating capacity: Lighting, 1,800 kw.

Voltage: Prim., 2,300; incand., 110-220; power, 110, 220-volt A. C.

Public lamps: Hours lighted per year, incand., 4,000.

No. public incand., 703 55 watt and 532 40 watt. Also 8-200 watt and 26-75 watt.

No. of electric meters, 4,574.

Price current per kw. hr., gross and net, 10c. to 4c.

Price of power per kw. hr., gross and net, 10c. to 2.5c.; also sliding rate, 10c. to 2c. with discount, and maximum demand power rates by contract for not less than one year.

Output of station, kw. for year, 3,044,159.

Generating power used, 1,785 kw. steam-driven generators.

Supplies electricity to Wynnewood, Ardmore, Haverford, Bryn Mawr, Rosemont, Wayne, St. Davids, Strafford, Devon, Berwyn, Paoli, Llanerch, Radnor, Villa Nova, Gladwyne, Oakmont, Brookline, Beechwood, Llanerch Manor, Penfield, South Ardmore, Newtown Square, Mellbourne, Upper Darby, Garrettford, Drexell Hill, Kirklyn and Highland Park.

Ashland Gas Light Co., Ashland.

RRs.: L. Val.; P. & R. Ex.: Am.

Capital stock, \$30,000 com.

President, Edwin C. Price.

Secretary, I. M. Wolfgang.

Treasurer, Adam Waldner.

Gen'l mgr. and pur. agt., Edwin C. Price.

Engineer, W. H. Grime.

Superintendent, Edwin C. Price.

New bus. mgr., Edwin C. Price.

Process manufacture, Oil (Janeway and Logan).

Price oil per gal., delivered, 5.75c.

Candle-power, 26.

Calorific value, 640 B. t. u.

Annual production, oil-gas, 3,000,000 c. f.

Total gas holders capacity, 18,000 c. f.

Holder pressure, 2.5 in.

Max. day's send out, 25,000 c. f.

Miles of mains, approx., 7.

Street main pressure, max., 2.75 in.; min., 2.5 in.

Annual sales, approx., 3,000,000 c. f.

Gas unaccounted for, 5 p. c.

Pop. dist. supplied, 7,500; of city, 6,855 (1910).

Consumers and meters, 210.

Price gas: Light, gross \$2; net \$1.80. Fuel, \$1.50 gross; net, \$1.35.

Ranges in use, 90; heaters, 15; water heaters, 30.

Supplies Ashland and suburbs.

Athens and Sayre Gas Co., Athens.

RR.: L. Val. Ex.: Am.

(Owned and operated by Gas Light Co. of Waverly, N. Y.)

Capital stock, \$60,000.

Bonds, \$110,000; due 1929; int., 5 p. c.

President, R. F. Page.

Sec. and treas., O. L. Haverly.

Gen. mgr. and pur. agt., O. L. Haverly.

Superintendent, O. L. Haverly.

New bus. mgr., O. L. Haverly.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$5.85.

Price oil per gal., delivered, 9.4c.

Candle-power, 20.

Calorific value, 600 B. t. u.

Annual production, 43,000,000 c. f.

Gas holder capacity, 140,000 c. f.

RELIABLE COMBINATION GAS AND COAL RANGES

Have you seen them? You will be agreeably surprised at their beautiful appearance and improved and durable construction. Order that sample now.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Holder pressure, 3.5 in.
Max. day's send out, 150,000 c. f.
Miles of main, approx., 25.
Street main pressures, max., 3 in.; min., 2.5 in.

High pressure mains, 4 miles; pressure, 5 lbs.
Annual sales, approx., 24,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. cities, 10,222 (1910); dist. supplied, est., 12,000.

No. consumers, 1,321.
No. meters, reg., 1,014; prepay., 307.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

Gas appliances in use: Ranges, 725; heaters, 375; water heaters, 400.
No. commercial gas arc lamps in use, 60.
Supplies Athens and Sayre.

Kennett Gas Co., Avondale.

RRs.: Penna.; Phila., Balt. & Wash. Ex.: Ad.

Office, Kennett Square.
Capital stock, \$100,000.
Bonds, \$80,000; due, 1923; int., 5 p. c.
President, Andrew P. Maloney.
Vice-president, Jos. Mayer.
Secy. and treas., L. C. Ritchie.
Superintendent, James Austin.
Process manufacture, Lowe (W. Gas Cons.)
Price of coal per ton, delivered, \$4.90.
Candle-power, 22.
Gas holder capacity, 50,000 c. f.
Max. day's send out, 40,000 c. f.
High pressure mains, 8 miles; pressure, 25 lbs.
Annual sales, approx., 9,132,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 8,000 (estimated).
No. consumers and meters, 525.
Price gas: Light and Fuel, \$1.50.
No. public lamps, 4; lighted 4,320 hrs.
Contract includes repairs.
Ranges in use, 400; water heaters, 50.
No. commercial gas arc lamps, 50.
Supplies Kennett Square, Avondale, West Grove and Toughkenamon.

Bangor Gas Co., Bangor.

RRs.: D., L. & W.; Le. & N. E. Ex.: Am.

Capital stock, auth., \$50,000; issued, \$40,000.
Bonds, \$50,000; int., 5 p. c.
President, W. F. Jordan.
Secretary, D. M. Hambright.
Treasurer, Wm. Bray.
Gen. mgr. and pur. agt., D. M. Hambright.
Process manufacture, Lowe (oil).
Price of coal per ton, delivered, \$5.45.
Price oil per gal, 6.33c.
Candle-power, 18.
Annual production, 9,119,000 c. f.
Gas holder capacity, 25,000 c. f.
Holder pressure, max., 3 in.
Max. day's send out, 30,000 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 3 in.; min., 2.5 in.
Annual sales, approx., 9,000,000 c. f.
Pop. of city, 5,369 (1910); dist. supplied, 6,000.

No. consumers, 500.
No. meters, reg., 375; prepay., 425.
Price gas: Light and Fuel, gross \$1.50; net \$1.40.
Ranges in use, 500; heaters, 200; water heaters, 100.
No. commercial gas arc lamps, 95.
Supplies Bangor.

Bellefonte Gas and Steam Heating Co., Bellefonte.

RRs.: Belle. Cen.; Cen. of Pa.; Penna. Ex.: Ad.; Am.

Capital stock, \$40,000.
President, H. Brockerhoff.
Secretary, Isaac Mitchell.
Treasurer, Charles M. McCurdy.
Process manufacture, Coal.
Candle-power, 18.
Annual sales, approx., 3,500,000 c. f.
Pop. dist. supplied, 4,145.
No. meters, 240.
Price gas: Light, net \$1.50. Fuel, \$1.35.
(Supplies also steam heat to consumers.)
State Centre Electric Co. negotiating for purchase of this property. H. I. Thompson, gen'l manager.

Berwick Gas Co., Berwick.

RRs.: D., L. & W.; Susq., Blooms. & Ber. Bridge to Nescopeck; Penna. Ex.: Ad.

Capital stock, pref., \$110,000; com., \$300,000.
Bonds, \$87,500; due 1941; int., 5 p. c.
President, Ellison Elmer.
Secretary and treas., Wm. S. J. Wetherill.
Purchasing agent, L. D. Spragle.
General manager, L. D. Spragle.
Supt. and new bus. mgr., L. D. Spragle.
Process manufacture, Lowe.
Price coal per ton, delivered, \$5.
Price of oil per gal., 4.86c.
Candle-power, 22.
Calorific value, 625 B. t. u.
Annual production, 23,000,000 c. f.
By-products made: Tar, 5,000 gals.
Gas holder capacity, 50,000 c. f.
Holder pressure, 3.5 in.
Max. day's send out, 88,000 c. f.
Miles of mains, approx., 14.
Street main pressures, max., avg. 3.5 in.
Annual sales, approx., 18,000,000 c. f.
Gas unaccounted for, 13 p. c.
Pop. dist. supplied, 8,000 (estimated); of cities, 15,000.
No. consumers, 1,322.
No. meters, reg., 822; prepay., 500.
Price gas, gross, \$1.35; net, \$1.25.
Ranges in use, 810; heaters, 171; water heaters, 159.
No. commercial gas arc lamps, 260.
Supplies Berwick, West Berwick, East and North Berwick, Nescopeck and Salem Township.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Allentown-Bethlehem Gas Co., Bethlehem District.

RRs.: Cen. of N. J.; Le. & N. E. or So. Bethlehem; L. R. & H. S. W.; P. & R. Ex.: Am.

(For detailed information regarding capitalization, officers, etc., see company's report under Allentown District.)

Process manufacture, Lowe.
Calorific value, 575 B. t. u.
Miles of mains, approx., 63.41.
Annual sales, approx., 194,291,700 c. f.
Pop. dist. supplied, 50,457.
No. consumers, 7,820.
No. meters, reg., 2,748; prepay., 5,072.
Price gas: Light and Fuel, (same rate as Allentown District).
Ranges in use, 4,778; heaters, 673; water heaters, 1,040.
No. commercial gas arc lamps, 1,222.
Supplies Bethlehem, South Bethlehem and Fountain Hill, Hanover Twp., North Hampton Heights, Bethlehem Township. Lower Sancon Township, Hellertown.

Consumers Gas Co., Birdsboro.

(For report, see Reading, Pa.)

Columbia and Montour Electric Co. of Bloomsburg, Bloomsburg District.

RRs.: Blooms. & Sul.; D. L. & W.; P. & R.; Penn. Ex.: Ad.

(For capitalization, officers, etc., see Appendix.)

Manager and pur. agent, S. C. Pohe.
Superintendent, J. J. Barnick.
Process manufacture, Coal.
Price coal per ton, delivered, \$3.40.
Candle-power, 18. Cal. val., 650 B. t. u.
Max. day's send out, 17,000 c. f.
Gas holder capacity, 25,000 c. f.
Miles of mains, approx., 6.83.
Street main pressures, max., 3.4 in.; min., 2.8 in.
Annual sales, approx., 5,000,000 c. f.
Gas unaccounted for, 12 p. c.
Pop. dist. supplied, 7,000; of city, 7,413.
No. consumers, 573.
No. meters, reg., 320; prepay., 253.
Price gas: Light and Fuel, \$1.35, with discounts for quantity. (After April 1, \$1.40.)
No. ranges, 189; heaters, 19; water heaters, 28.
Supplies Bloomsburg.

ELECTRICAL DEPARTMENT.

System operated: A. C., 2 phase, 60 cycles.
Commercial lighting: Price current per kw. hr., gross 10c. Disc. for quantity.
Generating power used, Water; and power purchased from Harwood Electric Co., Hazleton, Pa.
Supplies Berwick, Bloomsburg and Danville. (No 1918 report.)

Boyertown Gas Co., Boyertown.

RR.: P. & R. Ex.: Ad.

Capital stock, com. auth. and issued, \$35,000.
Bonds, \$32,500; due 1926; interest, 5 p. c.
President, John G. Schealer.
Secretary and treasurer, Irwin T. Ehst.

Purchasing agent, Irwin T. Ehst.

General mgr., Irwin T. Ehst.

Superintendent, W. H. Engel.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$5.20.

Price oil per gal., delivered, 4.875c.

Candle-power, 20.

Max. day's send out, 16,000 c. f.

Gas holder capacity, 20,000 c. f.

Miles of mains, approximate, 6.25.

Street main pressure, max., 2.8 in.

Annual sales, approx., 4,250,000 c. f.

Gas unaccounted for, 2 p. c.

Pop. dist. supplied, 2,600; of city, 2,433 (1910 census).

No. consumers, 325.

No. meters, reg., 300; prepay., 25.

Price gas: Light, gross and net, \$1.50. Fuel, gross and net, \$1.50.

Ranges, 100; heaters, 10; water heaters, 30.

No. commercial gas arc lamps, 25.

Supplies Boyertown.

(No 1918 report.)

East Pennsylvania Gas and Electric Co., Bristol.

RR.: Penna. S. Bs. from Phila. and Le. Canal Line. Ex.: Ad.

Controlled by United Service Co., Scranton, Pa.

Capital stock, pref., auth., \$75,000; issued, \$50,000; com., \$225,000.

Bonds, \$300,000; due 1942; int., 5 p. c.

President, T. R. Brooks.

Vice-pres., L. H. Conklin.

Secretary and treas., G. G. Brooks.

General mgr., L. H. Conklin.

Local manager, D. A. Elias.

Engineer, G. L. Bascome.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.90.

Candle-power, 16; cal. value, 600 B. t. u.

Gas holder capacity, 120,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 119,000 c. f.

Miles of mains, approx., 10.

Street main pressure, max., 3 in.; min., 2 in.

Annual sales, approx., 26,000,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. of city supplied, est. 10,608.

No. consumers, 1,905.

No. meters, reg., 657; prepay., 1,248.

Price gas: Light and Fuel, net \$1.40.

No. ranges, 750; heaters, 50; water heaters, 25.

Supplies Bristol.

ELECTRICAL DEPARTMENT.

System operated: A. C.

Voltage: Incand., 110; power, 110.

City lighting contract: Hours lighted per year: Arc and Incand., 4,000.

No. public arcs, 37; 600 watt. Price per year, \$95.

No. public incand., 280; 25 c. p. Price per year, \$15 to \$70.

Commercial lighting: Price current per kw. hr., gross, 10c.

Power circuits: No. motors, 100. Price power current, 10c. per kw. hr.

EVERYWHERE men in charge of Street Mains welcomed the GOODMAN STOPPER 20 years ago.

SAFETY GAS MAIN STOPPER COMPANY.

263 East 133rd Street, New York, N. Y.

Output of station, kw. hr. for year, 2,104,824.
Generating power, Steam: rated 300 h. p.
Cost of station boiler coal per ton, \$4.20.
Supplies Bristol, Yardley, Morrisonville and vicinity.
Purchase current from Philadelphia Electric Co. and Public Service Co.

Carbondale Gas Co., Carbondale.

RRs.: D. & H.; Erie; N. Y., Ont. & W. Ex.: W. F.; Nat.; Ad.

Controlled by the United National Utilities Co., Philadelphia, Pa.
Capital stock, \$100,000.
Bonds, \$80,000: due 1925: interest, 5 p. c.
Superintendent, A. B. Scheer.
Process manufacture, Lowe.
Candle-power, 24; calorific value, 650 B. t. u.
Max. day's send out, 90,000 c. f.
Annual production, 23,100,000 c. f.
Total gas holders capacity, 50,000 c. f.
Miles of mains, approx., 14.6.
Street main pressures, max., 2.5 in.; min., 2 in.
Annual sales, approx., 22,494,000 c. f.
Gas unaccounted for, 4.3 p. c.
Pop. dist. supplied, 12,000; of city, 17,040.
No. consumers and meters, 1,223.
Price gas: Light and Fuel, \$1.20 to \$1 net.
Supplies Carbondale.

Carlisle Gas and Water Co., Carlisle.

RRs.: Com. Vy.; P. & R. Ex.: Ad.

Capital stock, \$100,000; annual div., 6 p. c.
Bonds, \$50,000; interest, 4 p. c.
President, John Hays.
Secretary and treas., Ira Tritt.
Superintendent, C. Faller.
Process manufacture, Lowe.
Price oil per gal., delivered, 3.875c.
Candle-power, 22.
Gas holder capacity, 180,000 c. f.
Miles of mains, approximate, 9.
Street main pressures, max., 4.5.
Annual sales, approx., 13,000,000 c. f.
Pop. of dist. supplied, 10,000; of city, 10,303.
No. meters, 569.
Price gas: Gross, 90c to \$1.50.
Ranges in use, 200.

ELECTRICAL DEPARTMENT

(Operated under same name as gas company.)
System operated: 3 phase, 60 cycles.
Voltage: Arcs, 76; incand., 110; power, 110-220.
Generating capacity, 800 kw.
City lighting contract: Hours lighted per year, 4,000.
No. public arcs, 90; 6.6 amp.
Price arc, public, per year, \$61.50.
No. public incand., 50; 32 watt; price per year, \$18.
Price commercial, per kw. hr., 12.5c; Disc., 5 to 50 p. c.
Power used, Steam.
Cost boiler fuel per ton, \$2.80.
(No 1918 report.)

Allentown-Bethlehem Gas Co., Catasauqua District.

RRs.: Cen. of N. J.; Le. Val.; P. & R. Ex.: Am.; Ad.

(For detailed information regarding capitalization, officers, etc., see company's report under Allentown District.)

Process manufacture, Lowe.
Calorific value, 575 B. t. u.
Miles of mains, approximate, 27.29.
Annual sales, approx., 29,313,800 c. f.
Pop. dist. supplied, 21,018.
No. consumers, 1,743.
No. meters, reg., 816; prepay., 927.
Price gas: Light and Fuel, first 10,000 c. f., \$1.10; next 20,000 c. f., \$1; next 20,000 c. f., 90c; over 50,000 c. f., 80c. Discount of 10c.
Ranges, 1,451; water heaters, 142; heaters, 128.
No. commercial gas arc lamps, 116.
Supplies Catasauqua, No. Catasauqua, Hokenauqua, Coplay and Borough of Northampton.

Chambersburg Gas Co., Chambersburg.

RRs.: Cum. Vy.; W. Md. Ex.: Ad.

Capital stock, auth., \$200,000; issued, \$187,500.
Annual dividend, 3 p. c.
President, I. C. Elder.
Secretary, Walter K. Sharpe.
Treasurer, F. B. Reed.
Pur. agt., W. G. Davison.
Engineer, John Wolf.
Superintendent, M. K. Burgner.
Process manufacture, Lowe.
Candle-power, 21.
Calorific value, 590 B. t. u.
Annual prod., 30,000,000 c. f.
Total gas holders capacity, 265,000 c. f.
Holder pressure, 5.8 in.
Max. day's send out, 120,000 c. f.
Miles of mains, approx., 16.
Street main pressure, max., 3.5 in.; min., 3.2 in.
Annual sales, approx., 30,000,000 c. f.
Gas unaccounted for, 12 p. c.
Pop. dist. supplied, 12,000; of city, est., 13,500.
No. consumers, 2,001.
No. meters, reg., 1,575; prepay., 426.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
Ranges in use, 1,509; water heaters, 349.
No. commercial gas arc lamps, 168.
Supplies Chambersburg.

Philadelphia Suburban Gas and Electric Co., Chester.

RRs.: B. & O.; P. & R.; Phila., Balt. & Wash.
S. Bs. from Phila., Wilm., B. & P. Co.
Ex.: Ad.

Controlled by the American Gas Co.
(For capitalization and bonds, see Appendix.)
President, M. W. Stroud.
Vice-pres., S. P. Curtis and J. C. Lowry.
Secretary, W. L. Fox.
Treasurer, J. B. Townsend, 3d.
Pur. agt., F. D. Wharton.
Engineer, R. C. Cornish.

Precision Orsats or Flue Gas Analyzers for either 50 or 100 CCs always in stock. Prices and Bulletins on request.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

El. engineer, H. M. Blake.
General manager, J. D. Shattuck.
Asst. mgr., George W. Thomson.
Process manufacture, Coal, Coke Ovens and
Lowe.

Calorific value, 570 B. t. u.
Annual production: Coal-gas, 267,656,000 c. f.;
water-gas, 210,351,000 c. f.; coke oven,
477,170,000 c. f.

By-products made: Coke, 4,224 tons; tar,
1,144,000 gals.

Gas holder capacity, 4,700,000 c. f.
Max. day's send out, 3,756,000 c. f.

Miles of mains, approx., 121.

Street main pressures, max., 4 in.; min., 2.5 in.
High pressure mains, miles, 158; pressure,
45 lbs.

Annual sales, approx., \$30,969,000 c. f.

Gas unaccounted for, 12 p. c.

By-products sold: Coke, 3,437 tons; tar,
1,326,000 gals.

Pop. dist. supplied, 100,000; of city, Chester,
38,537.

No. consumers, 23,010.

No. meters, reg., 19,819; prepay., 3,191.

Price gas: Light and Fuel, 1st 5 M. c. f.,
gross, \$1.10; net, \$1; 2d 5 M., \$1.05 gross,
95c. net; next 10 M., \$1.90c.; next 20 M.,
95c.-85c.; next 40 M., 80c. net; next 70 M.,
75c.; next 100 M., 70c.; next 150 M., 65c.;
next 200 M., 60c.; next 400 M., 55c.; next
600 M., 50c.; next 900 M., 45c.; next 1,000
M., 40c.; next 3,500 M., 35c. Prepay met-
ers, gross, \$1.50, less 40c. per M. for first
5 M. c. f., 45c. for second 5 M. c. f.;
min. chg., 50c. net.

No. public Welsbach incand. lamps, 754.

Price includes repairs, care, lighting and ex-
tinguishing.

No. hours lamp is lighted per year, 4,000.

Gas appliances in use: Ranges, 23,053; water
heaters, 4,523.

No. commercial gas arc lamps in use, 4,827.

Supples Lansdowne, Media, Chester, Ridley
Park, Darby, Eddystone and Marcus
Hook.

COKE-OVEN OPERATIONS.

Type of oven, Semet-Solvay.

No. of ovens, 40; length, 30 ft.; width, 15 in.;
height, 8 ft.

Coke charged per oven 7½ net tons. Coke
yield, 75 p. c.

Time required for coking, 21 hrs. Grade coke
made, furnace.

Gas sold for city use, 55 p. c.; used for heat-
ing retorts, 45 p. c.

Candle-power, 5. Calorific value, 570 B. t. u.

Coke used for blast furnace and foundry.

Surplus gas delivered to city mains.

Carnegie Steel Co., Clairton.

Koppers by-product coke-ovens.

Penn Public Service Co., Clearfield.

RRs.: N. Y. C. & H. R.; B., R. & P.; Penna.
Ex.: Ad.; Am.

(For capitalization and bonds, see Appendix.)

President, F. T. Hepburn.

Vice-presidents, H. H. Weaver, J. K. Andrews.

Secretary, W. O. Hoover.

Treasurer and pur. agt., F. P. Bagley.

Asst. secretary and asst. treas., L. A. Wood.

General manager, Stephen C. Pohe.

Gen'l auditor, F. E. Haag.

Superintendent, Chas. Brohl.

Process manufacture, Coal.

Price coal per ton, delivered, \$2.80.

Candle-power, 16; cul. val., approx. 600 B. t. u.

Gas holder capacity, 50,000 c. f.

Max. day's send out, 30,000 c. f.

Miles of mains, approx., 7.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 4 p. c.

Pop. dist. supplied, 3,000; of city, 6,851.

No. consumers and meters, 379.

Price gas: Light, \$1.25, with discount for
quantity.

Ranges in use, 243; water heaters, 150; hot
plates, 97; miscel. appliances, 100.

Supplies Clearfield.

Company also supplies electric, railway and
steam heating service.

Philadelphia Suburban Gas and Electric Co., Coatesville.

RRs.: Penna., P. & R. Ex.: Ad.

Controlled by the American Gas Co.

For capitalization and bonds, see Appendix.

President, Morris W. Stroud.

Vice-president, S. P. Curtis.

Secretary, W. L. Fox.

Treasurer, J. B. Townsend, 3d.

Purchasing agent, F. D. Wharton.

General manager, J. D. Shattuck.

Engineer, R. C. Cornish.

Div. mgr., N. B. Bertolette.

Process manufacture, Lowe.

Calorific value, 570 B. t. u.

Annual production, 53,398,000 c. f.

By-products made: Tar, 20,350 gals.

Gas holder capacity, 200,000 c. f.

Max. day's send out, 209,000 c. f.

Miles of mains, approx., 20.

Street main pressures, max., 4 in.; min., 2.5 in.

Annual sales, approx., 49,977,000 c. f.

Gas unaccounted for, 5.3 p. c.

Pop. of city, 11,084; of dist. supplied, 15,000.

No. consumers, 2,221.

No. meters, reg., 1,362; prepay., 859.

Price gas: Light and Fuel, 1st 10 M. c. f.,
\$1.60 gross, \$1.50 net; 2d 10 M., \$1.45
gross, \$1.35 net; 3d 10 M., \$1.35 gross,
\$1.25 net; 4th 10 M., \$1.25 gross, \$1.15
net; 5th 10 M., \$1.05 net; over 50 M., 95c.
net.

Ranges in use, 2,382; water heaters, 770.

No. commercial gas arc lamps in use, 122.

Supplies Coatesville.

Columbia Gas Co., Columbia.

RRs.: Penna.; Phila., Balt. & Wash.; P. & R.;
Conestoga Traction (El.). Ex.: Ad.; Am.

Controlled by Lancaster Gas Light & Fuel Co.

(For capitalization and bonds, see Appendix.)

President, W. W. Griest.

Vice-president, George Bullock.

Secretary, J. M. Groff.

Treasurer, J. M. Groff.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

Gen. mgr., R. B. Hull.
 Engineers and pur. agents, United Gas & El.
 Engineering Corp.
 New bus. mgr., H. J. Von Nieda.
 Superintendent, M. A. Adams.
 Process manufacture, Lowe.
 Calorific value, 594 B. t. u.
 Candle-power, 17.3.
 Annual production, 28,498,000 c. f.
 Max. day's send out, 115,000 c. f.
 Gas holder capacity, 100,000 c. f.
 Miles of mains, approx., 10.4.
 Street main pressures, max., 5 in.; min., 2.5 in.
 Annual sales, approx., 25,327,000 c. f.
 Gas unaccounted for, 10.5 p. c.
 Pop. dist. supplied, 11,771.
 No. consumers and meters, 1,589.
 Price gas: Light, \$1.25 net.
 Ranges in use, 1,215; water heaters, 244.
 No. commercial gas arc lamps, 256.
 Supplies Columbia.

Counties Gas and Electric Co., Conshohocken District.
 (Schuylkill District now embraces Conshohocken. See report under Norristown.)

York County Gas Co. of Dallastown, Dallastown.

RR.: Md. & Pa. Ex.: Ad.

(Successor to Suburban Gas & Fuel Co.).
 Capital stock, \$80,000.
 Bonds, \$80,000; due 1940; int., 5 p. c.
 Receivers, Geo. C. Althouse and Harry Stille.
 Superintendent, Geo. C. Althouse.
 Pur. agent, Geo. C. Althouse.
 Process manufacture, Lowe (U. G. I.)
 Price coal per ton, delivered, \$5.50.
 Price oil per gal., 5.16c.
 Candle-power, 22.
 Gas holder capacity, 40,000 c. f.
 Max. day's send out, 40,000 c. f.
 Street main pressures, max., 4 in.; min., 3 in.
 High pressure mains, miles, 15; pressure, 25 lbs.
 Annual sales, approx., 7,000,000 c. f.
 Gas unaccounted for, 4 p. c.
 Pop. dist. supplied, 7,000.
 No. consumers, 700.
 No. meters, reg., 300; prepay., 400.
 Price gas: Light and Fuel, \$1.50.
 No. ranges, 450; heaters, 33; water heaters, 18.
 No. commercial gas arc lamps, 12.
 (Closed down Feb. 4, 1918.)

Columbia and Montour Electric Co., Danville District.

RRs.: D., L. & W.; P. & R.; Penna. Ex.: Ad.

(For officers, see this company's report under Bloomsburg.)
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.20.
 Miles of mains, approx., 5.68.
 Candle-power, 18. Cal. val., 650 B. t. u.
 May, day's send out, 36,700 c. f.
 Total gas holders capacity, 28,000 c. f.
 Street main pres., max., 3 in.; min., 2 in.
 Annual sales, approx., 10,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. dist. supplied, 9,000; of city, 7,517.

No. meters, reg., 345; prepay., 350.
 No. consumers, 695.
 Price gas: Light and Fuel, \$1.40, with discount for quantity.
 Ranges, 275; water heaters, 35.
 Supplies Danville.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 2 phase, 60 cycles.
 Commercial lighting: No. arcs, 25; No. incand., 5,000.
 Price current per kw. hr., gross, 10c. Disc., for quantity.
 Power purchased from Harwood Electric Co., Hazleton, Pa.

Doylestown Gas Co., Doylestown.

RR.: P. & R. Ex.: Ad.

Controlled by Bucks County Public Service Co., Newtown, Pa.
 Supplied by and included in report of Bucks County Public Service Co.

Penn Green Gas Co., East Greenville.

RRs.: Perkiomen. Ex.: Am.

Capital stock, \$10,000.
 President, C. H. Stead.
 Manager and pur. agent, R. H. Hendershott.
 Annual production, 673,000 c. f.
 Street mains, approximate, 2 miles.
 No. consumers, 95.
 Price gas: Light, gross, \$1.50 per 1,000 c. f.
 Supplies East Greenville.
 (No 1918 report.)

Dunbar Furnace Co., Dunbar.

(Operate Semet-Solvay ovens.)

Easton Gas Works, Easton.

RRs.: Cen. of N. J.; D., L. & W.; L. Val.; L. & H. Riv. S. Bs.: Le. Canal Line, or Phillipsburg-Penna. Ex.: Ad.; W. F.

(For capitalization and bonds, see Appendix.)
 President and gen. mgr., R. D. Jennison.
 Secretary, C. N. Wilson.
 Treasurer, S. J. McWilliams.
 Superintendent, R. L. Peterman.
 Pur. agent, R. L. Peterman.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$4.80 and \$2.63.
 Price oil per gal., delivered, 5.9c.
 Candle-power, 17.3. Cal. value, 600 B. t. u.
 Max. day's send out, 733,400 c. f.
 Total gas holder capacity, 648,000 c. f.
 Miles of mains, approx., 64.4.
 High pressure mains, miles, 6; pressure, 15 lbs.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 172,703,900 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. dist. supplied, 46,805; of city, 29,750.
 No. consumers, 9,738.
 No. meters, reg., 4,204; prepay., 5,598.

PROVERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our provers are the most modern and up-to-date now on the market. Our new type bottle, moving tank form has been approved of by the U. S. Bureau of Standards.

CUBIC FOOT BOTTLES

Price gas: Light and Fuel, gross, \$1.20 1st 10 M.; next 10 M., \$1; next 20 M., 90c.; all in excess, 85c. Dis., 10c. for cash.
No. public Welsbach lamps, 4; each lighted 4,000 hrs. per year.
Ranges in use, 5,922; heaters, 266; water heaters, 726.
No. commercial gas arc lamps, 218.
Supplies Easton, West Easton, Wilson Township, Pa., and Phillipsburg, N. J.

Marietta and Elizabethtown Gas Co., Elizabethtown.

RR.: Penna. Ex.: Ad.

Capital stock, \$40,000.
Bonds, \$40,000; due 1939; interest, 5 p. c.
President, Paul Heine.
Secretary, William H. Goll.
Treasurer, William H. Goll.
Manager, William M. Green.
Purchasing agent, J. R. Ebersole.
Engineer, G. W. Redsecker.
Superintendent, J. R. Ebersole.
New bus. mgr., J. R. Ebersole.
Process manufacture, Lowe (Logan-Janeway).
Price coal per ton, delivered, \$5.90
Price oil per gallon, delivered, 8c.
Candle-power, 18.
Calorific value, 580 B. t. u.
Annual production, 4,250,000 c. f.
Gas holder capacity, 20,000 c. f.
Holder pressure, 3.1 in.
Max. day's send out, 30,000 c. f.
Miles of mains, approximate, 5.5.
Street main pressures, max., 3 in.; min., 2.5 in.
Annual sales, approx., 4,250,000 c. f.
Gas unaccounted for, 3 p. c.
Pop. of city, 4,000 est.; of dist. supplied, 3,700.
No. consumers, 460.
No. meters, reg., 338; prepay., 122.
Price gas: Light and Fuel, \$1.50.
Ranges in use, 340; heaters, 18; water heaters, 48.
No. commercial gas arc lamps, 30.
Supplies Elizabethtown.

East Penn Gas Light Co., Emaus.

RRs.: Pere Marq.; P. & R. Ex.: Ad.

(Successor to Emaus Gas & Fuel Co.)
Capital stock, \$75,000.
Bonds, \$75,000; due 1939; int. rate, 5 p. c.
President, J. R. Miller.
Process manufacture, Lowe (Gas Engine Co.).
Candle-power, 22.
Miles of pipe line, 5.5.
Pop. city, 3,501; dist. supplied, 500.
No. domestic consumers, 400.
Price gas: Gross: Light and Fuel, \$1.50.
Ranges, 200; heaters, 175; water heaters, 62.
Supplies Emaus.
(No 1918 report.)

Carnegie Steel Co., Farrell.

(Operate by-product coke ovens.)
Superintendent, F. E. Norris.

Gettysburg Gas Co., Gettysburg.

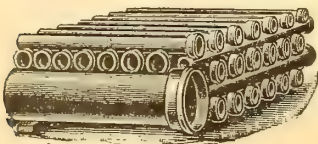
RRs.: P. & R.; W. Md. Ex.: Ad.

Capital stock, \$30,000; ann. div., 6 p. c.
Bonds, \$15,000; due 1938; interest, 5.5 p. c.
President, William D. Himes.
Secretary, Ellis S. Lewis, York, Pa.
Treasurer, Ellis S. Lewis, York, Pa.
Pur. agent and mgr., Allan B. Plank.
Process manufacture, Lowe (oil).
Price coal per ton, delivered, \$5.50.
Price oil per gal., delivered, 6.4c.
Candle-power, 20; calorific value, 607 B. t. u.
Max. day's send out, 40,000 c. f.
Total gas holders capacity, 28,000 c. f.
Miles of mains, approx., 12.
Street main pressure, max., 2.8 in.
Annual sales, approx., 11,000,000 c. f.
Gas unaccounted for, 11 p. c.
By-products sold: Tar, 16,000 gals.
Pop. dist. supplied, 3,000; of city, 4,030.
No. consumers, 1,000.
No. meters, reg., 540; prepay., 460.
Price gas: Light and Fuel, avg., \$1.57.
No. public gas lamps, 10.
Ranges in use, 475; heaters, 175; water heaters, 150.
No. commercial gas arc lamps, 60.
Supplies Gettysburg and vicinity.

Girardville Gas Co., Girardville.

RRs.: L. Val.; P. & R. Ex.: Ad.

Philadelphia office, 521 Weightman Bldg.
Capital stock, auth. and issued, \$400,000.
Bonds, \$184,500; due 1942; interest, 6 p. c.
President, Charles E. Fincke.
Sec. and treas., T. K. Cheyney.
General manager, Charles R. Adams.
Pur. agent, John G. Lowry.
Superintendents, Claude Brecker and John Marten.
New bus. mgr., John G. Lowry.
Process manufacture, Lowe.
Price of coal per ton, delivered, \$3.85.
Price of oil per gallon, delivered, 4c.
Candle-power, 18.
Calorific value, 550 B. t. u.
Annual production, 15,000,000 c. f.
Gas holder capacity, 150,000 c. f.
Holder pressure, 15 lbs.
Max. day's send out, 41,000 c. f.
Street mains, approximate, 35 miles; pressures, max., 4 in.; min., 3 in.
High pressure mains, 25 miles; press., 15 lbs.
Annual sales, approximate, 15,000,000 c. f.
Population of Girardville, 4,396; dist. supplied, 53,000.
No. consumers, 1,038.
No. meters, reg., 908; prepay., 130.
Price gas: Light and Fuel, \$1.25.
No. gas ranges, 825; heaters, 69; water heaters, 75.
No. commercial gas arc lamps in use, 87.
Supplies Girardville, Frackville, Mahanoy Plane, Connetton, Lansford, Coaldale, Summit Hill, and has under construction pipe lines to Maizeville, Gilberton, St. Clair, Palo Alto, New Philadelphia, Milledport, Port Carbon and Nesquehoning.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO. PHILADELPHIA, PA.

Alleghany By-Product Coke Co., Glassport.

(See report under McKeesport, Pa.)

Hamburg Gas and Electric Co., Hamburg.

RRs.: Penna.; P. & R. Ex.: Ad.

Capital stock, \$20,000.
 Bonds, \$125,000; due 1930-34; int., 5 p. c.
 President, D. S. Wolfe.
 Secretary, A. A. Bover.
 Treasurer, H. R. Shollenberger.
 General manager, E. R. Shollenberger.
 Engineer and pur. agent, A. J. Althouse.
 Superintendent, A. J. Althouse.
 New bus. mgr., A. J. Althouse.
 Process manufacture, Lowe (Sutherland).
 Price coal per ton, delivered, \$4.50; oil, per gal., 4.25c.
 Candle-power, 16.
 Annual production, 2,500,000 c. f.
 Max. day's send out, 9,000 c. f.
 Gas holder capacity, 20,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 3.
 Street main pressures, max., 3 in.; min., 2.5 in.
 Annual sales, approx., 2,500,000 c. f.
 Pop. dist. supplied, 2,500; of city, 2,301.
 No. consumers, 209.
 No. meters, reg., 204; prepay., 5.
 Price gas: Light and Fuel, \$1.50.
 Ranges in use, 65; heaters, 10; water heaters, 20.
 No. commercial gas arc lamps, 14.
 Supplies Hamburg.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$105,000.
 System operated: Arc, series D. C.; incand., A. C.; power, A. C. 3 phase.
 Generating capacity: Lighting and power, 400 kw.
 Voltage: Incand., 115; power, 220.
 City lighting contract: Hours lighted per year, 4,000.
 No. public arcs, 25; 320 watt. Price per year, \$80.
 No. public incand., 19; 80 watt. Price per year, \$45.
 Commercial lighting: Price per kw. hr., gross, 12.5c; disc., sliding scale.
 Power circuits: No. motors, 45; price current per kw. hr., 5c. Disc., 5 p. c.
 Output of station kw. hrs., total for year, 500,000.
 Generating power used: Steam; rated, 500 h. p.
 Cost of station boiler coal, per ton, \$1.25.

Conewago Gas Co., Hanover.

RRs.: No. Cen.; W. Md. Ex.: Ad.

(Successor to Hanover Gas Co.)
 Capital stock, \$300,000.
 Bonds, \$170,000; due 1931-1943; int., 5 p. c.
 President, Howard E. Young.
 Vice-president, Ward C. Haffner.
 Secretary, John S. Young.
 Treasurer, John S. Young.

Manager and pur. agent, E. E. Bair.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$5.33.
 Price of oil per gal., 3.75c.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Max. day's send out, 130,000 c. f.
 Total gas holders capacity, 75,000 c. f.
 Holder pressure, max., 3.5 in.
 Miles of mains, approx., 19.
 Street main pressures, max., 3.5 in.; min., 2 in.
 Annual sales, approx., 25,946,400 c. f.
 Gas unaccounted for, 4.58 p. c.
 Pop. dist. supplied, 12,000; of city, 7,057.
 No. consumers, 2,129.
 No. meters, reg., 1,088; prepay., 1,041.
 Price gas: Light and Fuel, gross \$1.50; net \$1.40.
 Ranges, 928; heaters, 282; water heaters, 234.
 No. commercial gas arc lamps, 135.
 Supplies Hanover and McSherrystown.
 (No 1918 report.)

Harrisburg Gas Co., Harrisburg.

RRs.: No. Cen.; Penna.; Cum. Vy.; P. & R. Ex.: Ad.

(For capitalization and bonds, see Appendix.)
 President, Walton Clark.
 Secretary, G. W. Curran.
 Treasurer, James Ball.
 Purchasing agent, J. A. Pearson.
 Manager, L. S. Williams.
 Process manufacture, Lowe.
 Miles of mains, approx., 153.
 Annual sales, approx., 457,401,900 c. f.
 Pop. dist. supplied, 122,116; of city, 78,205.
 No. consumers, 20,832.
 No. meters, reg., 10,640; prepay., 10,192.
 Price gas: Light and Fuel, Harrisburg, 1st 10 M. c. f., \$1.10 gross, \$1 net; next 20 M., \$1.90c.; next 20 M., 90c.-80c.; over 50 M., 80c.-70c. Dauphin: 1st 10 M., \$1.15-\$1.05; next 20 M., \$1.05-95c.; next 20 M., 95c.-85c.; over 50 M., 85c.-75c.
 Ranges, 16,162; heaters, 3,853; water heaters, 3,342.
 No. commercial gas arc lamps, 1,150.
 Supplies Harrisburg, Susquehanna and Swatara townships, Steelton, Highspire, Middletown, Enhant, Oberlin, New Cumberland, Lemoyne, Swatara, Penbrook, Camp Hill, Wormleysburg, New Market, Paxtang, East Pennsboro, Progress, Riverside, West Fairview.

Luzerne County Gas and Electric Co., Hazleton.

RRs.: Le. Val.; Penna.; W., B. & H. (El.). Ex.: Ad.

Controlled by the American Gas Co.
 (For capitalization and officers, see this company's report under Nanticoke.)
 Manager, W. H. James.
 Process manufacture, Lowe.
 Calorific value, 570 B. t. u.
 Annual production, 40,914,000 c. f.
 By-products made: Tar, 8,184 gals.
 Gas holder capacity, 140,000 c. f.
 Max. day's send out, 165,100 c. f.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

Miles of mains, approx., 25.
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 25,380,000 c. f.
 Gas unaccounted for, 11.6 p. c.
 By-products sold: Tar, 363 gals.
 Pop. of city, 25,452; dist. supplied, 29,000.
 No. consumers, 1,856.
 No. meters, reg., 1,198; prepay., 658.
 Price gas: Light and Fuel, 1st 10 M. c. f., \$1.35 net; 2d 10 M., \$1.25; 3d 10 M., \$1.15; 4th 10 M., \$1.05; next 60,000 c. f., 95c.; next 150,000 c. f., 85c.; over 250,000 c. f., 75c. Prepay. meters, \$1.35 per 1,000 c. f.
 Gas appliances in use: Ranges, 1,585; water heaters, 382.
 No. commercial gas arc lamps in use, 910.
 Supplies Hazleton, West Hazleton and Hazel Township.

Honesdale Consolidated Light, Heat and Power Co., Honesdale.

RRs.: Erie; D. & H. Ex.: Nat.; W. F.

Capital stock, \$55,000.
 Bonds, \$86,000, due 1913, 1920 and 1929; int., 5 p. c.; \$30,000 additional authorized.
 President, Horace I. Menner.
 Secretary, M. B. Allen.
 Treasurer, L. A. Howell.
 Pur. agt. and supt., F. H. Eisele.
 New bus. mgr., F. H. Eisele.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$5.15.
 Price of oil per gal., delivered, 8.5c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 5,500,000 c. f.
 Max. day's send out, 45,000 c. f.
 Total gas holder capacity, 28,000 c. f.
 Holder pressure, 2.5 in.
 Miles of mains, approximate, 6.
 Street main pressures, max., 2.8 in.; min., 2.2 in.
 Annual sales, approx., 5,500,000 c. f.
 Pop. dist. supplied, 3,000; of city, 2,945.
 No. consumers and meters, 378.
 Price gas: Light, gross, \$2.15; net, \$1.50.
 Fuel, \$1.50.
 Ranges, 80; heaters, 50; water heaters, 50.
 Supplies Honesdale.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$26,000.
 System operated: Arc, incand. and power, A. C., 2 phase, 7,200 alt.; power, A. C. and D. C.
 Generating capacity: Lighting, 275 kw.; power, 220 kw.
 Voltage: Arcs, 115; incand., 115; power, 230.
 City lighting contract: All night schedule.
 No. public arcs, 43; 400 c. p. type "C" Mazda.
 Price per year, \$68.
 No. public incand., 96; 40 watt. Price per year, \$12.
 Price current per kw. hr., gross, 12.5c. Disc., 5 to 10 p. c.
 Power circuits: No. motors, 70; price per kw. hr., 6c. Disc., 5 to 10 p. c.
 Generating power used, Steam, 650 h. p.
 Cost of station boiler coal, per ton, \$3.66.

Penn Central Light and Power Co. of Altoona, Huntingdon.

RRs.: Hunt. & B. T. Mt.; Penna. Ex.: Ad.

(Philadelphia office, 611 Chestnut St.)
 (Altoona office, 1809 Union Ave.)
 (For capitalization, bonds, etc., see Appendix.)
 President, James Collins Jones.
 Secretary and treasurer, John E. Zimmerman.
 General managers, Day and Zimmerman, Inc., Philadelphia.
 Gen. superintendent, J. H. Shearer.
 Pur. agent., B. E. Dickson.
 Superintendent of gas, F. P. Duggan.
 New bus. mgr., F. P. Duggan.
 Supt. of power plants, J. C. Scholl.
 Supt. of elec. operation, J. F. Cole.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$7.45.
 Price of oil per gal., 8c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 18,000,000 c. f.
 By-products made: Tar, 5,000 gals.
 Gas holder capacity, 95,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approximate, 8.
 Street main pressures, max., 4 in.; min., 2 in.
 Max. day's send out, 65,000 c. f.
 Annual sales, approx., 15,541,000 c. f.
 Gas unaccounted for, 13 p. c.
 Pop. of city, 7,000; of dist. supplied, 6,300.
 No. meters, reg., 811.
 No. consumers, 811.
 Price gas: Light and Fuel, gross, 95c.; discount, 10c. per 1,000, first 50,000 c. f.; 15c. per 1,000 next 50,000 c. f.; 20c. per 1,000 next 100,000 c. f.; 25c. next 100,000 c. f.; 30c. next 100,000 c. f.; 35c. all over 400,000 c. f. Service charge, 75c. per mo.
 Gas appliances in use: Ranges, 560; heaters, 75; water heaters, 75.
 Supplies Huntington and part of Smithfield Township.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 3 phase, 60 cycles.
 Current supplied from Warrior Ridge.
 Voltage: Incand., 110; power, 220-440-2,300.
 Commercial lighting: No. incand., 15,600; 16 c. p. equiv. No. consumers, 1,236.
 Price current per kw. hr., gross, 9c.
 Power circuits: No. motors, 30; price per kw. hr., 6c. to 2.5c.
 Output of station, kw. per year, 2,220,000.

Jersey Shore Gas Co., Jersey Shore.

RRs.: N. Y. C. & H. R.; Penna. Ex.: Ad.; Am.

Capital stock, \$100,000.
 Bonds, \$70,000; due 1941; interest, 5 p. c.
 Receivers, Guy H. Davies and John W. Levegood.
 General manager, S. G. Kinter.
 Superintendent, H. Q. Staver.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.
 Price oil per gal., 10.5c.

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES



METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for Review of Technical Paints. CHEESMAN & ELLIOT, 100 William St., New York



Candle-power, 22.

Annual production, 8,500,000 c. f.

Gas holder capacity, 80,000 c. f.

Miles of mains, approx., 11.

Street main pressures, max., 3.5 in.; min., 2 in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 5 p. c.

Pop. dist. supplied, 6,000; of city, 5,381.

No. consumers, 900.

No. meters, reg., 276; prepay., 624.

Price gas: Light and Fuel, gross \$1.60; net \$1.50.

No. ranges, 530; heaters, 7; water heaters, 98.

No. commercial gas arc lamps, 54.

Supplies Jersey Shore.

Cambria Steel Co., Johnstown.

RRs.: Penna.; B. & O. Ex.: Ad.; W. F.

Controlled by Midvale Steel and Ordnance Co., Philadelphia, Pa.

President, A. C. Dinkey.

Vice-pres. and gen. mgr., E. E. Slick.

Sec'y and treas., D. Brewer Gehly.

Chief engineer, F. H. Moyer.

General manager, John C. Ogden.

Superintendent, R. C. Bateman.

Pur. agent, F. C. Yeates.

462 ovens (370 Otto Hoffman and 92 Koppers).

Dimensions: Length, 32 ft.; width, 92 ovens 19 in.; width, 370 ovens, 17 in.; height, 210 ovens, 6 ft. 10 $\frac{3}{4}$ in.; height, 252 ovens, 9 ft. 10 in.

90 ovens under construction.

Coal charged per oven, 7.50, 9.74 and 11.32 tons; 36 p. c. high volatile and 64 p. c. low volatile coal.

Coke yield, 70 p. c.

Time required for coking, 21.4 hours.

Gas used for heating ovens, 60 p. c.; used under boilers, 40 p. c. None sold for city use.

Calorific value, heating gas, 520 B. t. u.

By-products made: Gas, 18,879,500,000 c. f. (all used by company); tar, 8,599,650 c. f. (some sold, some used by company); ammonia sulphate, 7,067,560 lbs. (all sold); ammonia liquor, 1,800,000 gals. (all sold); pure benzol, 585,267 gals. (sold); pure toluol, 224,209 gals.; xylol, 25,100 gals. (sold); solvent naphtha, 90,684 gals. (sold); coke, 1,157,871 gross tons.

Coke is used for blast furnaces.

Surplus gas used for boilers and heating furnaces.

Luzerne County Gas and Electric Co., Kingston.

RR.: D., L. & W., or via Wilkes-Barre. Ex.: Ad.

Office, 247 Wyoming Ave.

(See Company's report under "Nanticoke.") All gas manufactured at Nanticoke, where low pressure system is supplied direct. Low pressure systems at Plymouth and Kingston supplied through district governors from pumping line.)

Lancaster Gas Light and Fuel Co., Lancaster.

RRs.: Penna.; P. & R.; Conestoga Trac. (El). Ex.: Ad.; Am.

Controlled by Lancaster County Ry. & Lt. Co. (For capitalization and bonds, see Appendix.) President, W. W. Griest.

Vice-president, George Bullock.

Secretary and treas., John M. Groff.

New bus. mgr., H. J. Van Neida.

Engineers and pur. agents, United Gas & El. Engineering Corp.

Gen. manager, R. B. Hull.

Superintendent, N. A. Adams.

Process manufacture, Lowe.

Candle-power, 17.2.

Calorific value, 616 B. t. u.

Max. day's send out, 1,160,000 c. f.

Total gas holder capacity, 1,400,000 c. f.

Miles of mains, 62.97.

Street main pressures, max., 3.1 in.; min., 2.5 in.

Annual sales, approx., 260,448,000 c. f.

Gas unaccounted for, 8.9 p. c.

Pop. dist. supplied, 54,247; of city, 47,227.

No. consumers, 10,961.

No. meters, reg., 9,453; prepay., 1,448.

Price gas: Light and Fuel, 90c. to 70c. net.

Wholesale, 90c. to 50c. (After Apr. 1, gross \$1.)

No. public Welsbach incand. lamps, 405.

Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,000.

Ranges, 7,148; water heaters, 2,652.

Supplies Lancaster.

Bucks County Public Service Co., Langhorne.

(See report under Newtown, Pa.)

Girardville Gas Co., Lansford.

(See report under Girardville, Pa.)

Bethlehem Steel Co., Lebanon.

RRs.: Cornwall; Corn. & Leb.; P. & R. Ex.: Ad.; Am.

(Successor to Lackawanna Iron & Steel Co.).

President, E. G. Grace.

Asst. to Pres., H. E. Lewis.

Secretary, B. H. Jones.

Treasurer, B. H. Jones.

Comptroller, F. A. Shick.

Purchasing agent, W. M. Tobias.

Process: By-product coke-ovens.

Otto Hoffman coke-ovens, 229.

Dimensions of ovens: Length, 33 ft.; width, 17 in. to 22 in.; height, 6.5 ft.

Coal charged per oven, 6 tons; coke yield, 70 p. c. (furnace coke).

Time required for coking, 34 hours.

Coal used, high volatile, 67 p. c.; low volatile, 33 p. c.

Proportion of gas used for heating retorts, 40 to 45 p. c.

Candle-power, 17; calorific value, 600 B. t. u.

Coke used in blast furnaces. Tar sold.

Surplus gas not used for reheating of ovens is used under boilers for producing power.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Lebanon Gas and Fuel Co., Lebanon.

RRs.: Cornwall, Corn. & Leb.; P. & R. Ex.: Ad.

Operated by Doherty Organization.

Capital stock, \$500,000.

Bonds, \$311,000; due 1956; interest, 5 p. c.

President, Henry L. Doherty.

Vice-pres., F. W. Frueauff.

Secretary, Agnes Grittinger.

Treasurer, G. S. Speaker.

General manager, G. S. Speaker.

Process manufacture, Coal.

Candle-power, 20.

Max. day's send out, 228,600 c. f.

Total gas holders capacity, 100,000 c. f.

Miles of mains, approx., 29.15.

Street main pressures, max., 3 in.; min., 2 in.

Annual sales, approx., 50,042,900 c. f.

Gas unaccounted for, 19.4 p. c.

Pop. city supplied, 21,600.

No. consumers, 1,689.

No. meters, 1,689.

Price gas: Light and Fuel, gross, \$1.40, and 50c. per mon. consumer's charge.

Ranges in use, 1,653; heaters, 227; water heaters, 567; other appliances, 1,037.

Supplies Lebanon and Annville and Palmyra Gas and Fuel Co.

Lewisburg Gas Co., Lewisburg.

RRs.: Penna.: P. & R. Ex.: Ad.

Controlled by Union Railway Supply Co.

Capital stock, \$85,000.

Bonds, \$85,000; due 1935; interest, 5 p. c.

President, H. E. Woodman.

Secretary, P. M. Satterthwaite.

Treasurer, E. Simpson.

Pur. agents, Union Railway Supply Co.

Superintendent, J. P. Ruhl.

New bus. mgr., J. P. Ruhl.

Process of manufacture, Lowe (Logan-Jane-way).

Price coal per ton, delivered, \$5.

Price oil per gal., 6.44c.

Candle-power, 20.

Calorific value, 600 B. t. u.

Miles of mains, approximate, 6.

Street main pressure, max., 2.6 in.

Max. day's send out, 18,000 c. f.

Gas holder capacity, 28,000 c. f.

Annual sales, approx., 7,000,000 c. f.

Pop. dist. supplied, 3,081.

No. consumers, 500.

No. meters, reg., 440; prepay., 60.

Price gas: Light, gross \$1.30; net, \$1.25.

Ranges in use, 265; heaters, 10; water heaters, 10.

Supplies Lewisburg.

ELECTRICAL DEPARTMENT.

(Leased to United Light and Power Co., Milton, Pa.)

New Parryville Consolidated Gas Co., Lehighton.

RRs.: Cen. of N. J.; L. Val. Ex.: Am.

Capital stock, auth., \$125,000.

Bonds, \$85,000; due 1943; int., 5 p. c.

President, T. J. McDermott.

Secretary, A. T. Kemmerer.

Treasurer, Dr. Roger R. Rupp.

Gen. mgr. and new bus. mgr., F. W. Rex.

Pur. agent, Fred W. Rex.

Superintendent, Fred W. Rex.

Process manufacture, Lowe.

Price oil per gal., 8.5c.

Candle-power, 20.

Calorific value, 600 B. t. u.

By-products made: Tar, 2,000 gals.

Gas holder capacity, 40,000 c. f.

Holder pressure, max., 3.5 in.

Max. day's send out, 25,000 c. f.

High pressure mains, 9 miles; pressure, 5 to 15 lbs.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 5 p. c.

Pop. of city, 5,316 (1910); of dist supplied, 11,000.

No. consumers and meters, 475.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

No. public incand. gas lamps, 24.

No. gas ranges in use, 325; water heaters, 100.

No. commercial gas arc lamps, 40.

Supplies Lehighton and Jamestown; will extend to Weissport, Franklin and Mahoning townships.

Penn Central Light and Power Co., Lewistown.

RR.: Penna. Ex.: Ad.

Philadelphia office, 611 Chestnut street.

(For financial and officers, see above company under Appendix.)

Gen'l supt., J. H. Shearer.

Superintendent, F. P. Duggan.

New business mgr., F. P. Duggan.

Process manufacture, Lowe.

Price coal per ton, delivered, \$7.25.

Price oil per gal., delivered, 8c.

Candle-power, 20; calorific value, 580 B. t. u.

Annual production, 35,000,000 c. f.

By-products made: Tar, 13,000 gals.

Total gas holders capacity, 93,000 c. f.

Holder press., max., 4 in.

Max. day's send out, 147,000 c. f.

Miles of mains, approx., 7.

Street main pressures, max., 4 in.; min., 2.5 in.

High pressure mains, 6 miles; pressure, 20 lbs.

Annual sales, approx., 31,000,000 c. f.

Gas unaccounted for, 13 p. c.

By-products sold: Tar, 10,000 gals.

Pop. dist. supplied, 13,000; of city, est., 11,000.

No. meters, reg., 1,202.

No. consumers, 1,202.

Price gas: Light and Fuel, readiness to serve charge, 75c.; 95c. per 1,000 c. f. Discounts, 1st 50,000 c. f., 10c.; next 50,000 c. f., 15c.; next 100,000 c. f., 20c.; next 100,000 c. f., 25c.; next 100,000 c. f., 30c.; all over 400,000 c. f., 35c. per 1,000 c. f.

HUNT INDUSTRIAL RAILWAYS are particularly adapted to handling quenched coke from the quenching bins to storage cars, tracks, curves, switches in standard designs and sizes can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Ranges in use, 1,100; heaters, 200; water heaters, 210.
No. commercial gas arc lamps, 110.
Supplies Lewistown, Lewistown Junction and part of Derry Township and part of Burnham.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C. 3 phase, 60 cycle.
Generating capacity: Lighting, 450.
Voltage: Commercial arcs, 110; incand., 110; power, 220-110.
City lighting contract: Hours lighted per year, arc, 4,000; incand., 4,000.
No. public arcs, 36 400 c. p. Price per year, \$43.
No. public incand., 120; 100 c. p. Price per year, \$12.20.
Commercial lighting: No. incand., 14,220, 50 watt. No. consumers, 1,345.
Price, current per kw. hr., gross, 11c. to 6c. Disc., 5 p. c.
Power circuits: No. motors, 44; price per kw. hr., 6c. to 3c. along sliding scale.
Output, kw. hrs., total for year, 2,270,000.
Generating power used, Steam; rated at local plant, 450 kw., at Warrior Ridge, 7,000 kw.; and Water rated at Warrior Ridge, 2,000 kw.; at Yeagerstown plant, 300 kw. and Steam, rated at Williamsburg plant of Penn Central Power and Trans. Co., 10,000 kw. (Plant of Penna. Hydro Elec. Co. at Warrior Ridge.)
Cost station boiler coal, per ton, \$4.

Lititz, Manheim and Ephrata Gas Co., Lititz.

RR: P. & R. Ex.: Ad.

Capital stock, auth., \$100,000; issued, \$50,000.
Bonds, \$100,000; due 1937; int., 5 p. c.
General manager, W. S. Aldrich.
Purchasing agent, Lloyd Shafer.
Superintendent, Lloyd Shafer.
New business manager, Lloyd Shafer.
Process manufacture, Lowe (Logan-Janeway).
Price coal per ton, delivered, \$4.75.
Price oil per gal., delivered, 3.87c.
Candle-power, 22.
Calorific value, 640 B. t. u.
Annual production, 9,922,000 c. f.
Total gas holders capacity, 40,000 c. f.
Holder pressure, max. 3 in.
Max. day's send out, 60,000 c. f.
Miles of mains, approx., 26.
Street main pressures, max., 3 in.; min., 2.5 in.
High pressure mains, miles, 14; pressure, 40 lbs.
Annual sales, approx., 9,667,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. dist. supplied, 5,000; of cities, Lititz, 2,082; Manheim, 2,202.
No. consumers, 800.
Price gas: Light and Fuel, net \$1.50.
Price gas: Light and Fuel, net \$1.50.
No. public incand. lamps, 3 Klemm.

No. hours lamp is lighted per year, 4,000.
Contract includes repairs only.
Ranges in use, 430; heaters, 96; water heaters, 40.
No. commercial gas arc lamps, 13.
Supplies Lititz and Manheim; Akron, Rothville and Ephrata being piped.
(No 1918 report.)

Lock Haven Gas Co., Lock Haven.

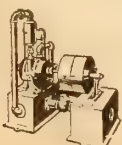
RRs.: N. Y. C. & H. R.; Penna. Ex.: Ad.; Am.

Capital stock, \$50,000.
President, Reese Kintzing.
Secretary, W. S. Harris.
Treasurer, W. S. Harris.
Purchasing agent, W. S. Harris.
Gen. mgr., W. S. Harris.
Engineer, Chas. Kammerer.
Superintendent, Henry Cue.
New bus. mgr., Henry Cue.
Process manufacture, Coal.
Price coal per ton, delivered, \$2.82.
Candle-power, 22.
Gas holders capacity, 50,000 c. f.
Holder pressure, 4 in.
Miles of mains, approximate, 7.
Street main pressures, max., 4 in.
Annual sales, approx., 6,000,000 c. f.
Pop. dist. supplied, 7,772; of city, the same.
No. of consumers, 375.
No. of meters, 400.
Price gas: Light, gross, \$1.50; net, \$1.25. Fuel, net, \$1.25.
Ranges in use, 100; water heaters, 50.

Williamstown Gas Co., Lykens.

RRs.: No. Cen.; P. & R.: Ex.: Ad.

Capital stock, \$100,000.
Bonds, \$100,000; due 1943; int., 5 p. c.
President, T. T. McEntee.
Secretary and treas, W. H. Nell.
Gen'l mgr. and pur. agt., C. E. Clark.
Supt. and engineer, C. E. Clark.
New bus. mgr., C. E. Clark.
Process manufacture, Lowe.
Annual production, 6,000,000 c. f.
Price of coal per ton, delivered, \$6.
Price oil per gallon, delivered, 6.05c.
Candle-power, 22.
Calorific value, 650 B. t. u.
Gas holder capacity, 50,000 c. f.; pressure, max., 3.5 in.
High pressure mains, 12 miles; pres., 14 lbs.
Max. day's send out, 17,000 c. f.
Annual sales, approximate, 5,575,000 c. f.
Gas unaccounted for, 9 p. c.
Population dist. supplied, 10,000.
No. consumers, 530.
No. meters, reg., 225; prepay., 305.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
Gas appliances in use: Ranges, 460; heaters, 30; water heaters, 35.
No. commercial gas arc lamps in use, 20.
Supplies Lykens, Wiconisco and Williams-town.



SERVE YOUR COUNTRY by eliminating gas wastes by inefficient combustion. Install the **NEEDHAM HIGH PRESSURE GAS SYSTEM** for industrial economy.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Mahanoy City Gas Co., Mahanoy City.

(Plant closed down October 1, 1917.)

Mauch Chunk Gas Co., Mauch Chunk.

RRs.: Cen. of N. J.; L. Val. Ex.: Am.

Capital stock, \$45,000.

Bonds, \$10,000; due 1934; int., 5 p. c.; \$18,100; due 1924; int., 5.5 p. c.

President, H. A. Butler.

Vice-pres., A. H. Strecker.

Secy. and treas., Eugene Causbrook.

Gen. mgr. and pur. agent, A. H. Strecker.

Superintendent, Eugene Causbrook.

Process manufacture, Lowe.

Price coal per ton, delivered, \$5.30.

Price oil per gal., delivered, 8.6c.

Candle-power, 18.

Calorific value, 575 B. t. u.

Annual production, 11,061,000 c. f.

By-products made: Tar, 1,200 gals.

Total gas holders capacity, 36,000 c. f.

Holder pressure, 3.5 in.

Max. day's send out, 42,000 c. f.

Miles of mains, approx., 5.

Street main pressure, max., 5 in.; min., 3 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 13.5 p. c.

Pop. dist. supplied, 4,500; of cities, 7,500.

No. consumers, 601.

No. meters, reg., 598; prepay., 3.

Price gas: Light, gross \$1.70; net \$1.50. Fixed charge of 30c. per consumer.

Ranges in use, 407; heaters, 129; water heaters, 90.

No. commercial gas arc lamps, 103.

Supplies Mauch Chunk and East Mauch Chunk.

Allegheny By-Product Coke Co., McKeesport.

RRs.: B. & O.; Penna.; Pitts. & Lake E. S. B.: Mon. & Ohio Packet: Ex.: Ad.; Am.

(Works at Glassport, Pa.)

President, Geo. B. Leighton.

Vice-pres., Geo. H. Calvert.

Sec'y and treas., W. H. Taubman.

Gen'l manager, J. H. Wilkins.

Superintendent, F. F. Riley.

Pur. agent, E. L. Christensen.

120 Otto Hoffman coke ovens.

Dimensions: Length, 33 ft. 3 in.; width, 16 in.; height, 6 ft. 6 in.

Coal charged per oven, 6 tons.

Coke yield, 72.5 p. c. (furnace, foundry and domestic coke).

Mechanicsburg Gas and Water Co., Mechanicsburg.

RR.: Cum. Vy. Ex.: Ad.

Capital stock, \$100,000.

Bonds, \$206,000; int., 5 p. c.

President, H. L. King.

Secy. and treas., A. B. Rupp.

Pur. agt., H. L. King.

Superintendent, H. L. King.

Process manufacture, Lowe.

Price coal per ton, delivered, \$4.55.

Price oil per gal., 3c.

Candle-power, 20.

Max. day's send out, 24,000 c. f.

Gas holder capacity, 57,000 c. f.

Miles of mains, approx., 6.

Annual sales, approx., 6,000,000 c. f.

Pop. of city, 4,469.

No. consumers, 800.

No. meters, 800.

Price gas: Light, gross \$1.50. Fuel, \$1.20.

Ranges in use, 500; heaters, 100.

No. commercial gas arc lamps, 50.

Supplies Mechanicsburg, Cumberland County. (No 1918 report.)

Northern Central Gas Co., Milton.

RRs.: Penna.; P. & R. Ex.: Ad.

Controlled by Lehigh Power Securities Corp. (For capitalization and officers, see "Parent Companies.")

Gen'l mgr., W. R. Rhoades.

Process manufacture. Coal and Lowe.

Candle-power, 16; calorific value, 600 B. t. u.

Annual production, coal gas, 34,000,000 c. f.

By-products made: Coke, 1,992 tons; tar, 36,900 gals.

Max. day's send out, 150,000 c. f.

Gas holder capacity, 37,000 c. f.

Holder pressure, 3.2 in.

Miles of street mains, approx., 10.

Street main pressures, max., 3.2 in.; min., 2.8 in.

High pressure mains, 18 miles; pressure, 7 lbs.

Annual sales, approx., 30,000,000 c. f.

Gas unaccounted for, 10 p. c.

By-products sold: Coke, 1,331 tons; tar, 36,900 gals.

Pop. dist. supplied, 13,500; of borough, 9,410.

No. meters, reg., 1,005; prepay., 882.

No. consumers, 1,887.

Price gas: Light and Fuel, gross \$1.50; net \$1.25.

No. ranges, 1,200; heaters, 80; water heaters, 300.

No. commercial gas arc lamps, 135.

Supplies Milton, Watsontown, Montgomery and Dewar.

Mount Carmel Gas Light Co., Mount Carmel.

RRs.: L. Val.; No. Cen.; P. & R. Ex.: Ad.

Capital stock, \$50,000.

Bonds, \$30,000; due 1925; int., 5 p. c.

President, J. E. Bastress.

Secretary, John E. Wightman.

Treasurer, John Carl, Jr.

Engineer, Ed. Jones.

New bus. mgr., Clyde Bastress.

Pur. agent, John E. Wightman.

Superintendent, John E. Wightman.

Process manufacture, Coal.

Price of coal per ton, delivered, \$4.60.

Price oil per gal., delivered, 5.5c.

Candle-power, 22.

Calorific value, 700 B. t. u.

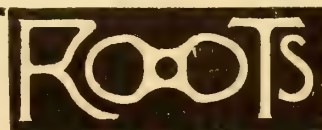
Annual production, 10,000,000 c. f.

Total gas holders capacity, 60,000 c. f.

Holder pressure, 2.8 in.

Max. day's send out, 25,000 c. f.

Miles of mains, approx., 6.

GAS EXHAUSTERS*Positive Displacement***GAS BOOSTERS***Guaranteed Service*

Street main pressures, max., 2.8 in.; min., 2.5 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 3 p. c.

Pop. dist. supplied, 25,000; city, 22,000 (1917).

No. consumers, 700.

No. meters, reg., 500; prepay., 200.

Price gas: Light, \$1.50. Fuel, \$1.25.

Ranges in use, 300; heaters, 200; water heaters, 250.

No. commercial gas arc lamps, 150.

Supplies Mount Carmel and Mt. Carmel Township.

Donegal Gas Co., Mount Joy.

RR.: Penna. Ex.: Adams.

Capital stock, \$20,000.

Bonds, \$15,000; interest, 5 p. c.

President, H. C. Schock.

Secretary, Clarence Schock.

Treasurer, M. C. Bowman.

Purchasing agent, P. Franck Schock.

Superintendent, P. Franck Schock.

Process manufacture, Lowe.

Pop. borough supplied, 2,400.

Myerstown Gas and Fuel Co., Myerstown.

RR.: P. & R. Ex.: Ad.

Capital stock, \$40,000.

Bonds, \$40,000; due 1939; int., 5 p. c.

President, John J. Wittman.

Secretary and treas., I. J. Lerch.

Pur. agent, John J. Wittman.

General manager, John J. Wittman.

New bus. mgr., John J. Wittman.

Engineer, W. Risser.

Superintendent, W. Risser.

Process manufacture, Lowe (Logan-Janeway).

Price coal per ton, delivered, \$5.50.

Price oil per gal., 4.75c.

Candle-power, 18.

Calorific value, 640 B. t. u.

Annual production, 5,000,000 c. f.

Gas holder capacity, 21,000 c. f.

Holder pressure, 3.8 in.

Max. day's send out, 20,000 c. f.

Miles of mains, approx., 10.

Street main pressure, max., 3.5 in.; min., 3.4 in.

High pressure mains, 4 miles; pressure, 18 lbs.

Annual sales, approx., 5,000,000 c. f.

Gas unaccounted for, 2.95 p. c.

Pop. cities supplied, 3,500.

Consumers and meters, 470.

Price gas: Light, gross, \$1.60; net, \$1.50.

Fuel, \$1.60 to 90c. gross; \$1.50 to 80c. net.

One public Miner incand. lamp, lighted 4,000 hours. Price per year, \$30, includes repairs only.

No. gas ranges, 304; heaters, 25; water heaters, 27.

No. commercial gas arc lamps, 67.

Supplies Myerstown and Richland.

Luzerne County Gas and Electric Co., Nanticoke.

RRs.: Cen. of N. J.; Penna. Ex.: Ad.

Operated by the American Gas Co., Philadelphia.

General office, 247 Wyoming Ave., Kingston, Pa.

(For capitalization and bonds, see Appendix.)

President, Morris W. Stroud.

Vice-pres., J. C. Lowry.

Vice-pres. and gen. mgr., S. P. Curtis.

Secretary, W. L. Fox.

Treasurer, J. B. Townsend, 3d.

Pur. agent, F. D. Wharton.

Engineer, R. C. Cornish.

Engineer, elec., H. M. Blake.

Manager, A. J. Llewellyn.

Process manufacture, Lowe.

Calorific value, 570 B. t. u.

Annual production, 117,252,000 c. f.

By-products made: Tar, 1,376 gals.

Total gas holder capacity, 460,000 c. f.

Max. day's send out, 458,000 c. f.

Miles of mains, approx., 52.

Street main pressures, max., 3.5 in.; min., 2.5 in.

High pressure mains, miles, 19; pressure, 30 lbs.

Annual sales, approx., 79,273,000 c. f.

Gas unaccounted for, 30.8 p. c.

By-products sold: Tar, 8,337 gals.

Pop. dist. supplied, 86,000 (estimated).

No. consumers, 4,987.

No. meters, reg., 2,866; prepay., 2,121.

Price gas: Light and Fuel, first 10,000 c. f., \$1.30 net; second 10,000 c. f., \$1.20; third 10,000 c. f., \$1.10; fourth 10,000 c. f., \$1; next 60,000 c. f., 90c. net; next 100,000 c. f., 85c.; over 200,000 c. f., 80c. Min. charge, 50c. Prepayment meters are set at \$1.30 net.

Ranges in use, 3,464; water heaters, 425.

No. commercial gas arc lamps, 471.

Supplies Plymouth, Plymouth Township, Nanticoke, Newport Township, Warrior Run, Sugar Notch, Hanover, Kingston, Edwardsville, Luzerne, Dorrancetown, Forty Fort, Wyoming, Swoyerville and Cortdale.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., enclosed; incand., A. C., 3 phase, 60 cycles.

Power: A. C., 2-phase, 60 cycles.

Generating capacity: Lighting and power, 12,000 kw.

Voltage: Arcs, 70; incand., 110; power, 220.

City lighting contract: Hours lighted per year, Arc and incand., 4,000.

No. public arcs, 1,266; 450 watt.

No. public incand., 357; 50 watt.

Commercial lighting: No. arcs, 85; No. incand., 75,000.

Price current per kw. hr., gross 10c. Disc., 10 to 25 p. c.

Power circuits: No. motors, 528; price per kw. hr., demand rate.

Output of station, kw. for year, 21,659,400.

Generating power used, Steam; rated h. p. 4,200.

Station located at Plymouth, Pa.

WASH OIL PUMPS

Accurate Regulation



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

Supplies Plymouth, Kingston, Nanticoke, Wyoming, Forty Fort, W. Nanticoke, Larksville, Dallas, Shickshinny, Pringle, Jackson, Dorrancetown, Edwardsville, Luzerne, Sugar Notch, Warrior Run, Cortdale, Swoyerville, Hanover and Newport.

Interurban Gas Co., Nazareth.

RRs.: D., L. & W.; Le. & N. E. Ex.: Ad.

Owned and controlled by the Metropolitan Edison Co. of Reading, Pa.

Capital stock, auth., \$15,000; issued, \$6,000.

Bonds, \$1,000,000; due 1943; int., 5 p. c.

President, R. D. Jennison.

Vice-pres., Thomas Cheyne.

Secretary, C. N. Wilson.

Treasurer, O. H. Oxford.

Manager, R. D. Jennison.

Purchasing agent, E. G. Holzer.

Superintendent, E. G. Holzer.

Process manufacture, Lowe.

Annual production, 7,227,330 c. f.

Price coal per ton, delivered, \$5.25 and \$2.

Price oil per gal., 6.15c.

Candle-power, 19.1.

Gas holder capacity, 15,000 c. f.

Max. day's send out, 33,900 c. f.

Miles of mains, approx., 3.5.

Street main pressures, avg., 3 in.

Annual sales, approx., 6,156,600 c. f.

Gas unaccounted for, 13.9 p. c.

Pop. dist. supplied, 4,850; of city, the same.

No. consumers, 577.

No. meters, 586.

Price gas: Light and Fuel, gross, \$1.75; net, \$1.50. (Less than 3 M., \$1.75; from 3 M. to 20 M., \$1.50.)

Ranges in use, 263; heaters, 19; water heaters, 36; hot plates, 208; irons, 17.

No. commercial gas arc lamps, 67.

Supplies Nazareth.

Bucks County Public Service Co., Newtown.

RRs.: Phila., New. & N. Y. Ex.: Ad.

General office, 1142 Real Estate Trust Bldg., Philadelphia.

Capital stock auth. and issued, \$200,000.

Bonds, \$200,000; due 1937; int., 5 p. c.

President, John D. Shattuck.

Sec'y and treas., E. C. Worrell.

Superintendent, W. T. Swayze.

New bus. mgr., W. T. Swayze.

Process manufacture, Lowe (U. G. I.).

Gas purchased from Philadelphia Suburban G. & E. Co., Jenkintown.

Candle-power, 19; calorific value, 625 B. t. u.

Miles of mains, approx., 90 (high pressure).

High pressure mains: Pressure, 5-25 lbs.

Annual sales, approx., 40,000,000 c. f.

Gas unaccounted for, 18 p. c.

Pop. dist. supplied, 20,000; of cities, 15,000 est.

No. consumers and meters, 2,100.

Price of gas, \$1.75 to \$1 net; \$1 min. charge.

Ranges, 1,500; heaters, 250; water heaters, 250.

No. commercial gas arc lamps, 250.

Supplies, Newtown, Langhorne, Yardley, Morrisville, South Langhorne, Hulmeville, Doylestown, New Hope, Wycombe, Pineville, Buckingham and Southampton.

Bucks County Southern Gas Co., Newtown.

General office, 1142 Real Estate Trust Bldg., Philadelphia.

Capital stock, auth. \$50,000; issued \$29,200.

President, Wm. P. M. Braun.

Secy. and treas., E. C. Worrell.

Transmission line from Phila. Suburban Gas and El. Co. to Bucks County Public Service Co.

Miles of mains, approx. 10.

Counties Gas and Electric Co. (Schuylkill District,) Norristown.

RRs.: Penna.; P. & R.; Stony Creek; Phila. & Western. Ex.: Ad.; Am.

(For detailed information regarding capitalization, officers, etc., see Appendix.)

Manager, H. H. Ganser.

Process manufacture, Lowe.

Miles of mains, approx., 63.04.

Calorific value, 570 B. t. u.

Annual sales, approx., 208,033,100 c. f.

Pop. dist. supplied, 59,210.

No. meters, reg., 5,759; prepay., 3,244.

No. consumers, 9,003.

Price gas: First 10,000 c. f., \$1.10; next 20,000 c. f., \$1; next 20,000 c. f., 90c.; over 50,000 c. f., 80c. Discount 10c. per 1,000 c. f.

Ranges in use, 8,235; water heaters, 2,077.

Supplies Norristown, Bridgeport, parts of Upper Merion and West Norriton and East Norriton townships, Conshohocken, West Conshohocken and surrounding municipalities.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C. and D. C., 2 and 3 phase, 7,200 alt., 60 cycle.

Generating capacity: Lighting and power, 17,250 kw.

Voltage: Incand. lighting, 110-220; power, 110-220-440-2,300.

City lighting contract: Hours lighted per year, arc and incand., 4,000.

No. public incand., 188 32 c. p., 18 600 c. p., 22 400 c. p., 90 250 c. p., 54 100 c. p., 64 24 c. p.

No. meters, 3,940.

Price current per kw. hr., gross, 11c. Disc., sliding scale.

Power circuits: Price per kw. hr., gross, 10c. Disc., sliding scale.

Output of station, kw. hrs., total for year, 23,605,061.

Generating power used, Steam: 23,000 h. p.

NATURAL GAS GASOLINE.

Laboratory and field testing combined enable us to give unbiased reports on the advisability of installing a gasoline plant. We solicit your inquiries.

HOPE ENGINEERING & SUPPLY COMPANY,
Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Northumberland Gas, Heat and Fuel Co., Northumberland.

RRs.: D., L. & W.; Penna. Ex.: Ad.

Controlled by Lehigh Power Securities Corp.
Mgt. and pur. agent, Wm. R. Rhoades.
Gas purchased from Northumberland County
Gas & Elec. Co.

Candle-power, 20; calorific value, 600 B. t. u.
Gas holder capacity, 20,000 c. f.
High pressure mains, 4 miles; pressure, 10
lbs.

Max. day's send out, 10,000 c. f.
Annual sales, approx., 2,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. of city, 3,517; of dist. supplied, 2,800.
No. consumers, 120.

No. meters, reg., 100; prepay., 20.
Price gas: Light and Fuel, \$1.35, with dis-
counts for quantity.
Ranges, 100; heaters, 10; water heaters, 25.
Supplies the Borough of Northumberland.
(No 1918 report.)

Citizens Gas and Fuel Co., Oxford.RRs.: Phila., Balt. & Wash.; Lan., Ox. & So.
Ex.: Ad.

Capital stock, \$20,000.
Bonds, \$30,000; int., 5 p. c.
President, James D. Burn.
Secretary, H. P. Passmore.
Treasurer, R. A. Walker.
Manager, H. P. Passmore.
Pur. agent, H. P. Passmore.
Superintendent, Harvey Kent.
Process manufacture, Lowe.
Gas holder capacity, 20,000 c. f.
Annual sales, 6,000,000 c. f.
Pop. of borough supplied, 2,800.
Price of gas: Light and Fuel, \$1.50.
No. consumers and meters, 450.

Annville and Palmyra Gas and Fuel Co., Palmyra.

RRs.: P. & R. Ex.: Ad.

Capital stock: Pref., auth. \$200,000; issued
\$150,000; com. auth. and issued \$150,000.
Annual dividend, pref., 6 p. c.
President, E. U. Sowers.
Secretary, J. R. Beckley.
Treasurer, J. R. Beckley.
Purchasing agent, J. F. Jones.
General manager, J. F. Jones.
Gas purchased from Lebanon Gas & Fuel Co.
Amount of gas purchased, 15,000,000 c. f.
Candle-power, 16.
Calorific value, 615 B. t. u.
Gas holder capacity, 48,000 c. f.
Holder pressure, 3.8 in.
Max. day's send out, 75,000 c. f.
Miles of mains, approx., 26.
Street main pressures, max., 3.6 in.; min., 3
in.
High pressure mains, miles, 15; pressure, 10
to 25 lbs.
Annual sales, approx., 13,500,000 c. f.
Gas unaccounted for, 10 p. c.

Pop. of dist. supplied, 12,500 (estimated).
No. consumers, 725.
No. meters, reg., 575; prepay., 150.
Price gas: 1st 3 M. c. f., \$1.50, less 7c. per M.;
next 2 M., \$1.45; next 5 M., \$1.40; next
5 M., \$1.30; next 5 M., \$1.20; next 5 M.
and over \$1.10. Disc., 10c. Min. chg. 50c.
No. public Welsbach incand. lamps, 8; lighted
3,650 hours.

Price per year, \$30; includes repairs only.
Ranges in use, 500; heaters, 350; water heat-
ers, 120.

Supplies Annville, Palmyra, Hershey, Hum-
melstown and Derry Church.

Parkesburg Gas Co., Parkesburg.

RRs.: Penna.; Phil., Balt. & Wash. Ex.: Ad.

Capital stock, \$100,000.
Bonds, \$50,000; due 1929; int., 5 p. c.
President, Chas. P. Lukens.
Sec. and treas., Eugene W. Harvey.
Pur. agt. and gen. mgr., Charles F. Cattell.
Engineer, C. F. Cattell.
Superintendent, C. R. Cattell.
New bus. mgr., R. M. Cattell.
Process manufacture, Lowe (Phoenix Gas Im-
provement Co.).
Candle-power, 22.
Calorific value, 600 B. t. u.
Price coal per ton, delivered, \$6.25.
Price oil per gal., 9.5c.
Annual production, 20,000,000 c. f.
By-products made: Oil tar, 2,000 gals.
Gas holder capacity, 40,000 c. f.
Holder pressure, 3.5 in.
Max. day's send out, 50,000 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 3.5 in.; min., 3 in.
High pressure mains, 9.5 miles; pressure, 30
lbs.
Annual sales, approx., 20,000,000 c. f.
Gas unaccounted for, 1.5 p. c.
Pop. of cities, 6,000; of dist. supplied, 10,000.
No. consumers, 800.
No. meters, reg., 500; prepay., 300.
Price of gas: First 3,000 c. f., \$1.50; over
3,000 c. f., \$1.25. Min., 75c. per mo.
Penalty, 10 p. c., 10 days. Prepay. meters
set for \$1.50 per 1,000 c. f.
Ranges in use, 700; heaters, 500; water heat-
ers, 400.
No. commercial gas arc lamps, 75.
Supplies Borough of Parkesburg, Borough of
Atglen, town of Christiana, Pomeroy,
Pleasant View and townships of East
Fallowfield, West Fallowfield, Highland
Valley, Sadsbury, West Sadsbury and
West Caln.

Pen Argyl Gas Co., Pen Argyl.

RRs.: D., L. & W.; Le. & N. E. Ex.: Ad.

Capital stock, \$25,000; ann. div., 2 p. c.
Bonds, \$25,000; due 1924; int., 5 p. c.; \$14,200
due 1928; int., 6 p. c.
President, E. A. Speer.
Sec'y and treas., C. M. Smith.
Purchasing agent, C. M. Smith.

**Tycos Temperature Instruments**

INDICATING—CONTROLLING—RECORDING
Catalogue 600 Describes instruments especially for Gas Works

Taylor Instrument Companies Rochester, N. Y.

General manager, C. M. Smith.
 Process manufacture, Lowe (Sutherland).
 Candle-power, 20.
 Calorific value, 650 B. t. u.
 Price coal per ton, delivered, \$4.85.
 Price oil per gal., 5.5c.
 Gas holder capacity, 20,000 c. f.
 Miles of mains, approximate, 6.
 Street main pressures, max., 2.5 in.
 Max. day's send out, 20,000 c. f.
 Annual sales, approx., 5,500,000 c. f.
 Gas unaccounted for, 6 p. c.
 Pop. dist. supplied, 3,000; of city, 3,967.
 No. consumers, 402.
 No. meters, reg., 386; prepay., 16.
 Price gas: Light, gross, \$1.60; net, \$1.50 to \$1.25. Fuel, gross, \$1.60; net, \$1 to 90c.
 Ranges in use, 200; heaters, 27; water heaters, 15.
 No. commercial gas arc lamps, 43.
Supplies Pen Argyl.
 (No 1918 report.)

Highland Gas Co., Perkaspie.

(See report under Quakertown.)

The Equitable Illuminating Gas Light Co., Philadelphia.

RRs.: A. C.; B. & O.; Phila., Balt. & Wash.; Phila., New. & N. Y.; Royal Blue; Penna.; W. J. & S. S.; P. & R. S. Bs.: Tren. Trans.; Wilm.; B. & P. Co.; Bush. Line; So. S. S.; Clyde; Mer. & Min. Trans.; Le. Canal Line. Ex.: Ad.: Am.

(Operating company for The United Gas Improvement Co. under its lease of the Philadelphia Gas Works.)

Capital stock, preferred, \$3,125,000; common, \$3,125,000.

Bonds, \$7,500,000; due 1928; int., 5 p. c.

President, Walton Clark.

Secretary, F. H. MacMorris.

Treasurer, W. A. McEwen.

Purchasing agent, J. A. Pearson.

Northern Liberties Gas Co., Philadelphia.

(RRs., S. Bs. & Ex., See Philadelphia, above.)

(United Gas Improvement Co., Agent.)

Purchasing agent, J. A. Pearson.

Superintendent, J. M. Ruegenberg.

Process manufacture, Coal.

Candle-power, 17.

Miles of mains, approx., 21.

Annual sales, approx., 180,000,000 c. f.

Pop. dist. supplied, 45,000.

No. consumers, 7,213.

No. meters, reg., 3,038; prepay., 4,323.

Price gas: Light and Fuel, gross and net, \$1.

No. public lamps, 66.

No. hours lamp is lighted per year, 4,000.

Ranges, 2,226; heaters, 699; water heaters, 264.

No. commercial gas arc lamps, 691.

Supplies Northern Liberties District of Philadelphia, Pa.

Philadelphia Gas Works, Philadelphia.

(RRs., S. Bs. & Ex., see Philadelphia, above.)

Comptroller, W. H. Marshall.

General agent, T. H. Jackson.

Purchasing agent, J. A. Pearson.

Engineer of works, W. H. Gartley.
 Engineer of distribution, W. J. Serrill.
 Commercial agent, J. B. Myers.
 Process manufacture, Lowe and Coal.
 Average candle-power, 22.42.
 Miles of mains, approx., 1,581.
 Annual sales, approx., 13,326,815,000 c. f.
 Pop. of city, 1,722,000 c. f.
 No. consumers, 408,235.
 No. meters, reg., 180,704; prepay., 227,531.
 Price gas: Light and Fuel, gross and net \$1.
 No. public lamps, 25,217. Free to city.
 No. hours lamp is lighted per year, 4,000.
 Supplies Philadelphia.

Philadelphia Suburban Gas and Electric Co., Phoenixville.

RRs.: Penna.: P. & R. Ex.: Ad.

Controlled by the American Gas Company.

(For capitalization, etc., see Appendix.)

President, Morris W. Stroud.

Vice-president, J. C. Lowry.

Vice-president, S. P. Curtis.

Secretary, W. L. Fox.

Treasurer, J. B. Townsend, 3d.

Purchasing agent, F. D. Wharton.

General manager, J. D. Shattuck.

Engineer, R. C. Cornish.

Elec. engineer, H. M. Blake.

Div. manager, C. W. Taggart.

Process manufacture, Lowe.

Calorific value, 570 B.t.u.

Annual production, 57,267,000 c. f.

By-products made: Tar, 37,224 gals.

Gas holder capacity, 100,000 c. f.

Max. day's send out, 283,000 c. f.

Miles of mains, approx., 22.

St. main pressures, max., 4 in.; min., 2.5 in.

High pressure mains, 5 miles; pressure, 30 lbs.

Annual sales, approx., 43,479,000 c. f.

Gas unaccounted for, 22.8 p. c.

By-products sold: Tar, 14,845 gals.

Pop. of city, 10,743; of dist. supplied (estimated), 18,000.

No. consumers, 2,616.

No. meters, reg., 1,630; prepay., 986.

Price gas: First 5,000 c. f., \$1.45 gross, \$1.35

net; next 10,000 c. f., \$1.40—\$1.30; next

15,000 c. f., \$1.30—\$1.20; next 15,000 c. f.,

\$1—90c.; next 15,000 c. f., \$1.20—\$1.10;

next 20,000 c. f., 90c.; next 40,000 c. f.,

85c.; next 80,000 c. f., 80c.; over 200,000

c. f., 70c. Prepay meters set at 25c. for

180 c. f. Min. charge, 50c.

Supplies Phoenixville, Mont Clare, Royersford, Spring City.

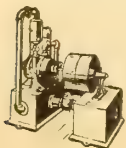
ELECTRICAL DEPARTMENT.

System operated: Arc, incand., 3 phase, 60 cycle, A. C.; power, D. C. and A. C., 3 phase, 60 cycle.

Generating capacity: Lighting and power, 1,800 kw.

Voltage: Arcs, 70; incand., 110; power, 220.

City lighting contract: Hours lighted per year: Arc and incand., 4,000.



THE NEEDHAM SYSTEM is a one pipe system and is free from the difficulty of air blast regulation. It is independent of the varying pressures in the gas mains and a full pressure is maintained at each burner regardless of the number of appliances in use.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

No. public ares, 100; 310 watt. Price per year, \$65.
 No. public incand., 500; 100 watt. Price per year, \$20.
 Commercial lighting: No. incand., 33,000.
 Price, commercial, per kw. hr., yearly contract, 12c. to 7c. Demand basis.
 Power circuits: Price per kw. hr., 10c. to 3c.
 Output of station, kw. for year, 7,719,600.
 Generating power used: Steam and Water: rated h. p., 2,500.
 Supplies Phoenixville, Royersford, Spring City, Mout Clare and Kimberton.

Consolidated Gas Co. of the City of Pittsburg, Pittsburg.

RRs.: B. & O.; B., R. & P.; Penna.; Pitts. & But. St. Ry. (El.; Montour, Pitts. Ry. Co.; Pitts. & L. E.; Pitts. & M. R.; Pitts., C. & Y.; Wabash, Pitts. Term. S. Bs.: Mon. & Ohio Packet; Pitts. & Parkers Line; Pitts. & Cin. Packet; Musk. & O. R. Trans.; Pitts. & Kan. R. Line. Ex.: Ad.; Am.; Pac.; W. F.

(Data below includes Allegheny Illuminating Co. All gas made in Pittsburg. The Philadelphia Co. owns all the common capital stock of this company and \$148,100 of the preferred stock.)

Capital stock, pref. auth., \$2,500,000; pref. issued, \$2,000,000; com., \$4,000,000.
 Bonds, \$5,000,000; due 1948; int., 5 p. c.
 President, James H. Reed.
 Secretary, W. B. Carson.
 Treasurer, C. J. Braun, Jr.
 Genl. mgr., Joseph F. Guffey.
 Controller, C. S. Mitchell.
 Gen. cont. agt., S. B. Stewart.
 Superintendent, R. W. H. Young.
 Process manufacture, Coal and Lowe.
 Mixture supplied, 47 p. c. coal; 53 p. c. water.
 Candle-power, 20.
 Total gas holders capacity, 3,500,000 c. f.
 Miles of mains, approx., 300.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 77,285,900 c. f.
 Gas unaccounted for, 29.74 p. c.
 Pop. of city, 533,905; of dist. supplied, 483,905.
 No. consumers, 4,078.
 No. meters, 3,959; prepay., 119.
 Price gas: Light, gross \$1.20; net \$1.
 Supplies Pittsburg.

South Side Gas Co., Pittsburg.

(RRs., S. Bs. & Ex., see Pittsburg above.)

Capital stock, \$500,000. (Philadelphia Co. owns \$388,025 of capital stock.)
 President, J. H. Reed.
 Secretary, W. B. Carson.
 Treasurer, C. J. Braun, Jr.
 Controller, C. S. Mitchell.
 Gen. manager, J. F. Guffey.
 Superintendent, R. W. H. Young.
 New bus. mgr., S. B. Stewart.
 Gas supplied from works of the Consolidated Company of Pittsburg.
 Miles of mains, approx., 28.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Candle-power, 20.

Annual sales, approx., 1,960,750 c. f.
 Gas unaccounted for, 57.32 p. c.
 Pop. of city, 533,905.
 Pop. dist. supplied, 50,000.
 No. consumers, 67.
 No. meters, reg., 63; prepay., 4.
 Price gas: Light, gross \$1.20; net \$1.
 Supplies south side of Pittsburg.

Peoples Light Co., Pittston.

RRs.: D. & H.; D., L. & W.; Erie; L. Val.; Lack. & Wyo. Vy. Ex.: Ad.; Nat.

Capital stock, \$300,000.
 Bonds, \$135,000; due 1929; interest, 5 p. c.
 President, R. J. Flick.
 Secretary and treasurer, S. Savage.
 General manager, T. J. Henshall.
 Supt. and pur. agt., T. J. Henshall.
 New bus. mgr., T. J. Henshall.
 Process manufacture, Lowe.
 Candle-power, 25.
 Max. day's send out, 350,000 c. f.
 Total gas holders capacity, 300,000 c. f.
 Miles of mains, approx., 19.
 Street main pressures, max., 3 in.; min., 2.5 in.
 Annual sales, approx., 59,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 29,000; of cities, 23,115.
 No. consumers, 3,325.
 No. meters, reg., 2,295; prepay., 1,030.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.40. Disc., 10c. less than 5 M.; 25c. 5 M. and up; 35c. 50 M. up, if paid before 20th of month.
 Ranges in use, 1,475; heaters, 865; water heaters, 290.
 No. commercial gas arc lamps, 1,475.
 Supplies Pittston, West Pittston, Exeter Borough, Jenkins Township and Hughesstown Borough.

Luzerne County Gas and Electric Co., Plymouth.

RR.: D., L. & W. Ex. Ad.

(See Company's report under "Nanticoke." All gas manufactured at Nanticoke, where low pressure system is supplied direct. Low pressure systems at Plymouth and Kingston supplied through district governors from pumping line.)

Philadelphia Suburban Gas and Electric Co., Pottstown.

RRs.: Penna.; P. & R. Ex.: Ad.

Controlled by American Gas Co.
 (For capitalization, etc., see Appendix.)
 President, Morris W. Stroud.
 Vice-pres., S. P. Curtis and J. C. Lowry.
 Secretary, W. L. Fox.
 Treasurer, J. B. Townsend, 3d.
 Purchasing agent, F. D. Wharton.
 General manager, J. D. Shattuck.
 Engineer, R. C. Cornish.
 Elec. engineer, H. M. Blake.
 District mgr., A. P. McCarthy.
 Process manufacture, Lowe.
 Calorific value, 570 B. t. u.
 Annual production, 60,104,000 c. f.

The cuts at the sides show the first five million cu. ft. holder erected in the United States, over twenty years ago. This size now is the most general for large gas plants.

R. D. WOOD & CO., PHILA., PA.



By-products made: Tar, 30,402 gals.
 Gas holder capacity, 95,000 c. f.
 Max. day's send out, 264,000 c. f.
 Miles of mains, approx., 20.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 50,679,000 c. f.
 Gas unaccounted for, 14.8 p. c.
 By-products sold, Tar, 16,732 gals.
 Pop. of city, 15,599; dist. supplied, 17,000.
 No. consumers, 2,229.
 No. meters, reg., 1,956; prepay., 273.
 Price gas: Light and Fuel, first 5,000 c. f., \$1.45—\$1.35 gross, \$1.15 net; next 10,000 c. f., \$1.40—\$1.30; next 15,000 c. f., \$1.30—\$1.20; next 15,000, \$1.20—\$1.10; next 15,000, \$1 net; next 20,000 c. f., 90c.; next 40,000 c. f., 85c.; next 80,000 c. f., 80c.; over 200,000 c. f., 70c. Min. charge, 50c.

Supplies Pottstown and So. Pottstown.

ELECTRICAL DEPARTMENT.

System operated: Incand. A. C., 3 phase, 60 cycles; power, A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting and power, 1,250 kw.
 Voltage: Arcs, 70; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 115; 350 watt.
 No. public incand., 147; 80 watt.
 Commercial lighting: No. arcs, 3; No. incand., 33,000.
 Price current per kw. hr., gross, 12c. to 7c. yearly contract. Demand basis.
 Power circuits: No. motors, 231. Price per kw. hr., 10c. to 3c.
 Output of station for year, kw. hrs., 5,985,400.
 Generating power used, Steam; rated 1,400 h. p.
 Supplies Royersford, Pottstown, Stowe, Parkersford, Linfield and adjacent territory.

Pottsville Gas Co., Pottsville.

RRs.: L. Val., Penna.; P. & R. Ex.: Ad.

Capital stock, \$200,000.
 Annual div., 10 p. c.
 President, David A. Howe
 Secretary and treas., J. C. Lightfoot, Jr.
 Gen. manager, J. J. McKnight.
 Pur. agent, J. J. McKnight.
 New bus. mgr., J. J. McKnight.
 Process manufacture, Lowe.
 Price oil per gal., 7.33c.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Total gas holders capacity, 150,000 c. f.
 Holder pressure, max., 3 in.
 Max. day's send out, 150,000 c. f.
 Miles of mains, approximate, 22.
 High pressure mains, 5 miles; pressure, 45 lbs. (Transmission line between Schuylkill Haven and Pottsville; supplies Schuylkill Haven and Cressona.)
 Street main pressures average, 2.8 in.
 Annual sales, approx., 40,000,000 c. f.
 Gas unaccounted for, 6 p. c.
 Pop. boroughs, 22,914; dist. supplied, (estimated), 14,000.

No. consumers and meters, 2,400.
 Price gas: Light, \$1.50; Fuel, \$1.25.
 No. public Welsbachs, 4; lighted all night.
 Price includes repairs, care, lighting and extinguishing.
 Ranges, 1,500; water heaters, 300; heaters, 600.
 No. commercial gas arc lamps, 600.
 Supplies Pottsville and Port Carbon.

Highland Gas Co., Quakertown.

RRs.: P. & R. Ex.: Am.: Ad.

(Plant at Perkaspie, Pa.)
 Capital stock, \$149,500.
 Bonds, \$130,900; due 1936; int., 5 p. c.
 President, Clarence V. Roberts.
 Secretary, H. H. Ganster.
 Treasurer, J. Howard Ozias.
 Pur. agent, H. H. Ganster.
 General manager, H. H. Ganster.
 Engineer, Thos. Lewis.
 Superintendent, W. A. Dietterich.
 Process manufacture, Lowe.
 Candle-power, 19.
 Annual production, 13,894,000 c. f.
 Max. day's send out, 47,000 c. f.
 Gas holder capacity, 25,000 c. f.
 High pressure mains, miles, 25; pressure, 15 lbs.
 Annual sales, approx., 13,894,000 c. f.
 Population of boroughs supplied, 8,152 (1910).
 No. consumers and meters, 1,146.
 Price gas: Light and Fuel, 1st 10,000 c. f., \$1.50; next 10,000 c. f., \$1.40 and 5c. less every 10,000 c. f. to \$1.05; over 90,000 c. f., \$1. Disc., 10 p. c. on bills of \$15 or more. Penalty, 1c. per 100 c. f., 10 days.
 Gas appliances in use: Ranges, 937; water heaters, 103.
 No. commercial gas arc lamps in use, 61.
 Supplies Quakertown, Perkaspie, Sellersville.

Consumers Gas Co., Reading.

RRs.: Penna.; P. & R. Ex.: Ad.

Capital stock, \$1,400,000.
 President, J. H. Keppelman.
 Secretary, G. W. Curran.
 Treasurer, J. Morris.
 Purchasing agent, J. A. Pearson.
 Manager, John H. Keppelman.
 Process manufacture, Lowe.
 Miles of mains, approx., 125.20.
 Annual sales, approx., 461,400,000 c. f.
 Pop. dist. supplied, 107,000.
 No. consumers, 22,292.
 No. meters, reg., 12,222; prepay., 10,070.
 Price gas: All the districts: 1st 10 M. c. f., \$1.10 gross, \$1 net; next 20 M., \$1-90c.; next 20 M., 90c.-80c.; over 50 M., 80c.-70c.
 No. public Welsbach lamps, 583.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 4,000.
 Ranges, 12,749; heaters, 5,012; water heaters, 4,264.
 No. commercial gas arc lamps, 3,277.

RELIABLE



RANGES

The most perfect combination of beautiful appearance, self-maintaining durability, all around efficiency and quick salability ever effected in gas range construction. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Supplies Reading, West Reading, Wyomissing, Mt. Penn, Shillington, Oakbrook, Brookside, Birdsboro, St. Lawrence, also Reifton and Baumstown.

Renovo Consolidated Gas Co., Renovo, Pa.

RR.: Penna. Ex.: Ad.

Capital auth., \$100,000; issued, \$36,000.
Bonds, \$15,000; due 1935; int., 5 p. c.
President, Geo. L. McCloskey.
Actg. sec. and treas., D. F. Spangler.
Gen. mgr. and pur. agt., Thomas Gilchrist.
Superintendent, Thomas Gilchrist.
Process manufacture, Lowe (double super-heated).

Annual production, 10,560,000 c. f.
Price coal per ton delivered, \$7.45; oil per gallon, 9.67c.

Candle-power, 23.

Calorific value, 630 B. t. u.

Gas holder capacity, 50,000 c. f.; pressure, max., 3.75 in.

Max. day's send out, 35,000 c. f.

Street mains, approx., 5.5 miles. Pressure, max., 3.75 in.; min., 3.75 in.

Annual sales, approx., 9,789,500 c. f.

Gas unaccounted for, 7 p. c.

Population of city, 4,621; of dist. supplied, 6,500.

No. consumers and meters, 556.

Price gas: 1st 3,000 c. f., \$1.75; next 2,000 c. f., \$1.70; next 2,000, \$1.65; next 2,000, \$1.60; over 10,000 c. f., \$1.35.

Gas appliances in use: Ranges, 500; heaters, 80; water heaters, 190.

Supplies Renovo and East Renovo.

(No 1918 report.)

Schuylkill Haven Gas and Water Co., Schuylkill Haven.

RRs.: Penna.; P. & R. Ex.: Ad.

Capital stock, \$300,000.

Bonds, 1st mtge. 6s, \$100,000; due 1921; 1st refund, and ext. 5s, \$100,000; due 1941.

President, David A. Howe.

Secretary and treas., J. C. Lightfoot, Jr.

General manager, J. J. McKnight.

Pur. agent, J. J. McKnight.

New bus. mgr., J. J. McKnight.

Gas purchased from Pottsville Gas Co.

Amount purchased (annual), 2,900,000 c. f.

Candle-power, 22.

Gas holder capacity, 40,000 c. f.

Max. day's send out, 20,000 c. f.

Miles of mains, approximate, 8.

High pressure mains, 5 miles from Pottsville; pressure 45 lbs. on line between holders.

Street main pressures, average, 2.8 in.

Annual sales, approx., 2,900,000 c. f.

Pop. borough supplied, 6,584.

No. meters, 300.

Price gas: Light, gross and net, \$1.50. Fuel, \$1.25.

Ranges in use, 100; heaters, 100; water heaters, 100.

No. commercial gas arc lamps, 125.

Supplies Schuylkill Haven and Cressona.

(Operated in connection with water works.)

Capouse Gas Co., Scranton, Pa.

(For RRs. and Ex. Cos., see Hyde Park Gas Co. below.)

Capital stock auth., \$35,000.

President, Worthington Scranton.

Secretary, Joseph Jeffrey.

Treasurer, Joseph Jeffrey.

Candle-power, 28.

Price of gas to consumers: Less than 15,000 c. f., \$1.15; 15,000-25,000 c. f., \$1.05; 25,000-100,000 c. f., 90c.; 100,000-300,000 c. f., 80c.; 300,000 c. f. and over, 70c. Min., 50c.

Hyde Park Gas Co., Scranton.

RRs.: No. Cen.; P. & R. Ex.: Am.; Ad.

Erie; N. Y., Ont. & W.; Lack. & Wyo.

Vy. Ex.: Ad.; Nat.; U. S.; W. F.

President, Worthington Scranton.

Sec'y and treas., Joseph Jeffrey.

Chief engineer, Homer F. Cox.

Superintendent, H. N. Squier.

Process manufacture, Lowe.

Candle-power, 28.

Pop. dist. supplied, 130,000.

Price gas: Less than 15,000 c. f., \$1.15; 15,000-25,000 c. f., \$1.05; 25,000-100,000 c. f., 90c.; 100,000-300,000 c. f., 80c.; 300,000 c. f. and over, 70c. Min., 50c.

Scranton Gas and Water Co., Scranton.

(Plant leased to Hyde Park Gas Co.)

Pennsylvania Lighting Co., Shamokin.

RRs.: No. Cen.; P. & R. Ex.: Am.; Ad.

(For capitalization and bonds, see Appendix.)

President, P. M. Chandler.

Vice-pres., F. P. Llewellyn and J. K. Trimble.

Secretary, W. J. Devine.

Assitant secretary, R. H. R. Toland.

Treasurer, H. Williams, Jr.

Gen mgr. and pur. agt., J. A. Britton.

New bus. mgr., J. H. B. Yeaton.

Process manufacture, Lowe (Gas Mach. Co.).

Price of coal per ton, delivered, \$4.10.

Price of oil per gallon, 4.9c.

Annual production, 16,529,000 c. f.

Candle-power, 22.

Calorific value, 625 B. t. u.

Total gas holder capacity, 200,000 c. f.

Max. day's send out, 76,000 c. f.

Miles of mains, approx., 14.

Street main pressures, max., 3.2 in.; min., 3 in.

Annual sales, approx., 15,426,000 c. f.

Gas unaccounted for, 6.67 p. c.

Pop. dist. supplied, 8,000; of city, Shamokin, 19,588.

No. consumers, 1,258.

No. meters, reg., 1,258.

Price gas: Light and Fuel, gross, \$1.25; net, \$1.10.

Ranges, 946; heaters, 14; water heaters, 124.

No. commercial gas arc lamps, 30.

Supplies Shamokin and Coal Township.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 2 phase, 60 cycles.
 Generating capacity: Lighting and power, 1,900.
 Voltage: Line, 2,300; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 206; 500 watt. Price per year, \$65.
 No. public incand., 52; 120 watt. Price per year, \$21.60.
 Commercial lighting: Price per kw. hr., gross, 9.5c. to 5c.
 Power circuits: No. of motors, 176; 1,248 h. p.; price per kw. hr., sliding scale, avg., 5c. to 2c.
 R. R. power, D. C., 550 volts.
 Output of station kw. for year, 5,117,220.
 Generating power used, Steam; rated h. p., 2,800.
 Cost of station boiler coal, per ton, \$1.55.

Carnegie Steel Co., Sharon, Pa.

RRs.: Erie; L. S. & M. So.; Penna. Ex.: Ad.; W. E.; Am.

General office, Carnegie Bldg., Pittsburgh.
 Gen'l supt., New Castle and Sharon Dist., John S. Oursler.
 Operates coke-oven plant at Sharon.

Shenandoah Light, Heat and Power Co., Shenandoah.

RRs.: L. Val.; Penna.; P. & R. Ex.: Ad.; Am.

Owned and controlled by the Schuylkill Gas & Electric Co.

Capital stock, \$100,000.
 President, P. B. Sawyer.
 Vice-president, J. B. Crane.
 Secretary, C. M. Walter.
 Purchasing agent, W. R. Fehr, Allentown.
 General manager, J. S. Wise, Jr.
 Superintendent, Peter McCarron, Shenandoah.
 Process manufacture, Lowe (Logan-Jane-way).

Candle-power, 22.
 Annual sales, approximate, 4,600,000 c. f.
 Population of borough supplied, 30,000.
 No. meters, 272.
 Price gas: Light, \$1.625. Fuel, \$1.265 and \$1.56¼.
 Gas appliances in use: Ranges, 186.
 No. commercial gas arc lamps in use, 14.
 Supplies Shenandoah.

Shippensburg Gas and Electric Co., Shippensburg.

RRs.: P. & R.; Cum. Vy.; W. Md. Ex.: Ad.

Capital stock, auth., \$150,000; issued, \$150,000.
 Bonds, \$103,000; due 1934-43; int., 5 p. c.
 President, John Hosfeld.
 Secretary, J. S. Omwake.
 Treasurer, Geo. S. McClean.
 General manager, C. W. Harman.
 Pur. agt. and supt., C. W. Harman.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.50.
 Price oil per gal., delivered, 7.5c.

Annual production, 7,600,000 c. f.
 Candle-power, 20.
 Total gas holders capacity, 55,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 32,000 c. f.
 Miles of mains, approx., 8.
 Street main pressures, max., 2.8 in.; min., 2.4 in.
 Annual sales, approx., 7,578,000 c. f.
 Gas unaccounted for, 3 p. c.
 Pop. dist. supplied, 5,500; of city, 4,600.
 Consumers and meters, 515.
 Price gas: Light and Fuel, \$1.50 up to 1,600 c. f.; \$1.46, 1,700 c. f.; \$1.43, 1,800 c. f.; \$1.40, 1,900 c. f.; \$1.38, 2,000 c. f. and 2c. less each 100 c. f. to 2,600 c. f.; 2,700 to 5,000, \$1.25; 5,000 to 10,000, \$1.20; 10,000 or over, \$1.15. Min. service charge, 75c.
 Ranges, 460; heaters, 42; water heaters, 57.
 No. commercial gas arc lamps, 8.
 Supplies Shippensburg.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$100,000.
 System operated: Arc and incand., A. C., 1 phase, 7,200 alt. Power, A. C., 3 phase.
 Generating capacity: Lighting, 1,300 kw.
 Voltage: Incand., 110-220; power, 220.
 Miles of overhead wires, 20.
 City lighting contract: Hours lighted per year: Incand., 4,000.
 No. public incand., 142; 60 c. p. series. Price per year, \$21 to \$55.
 Price current per kw. hr., gross, 12c. to 6c.
 Power circuits: No. motors, 41. Price per kw. hr., 6c. to 2c.
 Output of station, kw. hrs. for year, 1,250,000.
 Generating power used, Steam and Water; rated 1,780 h. p.
 Cost of station boiler coal, per ton, \$6.30.

Slatington Gas Co., Slatington.

RRs.: L. Val.; P. & R.; L. & N. E. Ex.: Ad.

Capital stock, \$35,000.
 Bonds, \$42,400; due 1935; interest, 4 p. c.
 President, A. Hower.
 Secretary, Harry E. Graffin.
 Treasurer, Harry E. Graffin.
 Engineer, Frank Frantz.
 Gen'l mgr. and pur. agent, Harry E. Graffin.
 Superintendent, David Heintzelman.
 Process manufacture, Lowe.
 Price oil per gal., 11.25c.
 Price coal per ton, delivered, \$4.75.
 Candle-power, 24.
 Calorific value, 550 B. t. u.
 Annual production, 4,000,000 c. f.
 Gas holder capacity, 25,000 c. f.
 Max. day's send out, 23,000 c. f.
 Miles of mains, approx., 4.
 Annual sales, approx., 4,000,000 c. f.
 Gas unaccounted for, 4 p. c.
 Pop. dist. supplied, 3,000; of city, 4,500.
 No. consumers, 475.
 No. meters, reg., 250; prepay., 225.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.

EFFICIENCY is the watch-word of progress. The **GOODMAN STOPPER** will help you attain efficiency.

SAFETY GAS MAIN STOPPER COMPANY.

263 East 133rd Street, New York, N. Y.

Ranges in use, 50; heaters, 50; water heaters, 10.
No. commercial gas arc lamps, 35.
Supplies Slatington.

Lehigh Coke Co., South Bethlehem.

RRs., L. Val.: P. & R.; Cen. of N. J. Ex.: Ad.

(Bethlehem Steel Co. owns all capital stock of this company.)

President, W. F. Roberts.

Sec'y and treas., B. H. Jones.

Purchasing agent, Wm. M. Tobias.

Engineer, R. S. Brunner.

Superintendent, C. E. Underwood.

Koppers ovens, 212; Didier ovens, 150.

No. of ovens under construction, 212.

Coal charges per oven, 13.75 net tons. Coke yield, 75 per cent.

Grade coke made, blast furnace and foundry.

Calorific value, 500 B. t. u.

Coke used for blast furnace and foundry.

Surplus gas used in steel plant of the Bethlehem Steel Co.

Bethlehem Steel Co., Steelton.

RRs.: Penna.: P. & R. Ex.: Ad.

(Successor to Pennsylvania Steel Co.)

President, E. G. Grace.

Secretary, B. H. Jones.

Treasurer, B. H. Jones.

Type of oven, Semet-Solvay.

No. of ovens, 120; Semet-Solvay.

Surplus gas used in steel plant and some sold to Harrisburg Gas Co.

Citizens Gas Co. of Stroudsburg.

RRs.: D., L. & W.; Del. Val.; N. Y., Susq. & W. Ex.: Ad.; W. F.

(Operated by Electric Bond & Share Corporation, New York City.)

Capital stock, \$20,000.

Bonds, \$73,000; int., 5 p. c.

Process manufacture, Lowe (Gas Mach. Co.)

Price of coal per ton, delivered, \$5.85.

Candle-power, 22.

Gas holder capacity, 70,000 c. f.

Miles of mains, approximate, 12.

Street main pressure, max., 2.5 in.

Annual sales, approx., 12,000,000 c. f.

Pop. dist. supplied, 10,000.

No. consumers, 1,100.

No. meters, reg., 925; prepay., 175.

Price gas: Light, gross, \$1.40; net, \$1.30.

Fuel, \$1.20; 5 M. c. f. or over per mo.,

\$1.20. Prepaid meters, \$1.50 per 1,000 c. f.

Min. mo. charge, reg., 40c.; prepaid, 50c.

Ranges in use, 500; water heaters, 50.

No. commercial gas arc lamps, 40.

Supplies Stroudsburg and East Stroudsburg.

Northumberland County Gas and Electric Co., Sunbury.

RRs.: No. Cen.; Penna.; P. & R. Ex.: U. S.; Ad.

(For information re capitalization, bonds, etc., see Appendix.)

Controlled by Lehigh Power Securities Corp.

Manager, W. R. Rhoades.

Process manufacture, Lowe.

Price coal per ton, delivered, \$4.50.

Price oil per gal., 4.5c.

Candle-power, 22.

Calorific value, 620 B. t. u.

Annual production, 37,000,000 c. f.

Max. day's send out, 130,000 c. f.

Total gas holders capacity, 225,000 c. f.

Miles of mains, approx., 14.5.

Street main pressures, max., 6 in.; min., 3.5

High press. mains, miles, 1.5; pressure, 15 lbs.

Annual sales, approx., 33,000,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. dist. supplied, 12,000; of city, 13,770.

No. consumers, 1,500.

No. meters, reg., 1,000; prepay., 500.

Price gas: Light and Fuel, \$1.35, with discounts for quantity.

Ranges and hot plates, 1,425; heaters, 200; water heaters, 250.

No. commercial gas arc lamps, 40.

Supplies Sunbury.

ELECTRICAL DEPARTMENT.

System operated: A. C. and D. C.

Generating capacity: Light and Power, 1,875 kw.

Voltage: Arcs. series; incand., 110; power, 110-220.

City lighting contract: Hours lighted per year: Arc, 4,000; incand., 4,000.

No. public arcs, 244; 450-550 watt. Price per year, \$38; \$55; \$53 and \$65.

No. public incand., 282; 40-60 watt. Price per year, \$10; \$20; \$16 and \$21.

Commercial lighting: Price current per kw. hrs., 10c. to 4c. Discounts, 10 p. c.

Power circuits: Price per kw. hr., 5c. to 1.25c.

Output of station, kw. per year, 7,000,000.

Generating power used: Steam; rated, 2,700 h. p.; and Water.

Cost of station boiler coal, per ton, \$1.35 and \$2.35.

Supplies Sunbury, Northumberland, Milton, McEwensville, Turbotville, Selinsgrove and Lewisburg.

(No 1918 report.)

Eastern Pennsylvania Light, Heat and Power Co., Tamaqua.

RRs.: Cen. of N. J.; P. & R. Ex.: Am.

Controlled by Eastern Penna. Rys. Co.

Operated by J. G. White M'gment Corp.

Capital stock, \$1,000,000.

Bonds, \$1,401,300; due 1939; int., 6 p. c.

President, C. A. Greenidge.

Vice-pres., J. H. Pardee, T. W. Moffat.

Sec'y and treas., W. C. Austin.

Asst. sec'y and treas., H. B. Brown.

Mgrs. and pur. agents, J. G. White M'gment Corp.

Sales agent, F. R. Fleck.

Process manufacture, Lowe.

Candle-power, 17.5.

Gas holder capacity, 35,000 c. f.

Max. day's send out, 26,500 c. f.

Miles of mains, approx., 6.5.

Annual sales, approx., 5,650,000 c. f.

Metropolitan No. 2 Argand Burners, specified for candlepower test use by the London Gas Referee. The only burner which approaches perfect combustion of any kind of gas, whether coal gas, enriched coal gas or coal gas mixed with carburetted water gas. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Gas unaccounted for, 5 p. c.
 Pop. of borough, 10,000; dist. supplied, 11,000.
 No. consumers and meters, 525.
 Price gas: Light and Fuel, net \$1.50.
 Ranges in use, 505; water heaters, 57.
 No. commercial gas arcs, 25.
 Supplies Tamaqua.

ELECTRIC DEPARTMENT.

Supplies Tamaqua, also Pottsville, Minersville, Orwigsburg, Frackville, Gilberton, Girardville, Mt. Carbon, Port Carbon, Palo Alto and Cressona, also wholesale to a number of distributing companies.

Towanda Gas Co., Towanda.

RRs.: L. Val.; Susq. & N. Y. Ex.: Ad.

Capital stock, \$45,000.
 President, O. L. Haverly.
 Secretary, D. R. Smith.
 Treasurer, E. L. Smith.
 Purchasing agent and supt., E. L. Smith.
 Process manufacture, Coal.
 Candle-power, 18.
 Miles of mains, 5.
 Annual sales, approx., 6,000,000 c. f.
 Pop. borough supplied, 4,281.
 Price of gas, gross, \$1.60; net, \$1.50.

ELECTRICAL DEPARTMENT.

(Business conducted under name of Towanda Electric Illuminating Co.)
 President, E. L. Smith.
 Treasurer and sec., O. L. Haverly.
 Manager, E. L. Smith.
 Arc, incand. system and Adams Lagnall 7.5 amp., 60 cycle, 2 phase, 110 volt.
 No. public arcs, 14; lighted all night and every night.
 No. public incand., 76.
 Power used, Steam.

Tyrone Gas and Water Co., Tyrone.

RR.: Penna. Ex.: Ad.

President, A. A. Stevens.
 Acting secretary and treas., B. Bookhamer.
 Purchasing agent, A. A. Stevens.
 Acting superintendent, J. C. Sims.
 Process manufacture, Coal.
 Pop. borough supplied, 7,176.
 Candle-power, 18.
 Miles of mains, approximate, 4.5.
 Annual sales, approx., 6,000,000 c. f.
 No. meters, 400.
 Price gas: Light, gross \$1.60; net \$1.50. Fuel, gross \$1.60; net \$1.40.
 Ranges in use, 150.
 Supplies Tyrone.
 (No 1918 report.)

Waynesboro Gas Co., Waynesboro.

RRs.: Cum. Vy.; W. Md.; C. G. & W. St. Ry. (El.). Ex.: Ad.; Am.

(Successor to Waynesboro Gas Light Co.)
 Capital stock, \$100,000.
 Bonds, \$164,000; due 1943; int., 5 p. c.
 President, D. Maurice Wertz.
 Vice-president, J. Emory Mills.

Secretary, T. M. Reed.
 Treasurer and gen'l mgr., D. Maurice Wertz.
 Superintendent and pur. agent, F. R. Bender.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$6.55.
 Price of oil per gal., delivered, 12c.
 Candle power, 21.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 100,000 c. f.
 Holder pressure, 4.7 in.
 Max. day's send out, 105,000 c. f.
 Miles of mains, approx., 14.5.
 Street main press., max., 4 in.; min., 3 in.
 Annual sales, approx., 19,000,000 c. f.
 Gas unaccounted for, 14 p. c.
 Pop. borough, 7,199; of dist. supplied, 8,000.
 No. consumers, 1,575.
 No. meters, reg., 1,006; prepay., 569.
 Price gas: Light and Fuel: 1st 1,000 c. f., \$1.50; next 2,000 c. f., \$1.50-\$1.40; next 2,000 c. f., \$1.40-\$1.30; next 5,000 c. f., \$1.30-\$1.20; next 5,000 c. f., \$1.20-\$1.10; next 5,000 c. f., \$1.10-\$1; next 50,000 c. f., 90c.-80c.; next 100,000 c. f., 80c.-70c. Min. mo. charge, 60c. Disc., 10c., 20 days.
 Ranges in use, 750; water heaters, 110.
 No. commercial gas arc lamps, 35.
 Supplies Waynesboro.

Chester County Gas Co., West Chester.

RRs.: Penna.; Phila., Balt. & Wash. Ex.: Ad.

(For capitalization and bonds, see Appendix.)
 President, Walton Clark.
 Secretary, G. W. Curran.
 Treasurer, James Ball.
 Manager, W. O. Lamson, Jr.
 Purchasing agent, J. A. Pearson.
 Process manufacture, Lowe.
 Calorific value (mo. avg.), 570 B. t. u.
 Miles of mains, approx., 30.2.
 Annual sales, approx., 58,759,069 c. f.
 Pop. dist. supplied, 16,000; of city, 11,767.
 No. consumers, 3,189.
 No. meters, reg., 1,907; prepay., 1,282.
 Price gas: Light and Fuel, gross, \$1.30; net, \$1.20, 1st 10,000 c. f.; over 10,000 c. f., gross, \$1; net, 90c.
 Ranges in use, 2,000; heaters, 401; water heaters, 460.
 No. commercial gas arc lamps, 313.
 Supplies West Chester, Downingtown and surrounding municipalities.

Wilkes Barre Co., Wilkes Barre.

RRs.: Cen. of N. J.; D. & H.; L. Val.; N. Y., Susq. & W.; Penna.; W. B. & H. (El.); Lack. & Wyo. Vy.; or via Kingston; D., L. & W. Ex.: Ad.; Nat.; Am.; W. F.

Controlled by The United Gas & Elec. Co. of New Jersey.

(For capitalization and bonds, see Appendix.)
 President, W. H. Conyngham.
 Vice-president, E. G. Connette.
 Treasurer, A. L. Minor.
 Secretary, A. L. Minor.
 Engineers and pur. agents, United Gas & Elec. Engineering Corp.
 Assistant secretary, J. A. McKenna.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street

PHILADELPHIA, PA.

Assistant treasurer, G. F. Bird.
 General manager, E. A. Wakeman.
 Superintendent, F. A. Kelly.
 Commercial manager, Ray Stretch.
 Process manufacture, Lowe.
 Candle-power, 20.
 Calorific value, 607 B. t. u.
 Annual production, 231,756,800 c. f.
 Max. day's send out, 924,000 c. f.
 Gas holder capacity, 790,000 c. f.
 Miles of mains, approx., 67.38.
 Street main pressures, max., 4.5 in.; min., 2.5 in.
 Annual sales, approx., 221,454,000 c. f.
 Gas unaccounted for, 2.4 p. c.
 Pop. dist. supplied, 94,027; of city, 67,105.
 No. consumers, 10,493.
 No. meters, reg., 10,096; prepay., 397.
 Price gas, gross, \$1.10; net, \$1.00 to 75c.
 Indus. rate, fixed chg., \$125 per mo. plus oper. charge, 45c. to 30c. per 1,000 c. f.
 No. public Welsbach incand. gas lamps, 343.
 Contract includes repairs, care, lighting and extinguishing.
 Hours lighted, per year, 4,000.
 Ranges in use, 5,442; water heaters, 1,456.
 No. commercial gas arc lamps, 684.
 Supplies Wilkes-Barre, Ashley, Hanover.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 2 phase, 60 cycle.
 Generating capacity: Lighting and power, 4,600 kw.
 Voltage: incand., 110; power, 220-226 A. C.; 225 D. C.
 City lighting contract: Hours lighted per year: Arc and incand., 4,000.
 No. public arcs, 919; 7.5 amp. Price per year, \$54.
 Incand: 39 posts; lighted till midnight. Price per year, \$35.
 Commercial lighting: No. arcs, 257; incand., 84,597.
 Price current per kw. hr., 10c. to 4.5c. Discounts, 5 p. c.
 Power circuits: No. motors, 1,153; price per kw. hr., 7c. to 3c. Discounts, 5 p. c.
 Output of station, kw. for year, 15,936,142.
 Generating power used, Steam; rated (Boiler), 4,600 kw.

Northern Central Gas Co., Williamsport.

RRs.: N. Y. C. & H. R.; No. Cen.; Penna.; P. & R. Ex.: Ad.; Am.

(Controlled by Lehigh Power Securities Corp.)
 (For capitalization and officers see Appendix.)
 Gen'l manager and pur. agent, W. R. Rhoades.
 New bus. mgr., Geo. B. Hodges.
 Process manufacture, Lowe.
 Candle-power, 21.

Calorific value, 590 B. t. u.
 Annual production, 191,000,000 c. f.
 Max. day's send out, 742,000 c. f.
 Total gas holders capacity, 500,000 c. f.
 Holder pressure, 5.6 in.
 Miles of mains, approx., 67.
 Street main pressures, max., 4.8 in.; min., 4 in.

Annual sales, approx., 175,500,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. dist. supplied, 45,000; of city, 31,860.
 No. consumers, 8,417.
 No. meters, reg., 6,772; prepay., 3,707.
 Price gas: Light and Fuel, \$1.30 with discounts for quantity.
 No. public Miner lamps, 249.
 Price per year, \$22.50.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 4,300.
 Ranges in use, 9,000; heaters, 1,300; water heaters, 2,100.
 No. commercial gas arc lamps, 500.
 Supplies Williamsport, South Williamsport and West Williamsport.

Philadelphia Suburban Gas and Electric Co., Jenkintown District, Wyncote.

RRs.: via Jenkintown, P. & R. Ex.: Am.

Controlled by the American Gas Co.
 (For capitalization, bonds, etc., see Appendix.)
 President, Morris W. Stroud.
 Vice-presidents, S. P. Curtis and J. C. Lowry.
 Secretary, W. L. Fox.
 Treasurer, J. B. Townsend, 3d.
 Purchasing agent, F. D. Wharton.
 General manager, J. D. Shattuck.
 Engineer, R. C. Cornish.
 Elec. engineer, H. M. Blake.
 Manager, L. R. Dutton.
 Process manufacture, Lowe.
 Calorific value, 570 B. t. u.
 Annual production, 248,658,000 c. f.
 By-products made: Tar, 169,341 gals.
 Gas holder capacity, 705,000 c. f.
 Max. day's send out, 1,123,000 c. f.
 Miles of street mains, approx., 90.
 Street main pressures, max., 4 in.; min., 2.5 in.
 High pressure mains, miles, 84; pressure, 45 lbs.
 Annual sales, approx., 225,329,000 c. f.
 Gas unaccounted for, 9.1 p. c.
 By-products sold: Tar, 247,802 gals.
 Pop. district supplied (est.), 27,000.
 No. consumers, 7,402.
 No. meters, reg., 5,144; prepay., 2,258.
 Price gas: Light and Fuel: 1st 5 M. c. f., \$1.40 net; 2d 5 M., \$1.25; 3d 5 M., \$1.10; next 25 M., \$1; over 40 M., 90c. Prepayment meters, \$1.30, plus 25c. monthly service charge.

Ranges in use, 5,500; water heaters, 1,100.
 Supplies Jenkintown, Wyncote, Ogontz, Elkins Park, Ashbourne, Melrose Park, Glenside, Cheltenham, Rockledge, McKinley, Noble, Abington, Weldon, Oreland, Willow Grove, Crestmont, Ardsley, Edge Hill, Remlu Heights, Hatboro, Ambler, Ft. Washington, Chestnut Hill, Lansdale, No. Wales and sells gas to Bucks County Public Service Co.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 2 phase, 60 cycles; power, A. C., 2 phase; 60 cycles.
 Voltage: Arcs, 70; incand., 110; power, 220.
 City lighting contract: Hours lighted per year, incand., 4,000.

MONEL METAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. These are high grade experimental meters for use with corrosive gases, such as oxygen gas.

No. public incand., 500, 80 watt.
Commercial lighting: Price current per kw.
 hr., 10c., 8c., 4c. Demand basis.
Power circuits: No. motors, 165. Price per
 kw. hr., 10c. and 2.5c.
Output of station, kw. hr. for year, 2,839,000.
Energy purchased from Phila. Electric Co.
Supplies Jenkintown, Abington, Cheltenham,
 Ft. Washington, Hatboro, Glenside,
 Ogontz, Bethayres, and townships of
 Springfield, Upper Dublin, Moreland and
 Whittemarsh.

York Gas Co., York.

RRs.: No. Cen.; W. Md.; Md. & Pa. Ex.: Ad.

Capital stock, \$1,400,000.
 Annual dividend, 4 p. c.
 Bonds, \$729,700; due 1941; int., 5 p. c.
President, Grier Hersh.
Secretary, T. W. McDonald.
Treasurer, J. J. Frick.
Engineer dis., H. S. Bair.
Pur. agents, Oscar Heckert and J. A. Weiser.
General manager, Oscar Heckert.
New business mgr., John A. Weiser.

Works supt., Collin Beegle.
Process manufacture, Lowe (improved).
 Price coal per ton, delivered, \$6.30.
 Price oil per gal., 8.18c.
 Calorific value, 570 B. t. u.
 Annual production, 195,000,000 c. f.
 By-products made: Tar, 97,000 gals.
Gas holder capacity, 1,000,000 c. f.
 Holder pressure, 6 in.
 Max. day's send out, 835,000 c. f.
 Miles of mains, approx., 73.
 Street main pressures, max., 6 in.; min., 3 in.
 Booster mains, 2.5 miles; pressure, 3 lbs.
 Annual sales, approx., 174,000,000 c. f.
Gas unaccounted for, 8 p. c.
 By-products sold: Tar, 80,000 gals.
 Pop. city, 44,750; dist. supplied, 55,000.
 No. consumers, 10,743.
 No. meters, reg., 5,859; prepay., 4,884.
 Price gas: Light and Fuel, gross, \$1.20; net
 \$1.10.
 Ranges in use, 7,600; heaters, 1,580; water-
 heaters, 1,615.
 No. commercial gas arc lamps, 1,840.
 Supplies York, Elmwood, North York and
 West York.

RHODE ISLAND

Total population, 620,090.

Bristol County Gas and Electric Co., Bristol.

RRs.: N. Y., N. H. & H. S. B.: Seac. Co.
 Ex.: E. & P.

(Owned by Narragansett Electric Lighting
 Co., Providence.)
 Bonds, \$100,000; due 1923; interest, 6 p. c.
President, S. P. Colt.
Secretary and treasurer, E. A. Barrows.
General manager, A. B. Lisle.
Superintendent, A. G. Earle.
New bus. mgr., E. R. Davenport.
Gas purchased from Providence Gas Co.
Candle-power, 17.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 156,000 c. f.
 Holder pressure, max., 3.5 in.
 Miles of mains, approximate, 18.
 Street main pressures, max., 3.8 in.; min., 3 in.
 Annual sales, approx., 32,044,000 c. f.
 Gas unaccounted for, 16 p. c.
 Pop. dist. supplied, 15,150.
 No. consumers, 2,305.
 No. meters, reg., 1,442; prepay., 871.
 Price gas: Light and Fuel, gross, \$1.45; net,
 \$1.35.
 Ranges in use, 1,400.
Supplies Bristol and Warren.

Newport Gas Light Co., Newport.

RRs.: N. Y., N. H. & H.; Narr. Pier; N. & W.
 Co. S. Bs.: Narr. Pier Nav.; N. & W.
 Co.; James & N. Ferry; N. E. Nav.;
 P., F. R. & N. Ex.: Ad.: N. Y. & B.

Capital stock, \$500,000; annual div., 8 p. c.
President, A. K. Quinn.
Secretary, T. A. Lawton.
Treasurer, A. K. Quinn.
Purchasing agent, A. K. Quinn.
General manager, A. K. Quinn.
Process manufacture, Coal and Lowe.
Candle-power, 16,355.
 Miles of mains, approximate, 35.
 Annual sales, approx., 105,000,000 c. f.
 Pop. city supplied, 27,149.
 No. meters, 4,300.
 Price gas: Light and Fuel, net \$1.
 No. public Welsbachs, 800.
 Consumption per burner per hour, 3 c. f.
 Price includes repairs, care and lighting.
 No. hours lamp is lighted per year, 4,000.
 (No 1918 report.)

Pawtucket Gas Co., Pawtucket.

RRs.: N. Y., N. H. & H. Ex.: Ad.; E. & P.

Controlled by Pawtucket Gas Co. of N. J.,
 which is in turn controlled by Blackstone
 Valley Gas & Electric Co.
 (For capitalization, bonds, officers, etc., see
 Appendix.)
 Under management of Stone & Webster.
Manager, Capt. Wm. McGregor.
Superintendent, Chas. Otten, Jr.
Process manufacture, Coal and Lowe.
Candle-power, 14.7. Calorific value, 568 B. t. u.

ELECTRICAL DEPARTMENT.

(All current generated at the Providence
 plant of the Narragansett Electric Light-
 ing Co.)

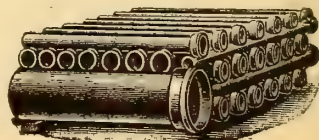
PIPE

We can meet your requirements for
 cast iron pipe promptly—we carry
 a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



Annual production: Coal gas, 305,600,000 c. f.;
water gas, 402,400,000 c. f.
By-products made: Coke, 19,655 tons; tar,
368,300 gals.; ammonia, 140,700 lbs.
Max. day's send out, 2,731,000 c. f.
Total gas holders capacity, 1,852,594 c. f.
Miles of mains, approx., 205.3.
Annual sales, approx., 639,358,800 c. f. (incl.
178,517,200 c. f. sold to B. V. G. & E. Co.)
Gas unaccounted for, 9.65 p. c.
Pop. dist. supplied, 105,700; of city, 55,335.
No. meters, reg., 18,013; prepay., 3,477.
Price gas: Light and Fuel, gross, \$1.25; net,
\$1.15. Wholesale rate: \$1.25 for first 41,
700 c. f. per month; \$1.00 for all over
41,700 c. f. per month. Disc., 10c., 15
days.
No. public lamps, 350; lighted 2,190 hrs.
Contract does not include repairs, care, light-
ing and extinguishing.
Ranges in use, 18,685; water heaters, 1,785.
No. commercial gas arc lamps, 1,208.
Supplies Pawtucket, Central Falls, Lincoln
and Cumberland, and sells gas to Black-
stone Valley Gas & Electric Co., Woon-
socket.

Providence Gas Co., Providence.

RRs.: N. Y., N. H. & H.; Prov. & Dan. S. Bs.:
P., F. R. & N.; Seac. Co.; Mer. & Min.
Trans.; Joy; N. E. Nav. Ex.: Ad.; E.
& P.; N. Y. & B.

Capital stock, \$10,000,000 auth.; \$4,630,000
issued; annual div., 8 p. c.
Notes, \$2,100,000; due 1923; int., 7 p. c.
President, John R. Freeman.
Vice-pres. and treas., C. H. Manchester.
Secy. and asst. treas., Arthur F. Short.
Supt. of dis., Geo. E. Allyn.
Process manufacture, Coal and Lowe.
Candle-power, 17. Cal. val., 600 B. t. u.
Annual production: Coal gas, 763,215,000 c. f.;
water gas, 1,321,214,000 c. f.
Gas holder capacity, 13,000,000 c. f.
Holder pressure, 6.6 in.
Miles of mains, approx., 449.
High pressure mains, 16.5 miles; press., 2 to
10 lbs.
Street main pressures, max., 6.2 in.; min., 4 in.
Max. day's send out, 8,500,000 c. f.
Annual sales, approx., 2,000,000,000 c. f.
Gas unaccounted for, 4.1 p. c.
Pop. of dist. supplied, 300,000; of city, 224,326.
Consumers and meters, 63,150.
Price gas: Light and Fuel, sliding scale: 1st
5,000 c. f., \$1.10—\$1.15; next 5,000 c. f.,
\$1.05—95c.; next 40,000 c. f., \$1—90c.;
next 75,000 c. f., 95c.—85c.; next 125,000
c. f., 90c.—80c.; excess 75c. net.
Supplies cities of Providence and Cranston
and towns of East Providence, North
Providence, Johnston, Warwick and Bar-
rington. Also sells to Bristol County Gas
& Electric Co.

Tiverton Gas Co., Tiverton.

RRs.: N. Y., N. H. & H.; S. B., Seac. Co. Ex.:
N. Y. & B.

Capital stock, \$50,000.
President, Benjamin Seabury.
Secretary and treas., Pardon G. Gray.
Pur. agent., Wm. E. King.
General manager, Wm. E. King.
Engineer and supt., Wm. E. King.
New-business manager, Wm. E. King.
Gas purchased from Fall River Gas Works
Co.; 5,131,000 c. f.
Candle-power, 20.
Calorific value, 635 B. t. u.
Miles of mains, approx., 8.5.
Street main pressure, max., 6 in.
Annual sales, estimated, 5,000,000 c. f.
Population of city, 4,032; dist. supplied, the
same.
No. consumers, 300.
No. meters, reg., 290; prepay., 10.
Price gas: Light, gross, \$1.35; net, \$1.25.
No. ranges, 150; heaters, 50; water heaters, 50.
Supplies Tiverton.

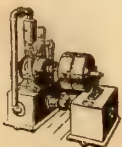
The Mystic Power Co., Westerly.

Controlled by Westerly Light & Power Co.
President, Edwin A. Barrows.
Secretary and treasurer, William G. Nye.
Gen. mgr. and pur. agt., M. H. Spellman.
Superintendent, Geo. McKenzie.
New business manager, M. H. Spellman.
Purchase gas from Westerly Light & Power
Co.; electricity from Norwich & Wester-
ly Traction Co.

Westerly Light and Power Co., Westerly.

RR.: N. Y., N. H. & H. Ex.: Ad.

Controlled by Narragansett Elec. Lighting Co.
Capital stock, pref., \$200,000; com., \$500,000;
ann. div. pref., 5 p. c.; common, 5 p. c.
Bonds, \$446,000; due 1937; int., 5 p. c.
President, Wm. Clark.
Secretary and treasurer, William G. Nye.
Gen. mgr. and pur. agt., M. H. Spellman.
New bus. mgr., M. H. Spellman.
Engineer, Charles Lamphre.
Superintendent, F. N. Clark.
Process manufacture, Lowe.
Price coal per ton, delivered, \$9.
Price oil per gallon, delivered, 6.75c.
Candle-power, 18-22. Calorific value, 525 B.t.u.
Annual production, approx., 26,645,970 c. f.
By-products made: Tar, 30,000 gals.
Gas holder capacity, 112,000 c. f.
Holder pressure, max., 5.5 in.
Max. day's send out, 73,000 c. f.
Miles of mains, approx., 10.13.
Street main pressures, max., 5 in.; min., 3 in.
Annual sales, approx., 25,964,000 c. f.
Gas unaccounted for, 4 p. c.
By-products sold: Tar, 20,000 gals.
Pop. dist. supplied, 7,500; of city, 10,200.
No. consumers, 1,098.
No. meters, reg., 1,085; prepay., 13.
Price gas: Light and Fuel, gross, \$1.50;
net, Light, \$1.35; Fuel, \$1.05.



NEEDHAM HIGH PRESSURE GAS SYSTEM and APPLIANCES are sold under guarantee of definite consumption, and economy or equivalent increase in production; and will enable gas to compete commercially with other fuels.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Ranges in use, 893; heaters, 125; water heaters, 200.

No. commercial gas arc lamps, 45.

Supplies Westerly, R. I., and Pawcatuck, Conn. Supplies also The Mystic Power Co.

ELECTRICAL DEPARTMENT.

Capital apportioned to elec. plant, approx., \$807,535.31.

System operated: Arc and incand., A. C., 3 phase, 60 cycle; power, A. C.

Generating capacity: Lighting and power, total 840 kw.

Voltage: Arcs, 75; incand., 110; power, 550.

Miles of over-head wires, 345.

City lighting contract: Arc and incand., all night schedule, 4,000 hours.

No. public arcs, 10; 40—600 watt; price per year, \$90.

No. public incand., 28—3 ft. clusters; size 100 watt (each lamp); price per year, \$54.

Also 553—60 watt; price, \$18.

Commercial lighting: No. arcs, 15.

Price current per kw. hr., gross, 12c. Disc., min., 7.72c.

Power circuits: No. motors, 210; price per h. p., 1.75c. to 6.333c. Disc., 2 p. c., 10 days.

Output of station, kw. for year, 561,929.

Electricity purchased, kw. for year, 1,359,860.

Generating power used, Diesel oil engine; rated h. p., 1,125.

Cost of station fuel oil, 6.75c. per gal.

Power purchased from Narragansett Electric Lighting Co.

Blackstone Valley Gas and Electric Co., Woonsocket.

RR.: N. Y., N. H. & H. Ex.: Ad.; E. & P.

Under management of Stone & Webster.

(For capitalization and officers see this company's report under Appendix.)

Superintendent, Forrest N. Nason.

Gas supplied under high pressure from Pawtucket Gas Co.

Candle-power, 13.8. Calorific value, 559 B. t. u.

Gas purchased, 178,517,200 c. f.

Gas holder capacity, 839,000 c. f.

Miles of mains, approx., 48.34.

High pressure mains, 12 mi.; press., 5-15 lbs.

Annual sales, approx., 165,594,100 c. f.

Gas unaccounted for, 4.8 p. c.

Pop. dist. supplied, 43,400; of city, 38,125.

No. meters, reg., 5,765; prepay., 2,084.

Price gas: Light and Fuel: \$1.20 per 1,000 for first 41,700 c. f. per month; 85c. all over.

Discount, 10c. per 1,000, 10 days.

Ranges in use, 3,730; water heaters, 538.

No. commercial gas arc lamps, 181.

Supplies Woonsocket and N. Smithfield, R. I.

ELECTRICAL DEPARTMENT.

Operated under the name of Blackstone Valley Gas & Electric Co., Pawtucket and Woonsocket Divisions.

System operated: Arcs., mun., D. C.; com., A. C. Incand., A. C. D. C.; com., single and 3 phase, 60 cycles. Power, A. C. single and 3 phase, 60 cycles.

Generating capacity, light and pwr., 23,400 kw.

Voltage, com. service: incand., 110; power, 220-550.

City lighting contract: Hours lighted per year, arcs and incand., 4,000.

No. public arcs, 460; 4 amp.

No. public incand., 140; 40 c. p.: 334, 320 watt; 1,782, 50 watt.

Commercial lighting: No. arcs, 78; incand., 7,158 kw. equiv.

Price current per kw. hr., gross: Pawtucket, 11c.; Woonsocket, 12.5c. Discounts, 1c. per kw. hr.

Power current price per kw. hr., 10c. to 3c.; discounts, none. In addition, demand rate at Pawtucket, \$3 per kw. per mo., plus 2.5c. per kw. hr., with discount 3 p. c. to 73 p. c., according to demand. Woonsocket, same, except current charge is 2.75c. per kw. hr.

Other uses: tans, iron and miscellaneous, 2,130 kw.; also supplies street railway in Woonsocket.

Output of stations, kw. hrs. for year, 68,417,000 (generated and purchased).

Generating power used, Steam and Water. Rated (steam), 31,166 and (water) 2,285 h. p.

SOUTH CAROLINA.

Total population, 1,634,340.

Anderson City Gas Co., Anderson.

RRs.: Chas. & West. C.; Blue Ridge: So. Ex.: So.

(Successor to Anderson Gas Co.)

Capital stock, \$100,000.

Bonds, \$80,000; due 1942; int., 6 p. c.

President, Jas. H. Morris.

Secretary, Francis A. Courtney.

Treasurer, Francis A. Courtney.

Purchasing agent, W. R. Wones.

Engineer, W. R. Wones.

Gen. mgr. and supt., W. R. Wones.

New bus. mgr., W. R. Wones.

Process manufacture, Lowe.

Price of coke per ton, delivered, \$8 to \$10.35.

Price of oil per gal., delivered, 6.5c.

Candle-power, 16.

Calorific value, 600 B. t. u.

Annual production, 14,250,000 c. f.

Gas holder capacity, 50,000 c. f.

Holder pressure, max., 3.5 in.

Max. day's send out, 76,000 c. f.

Miles of mains, 16 high pressure.

Pressure carried, max., 10 lbs.; min., 3 lbs.

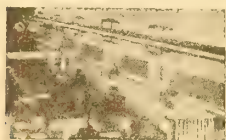
Annual sales, approx., 12,829,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. city, est., 10,390; of dist. supplied, 9,000.

No. consumers, 635.

No. meters, reg., 384; prepay., 251.



INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.

No. ranges, 520; heaters, 115; water heaters, 65.

No. commercial gas arc lamps, 85.
Supplies Anderson and suburbs.

Charleston Consolidated Railway and Lighting Co., Charleston.

RRs.: A. C. L.; So.: S. A. B.; Car. & W.; S. Bs.: B. & C. Co.; Clyde SS.; Sea Isl. Co.; C. SS. Co.; Phila. & N. O.; So. Transf.; Am.-H.; Luchenbach; Grace; United Fruit Line. Ex.: So.

Capital stock, pref., \$1,500,000 auth., \$500,000 issued; com., \$3,000,000 auth., \$1,500,000 issued.

President, Philip H. Gadsden.

Vice-Presidents, Walton Clark, Lewis Lillie.

Vice-president, C. M. Benedict.

Secretary, G. W. Curran.

Treasurer, James Ball.

Pur. agent, J. A. Pearson.

Process manufacture, Lowe.

Candle-power, 20.

Miles of mains, approx., 70.78.

Annual sales, approx., 226,000,000 c. f.

Pop. city supplied, 62,283.

No. consumers, 7,281.

No. meters, reg., 6,468; prepay., 813.

Price gas: Light and Fuel, \$1.10 (after Apr. 1).

Public Welsbach lamps, 613.

No. hours lamp is lighted per year, 4,365.

Ranges in use, 7,728; heaters 6,823; water heaters, 1,589.

No. commercial gas arc lamps, 1,227.

Supplies Charleston, S. C.

ELECTRICAL DEPARTMENT.

System operated: Arc, 6.6 amp., A. C. series St. arcs; incand., 2,300-volt, single phase; power, 2,300-volt, 3 phase, 500-volt D. C.; also 6,600-volt, 3 phase and 13,200-volt, 3 phase.

Generating capacity: City station, 5,000 kw., A. C., 1,800 kw. D. C. in m. g. sets (includes railway capacity).

Voltage: Arcs, series; 2,300 prim.; 110-220 sec.; 500 D. C.

City lighting contract: Hours lighted per yr., arc and incand., 4,000.

No. public arcs; 49, 425 watts; 333 316 watts.

No. public incand., 11, 40 watts.

Commercial lighting: No. arcs, 24; No. series incand., 11.

Price current per kw. hr., gross and net, 10c. to 4c.

Power circuits: No. motors, 662; price per kw. hr., gross and net, 6c. to 2.5c.; large power, 3c. to 1c. per kw. hr., plus primary charge.

Output of station, kw. for year, 14,743,015.

Generating power used, 5,000 kw. steam turbines (includes railway generators).

Columbia Gas Light Co., Columbia.

RRs.: A. C. L.; Col., New. & Laurens; S. A. L.; So. S. Bs.: N. Y.; Col. & Geo. Co.

Controlled by Columbia Railway Gas & Electric Co.

(For capitalization, bonds, etc., see Appendix.)

President and treasurer, E. W. Robertson.

Secretary, R. Charlton Wright.

Gen. mgr. and pur. agent, Alfred L. Kenyon.

New business manager, Alfred L. Kenyon.

Superintendent, S. W. Brown.

Process manufacture, Lowe.

Price coke per ton, delivered, \$8.50.

Price oil per gal., delivered, 7.85c.

Candle-power, 21; calorific value, 575 B. t. u.

Annual production, 100,000,000 c. f.

Max. day's send out, 500,000 c. f.

Total gas holder capacity, 360,000 c. f.

Holder pressure, 4.5 in.

Miles of mains, approx., 40.5.

Street main pressures, max., 4.5 in.; min., 3 in.

Annual sales, approx., 100,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. city, 26,319 (1910); dist. supplied, 32,000.

No. consumers, 2,800.

No. meters, reg., 2,600; prepay., 213.

Price of gas: Sliding scale: Up to 400 c. f., \$1.55 per 1,000 c. f.; 500 to 1,500 c. f., \$1.45; 1,600 to 2,500 c. f., \$1.40; 2,600 to 7,500 c. f., \$1.35; 7,600 to 10,000 c. f., \$1.30; 10,100 to 15,000 c. f., \$1.20; 15,100 to 25,000 c. f., \$1; 25,000 to 50,000 c. f., 90c. Disc., 10c. per 1,000 c. f. Min. charge, 60c.

Ranges in use, 1,800; heaters, 600; water heaters, 500.

No. commercial gas arc lamps, 400.

Supplies Columbia.

Florence Gas Co., Florence.

RR.: A. C. L. Ex.: So.

Capital stock, auth., \$100,000; issued, \$75,000.

President, J. L. Barringer, Jr.

Secy. and treas., W. J. Brown.

Gen. mgr. and pur. agt., J. L. Barringer, Jr.

Engineer, John Richter, Sr.

Process manufacture, Lowe (Logan).

Price coke per ton, delivered, \$5.65.

Price of oil per gal., delivered, 7c.

Candle-power, 18.

Calorific value, 600 B. t. u.

Gas holder capacity, 50,000 c. f.

Max. day's send out, 50,000 c. f.

High pressure mains, 14 miles; press., 7 lbs.

Annual sales, approx., 12,700,000 c. f.

Gas unaccounted for, 15 p. c.

Population of city supplied, 7,057.

No. consumers, 540.

No. meters, reg., 332; prepay., 208.

Price gas: Light, gross, \$2; net, \$1.50 for 1st 10,000 c. f.; next 10,000 c. f., \$1.30 net.

Gas appliances in use: Ranges, 425; heaters, 90; water heaters, 130.

No. commercial gas arc lamps in use, 75.

Supplies Florence.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Southern Public Utilities Co., Greenville.

RRs.: Chas. & West.; C., Gr. & Knox.; So.
P. & N. R. R. Ex.: So.

(Controlled by Southern Power Co., Charlotte,
North Carolina.)

For capitalization and bonds, see Appendix.

President, Z. V. Taylor.

Secretary, W. C. Parker.

Treasurer, E. C. Marshall.

General manager, E. F. Taylor.

Branch mgr., Jas. McCabe.

Superintendent, R. B. Carpenter.

Pur. agent, Mill Power Supply Co.

New business manager, H. E. McDonnold.

Process manufacture, Lowe.

(Coal gas plant in operation 1917.)

Price coke per ton, delivered, \$5.05.

Price oil per gal., delivered, 7.5c.

Candle-power, 22.

Gas holder capacity, 150,000 c. f.

Max. days send out, 120,000 c. f.

Miles of mains, approx., 45.

Street main pressures, max., 3.5 in.; min.,
2.5 in.

Annual sales, approx., 33,705,000 c. f.

Gas unaccounted for, 20 p. c.

Pop. city, est., 27,000; dist. supplied, 13,000.

No. meters, reg., 900; prepay., 800.

Price gas: Light and Fuel, gross \$1.35; net
\$1.25.

No. ranges, 2,067; heaters, 250; water heaters,
365.

Supplies Greenville and vicinity.

ELECTRICAL DEPARTMENT.

System operated: Arcs, 4 amp. mag.; power,
3 phase, 60 cycles.

Generating capacity: Lighting, 900 kw.;
power, 1,500 kw.

Voltage: Incand., 115; power, 220.

City lighting contract: Hours lighted per year,
arc and incand., 4,000.

No. public arcs, 252, 4 amp. mag.; price per
year, \$60.

No. public incand, 88, 600 c. p., Type C; price
per year, \$65.

Commercial lighting: No. incand., 425.

Price current per kw. hr., gross 5c.

Power circuits: No. motors, 157.

Output of station, kw. hrs. for year, 6,700,000

Generating power used: Water.

Power purchased from Southern Power Co.

Rock Hill Gas Co., Rock Hill.

RRs.: So. Ex.: So.

General office, 1142 Real Estate Trust Bldg.
Capital stock, \$80,000.

Bonds, \$80,000; due 1943; interest, 5 p. c.

President, John D. Shattuck.

Sec'y and treas., E. C. Worrell.

Pur. agent, F. D. Wharton.

Engineer, J. S. M. Wharton.

Superintendent, E. R. Guard.

New bus. mgr., E. R. Guard.

Process manufacture, Lowe.

Annual production, 9,000,000 c. f.

Gas holder capacity, 20,000 c. f.

Holder pressure, 3.4 in.

Max. day's send out, 25,000 c. f.

Miles of mains, approximate, 12.

Street main pressures, max., 3.4 in.; min., 2.6
in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 11.5 p. c.

Pop. of city, 7,216; of dist. supplied, 8,300.

No. consumers and meters, 530.

Price of gas: Light and Fuel, \$1.75 to \$1; 10c.
per M. off for payment within 10 days.

No. ranges, 250; heaters, 150; water heaters,
50.

No. commercial gas arc lamps, 100.

Supplies Rock Hill.

South Carolina Light, Power and Railway Co., Spartanburg.

RRs.: Glenn Springs, Chas. & West. C.; So.;
Cars., Clinchfield & O. Ex.: So.

(For capitalization bonds, etc., see Appendix.)

President, P. G. Gossler.

Vice-pres., F. H. Knox.

Secretary and treasurer, F. B. Lasher.

General mgr., F. H. Knox.

Supt. and new bus. mgr., Alex. Wyness, Jr.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.55.

Candle-power, 17; calorific value, 625 B. t.u.

Annual production, 22,000,000 c. f.

Gas holder capacity, 50,000 c. f.

Holder pressure, max., 3.8 in.

Miles of mains, 16.

Street main pressures, max., 3.8 in.; min., 2.8
in.

Max. day's send out, 85,000 c. f.

Annual sales, approx., 20,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. city, 17,517; dist. supplied, 8,500.

No. consumers, 925.

No. meters, reg., 410; prepay., 515.

Price gas: Light and Fuel, \$1.50. Discounts,
5 to 20 p. c.

Ranges in use, 625; heaters, 275; water heat-
ers, 425.

No. commercial gas arc lamps, 225.

Supplies Spartanburg.

ELECTRICAL DEPARTMENT.

System operated: Arc. D. C., mul. series; in-
cand., A. C.; power, A. C., 3 phase, 60
cycle.

Station generating capacity, 16,500 h. p.

Voltage: Arcs, series; incand., 120; power,
110-220-2,200.

City lighting contract: Hours lighted per
year, 4,180.

No. public arcs, 320; 4 amp. mag. Price per
year, \$55.

No. public incand., 512; 75 watt. Price per
year, 2c. kw.

Commercial lighting: Price per kw. hr., gross,
12c. Disc., 10 to 60 p. c. Domestic, the
same.

Power circuits: No. motors, 150; price per kw.
hr., 1.5c. to \$33c. Disc., 10 p. c.

Other uses: Automobile charging sets (recti-
fiers), 4c. per kw. hr.

**WILLIAMS' "Agrippa" THREADING-TOOL HOLDER**

The Threading Tool with lockable-spring
head will do roughing, finishing and
threading at one setting in the tool post.

J. H. WILLIAMS & CO., 74 Richard St., Brooklyn, N. Y.

Output of stations, kw. hrs. for year, 28,124,720.
Generating power used, Water and Steam,
rated 16,500 h. p.
Cost of station boiler coal per ton, \$2.95.
(No 1918 report.)

Sumter Gas and Power Co., Sumter.

RRs.: A. C. L.; So.; N. W. of So. Car. Ex.:
So.

Controlled by Southern Gas & Electric Corp.
Capital stock, \$100,000.
Bonds, \$75,000; due 1937; interest, 5 p. c.
President, L. I. Pollitt.
Vice-president, A. C. Howard.
Sec'y and treas., M. M. May.
Asst. sec'y and asst. treas., M. G. Banigan.
General mgr., L. I. Pollitt.
Superintendent, Edward E. Austin.
New bus. mgr., Arthur A. Creinar.
Process manufacture, Lowe.
Candle-power, 18; calorific value, 590 B. t. u.

Annual production, 20,247,800 c. f.
By-products made: Tar, 1,804 gals.
Gas holder capacity, 50,000 c. f.
Holder pressure, max., 3.4 in.
Miles of mains, approx., 14.5.
Street main pressures, max., 3 in.; min., 2.6 in.
Max. day's send out, 106,500 c. f.
Annual sales, approx., 19,153,500 c. f.
Gas unaccounted for, 4.1 p. c.
By-products sold: Tar, 1,685 gals.
Population of city, 8,109; of dist. supplied, 8,000.
No. consumers, 812.
No. meters, reg., 540; prepay., 272.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.40. 25c. per meter per mo. readiness-to-serve charge.
No. gas ranges in use, 671; water heaters, 317.
No. commercial gas arc lamps in use, 468.
Supplies Sumter.

SOUTH DAKOTA

Total population, 707,740.

Aberdeen Gas Co., Aberdeen.

RRs.: C. & No. W.; C., M. & St. P.; G. N.;
Minn. & St. L. Ex.: Am.; G. N.; Ad.

Capital stock, auth., \$500,000; issued, \$198,800.
Annual dividend, 8 p. c.
Bonds, \$191,000; due 1927; interest, 6 p. c.
President, Charles A. Howard.
Secretary and treasurer, S. C. Hedger.
Gen. mgr., Chas. A. Howard.
Purchasing agent, Charles A. Howard.
Supt. and engineer, O. C. Stokke.
New bus. mgr., Robert I. Hill.
Process manufacture, Lowe.
Price coke per ton, delivered, \$15.72.
Price of oil per gal., 10.23c.
Candle-power, 15. Calorific value, 570 B.t.u.
Annual production, 51,536,000 c. f.
By-products made: Tar, 8,000 gals.
Max. day's send out, 173,000 c. f.
Gas holder capacity, 100,000 c. f.
Holder pressure, max., 4 in.
Miles of mains, approx., 25.5.
Street main pressures, max., 4.8 in.; min., 4.2 in.
Booster mains, 1 mile; pressure, 1 lb.
Annual sales, approx., 48,484,000 c. f.
Gas unaccounted for, 5.92 p. c.
Pop. city supplied, 11,846.
No. consumers, 2,148.
No. meters, reg., 1,228; prepay., 979.
Price gas: Light and Fuel, gross, \$2.15 1st 5 M. c. f.; next 10 M., \$1.95; next 15 M., \$1.40; next 25 M., \$1.25; all over 55 M., \$1.15. Dis., 15c., 10 days. Min. charge, 50c. per meter.
No. public Miner incand. gas lamps, 163.
Price per year, \$30.
Price includes repairs, care, lighting and extinguishing.
No. hours each lamp is lighted per year, 4,551.

Ranges in use, 1,684; heaters, 197; water heaters, 429.
No. commercial gas arc lamps, 246.
Supplies Aberdeen.

Peoples Gas Co., Deadwood.

RRs.: C. & No. W.; C., B. & Q. Ex.: Ad.;
Am.

(Company undergoing reorganization.)
Capital stock, pref., \$100,000; com., \$150,000.
Bonds, \$150,000; due 1929; int., 6 p. c.
Pur. agent, E. S. Davidson.
General manager, E. S. Davidson.
Process manufacture, Coal and Tenney (water-gas).
Mixture, 50 p. c. coal; 50 p. c. water.
Price coal per ton, delivered, \$8.
Price of coke per ton, delivered, \$9.
Price oil per gal., 10.75c.
Calorific value, 600 B.t.u.
Max. day's send out, 95,000 c. f.
Gas holder capacity, 55,000 c. f.
Holder pressure, 2.8 in.
Miles of mains, approx., 19.
Street main pressure, max., 7 in. (individual regulators on every service, 3 in. outlet).
Annual sales, approx., 20,000,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. dist. supplied, 12,045; of cities, Deadwood, 3,653; Lead, 8,392.
No. consumers, 947.
Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.
Ranges in use, 800; heaters, 225; water heaters, 130.
No. commercial gas arc lamps, 300.
Supplies Lead and Deadwood.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Dell Rapids City Gas and Water Works, Dell Rapids.

RR.: C., M. & St. P. Ex.: U. S.

(Municipal plant.)

Warrants outstanding, \$2,400; int., 7 p. c.

Mayor, W. H. Dockstadar.

Secretary, Jas. Riddlington.

Treasurer, Henry M. Smith.

General manager, Arthur J. Smith.

New bus. mgr., Arthur J. Smith.

Superintendent, Arthur J. Smith.

Process manufacture, Water (Tenny).

Price of coal per ton, delivered, \$6.25.

Price coke per ton, delivered, \$8.

Price oil per gal., delivered, \$4.24c.

Candle-power, 18.

Max. day's send out, 30,000 c. f.

Total gas holders capacity, 36,000 c. f.

Miles of mains, approx., 7.

Street main pressures, max., 6 in.; min., 3 in.

Annual sales, approx., 8,000,000 c. f.

Pop. dist. supplied, 1,700; of city, 1,367.

No. consumers and meters, 320.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.

No. public incand. lamps, 50.

No. hrs. each lamp is lighted per year, 1,300.

Ranges in use, 130; heaters, 14; water heaters, 22.

No. commercial gas arc lamps, 4.

Supplies Dell Rapids.

(No 1918 report.)

Huron Light and Power Co., Huron.

RRs.: C. & No. W.; G. N. Ex.: Am.; G. N.

Capital stock, pref., \$100,000; com., \$50,000.

Annual dividends: Pref., 7 p. c.; com., 8 p. c.

Bonds, \$239,000; due 1932; int., 6 p. c.

President, A. M. Hewes.

Secretary and treasurer, Coler Campbell.

Manager and pur. agt., Frederic D. Brown.

New bus. mgr., Frederic D. Brown.

Process manufacture, Lowe.

Price coke per ton, delivered, \$12.75.

Price oil per gal., 7.75c.

Average candle-power, 22.

Calorific value, 470 B.t.u.

Max. day's send out, 70,000 c. f.

Total gas holder capacity, 40,000 c. f.

High pressure mains, 13 miles.; press., 2 lbs.

Annual sales, approx., 19,000,000 c. f.

Pop. city supplied, est., 7,000.

Consumers and meters, 1,012.

Price gas: Light and Fuel, gross, \$1.60; net, \$1.50 1st 5,000 c. f.; next 5,000 c. f., \$1.45-\$1.35; all over 10,000 c. f., \$1.30-\$1.20. Min. charge, 50c.

Ranges in use, 850; heaters, 75; water heaters, 100.

Supplies Huron.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles; D. C., 4 amp. (street lighting).

Generating capacity: Lighting and power, 600.

Voltage: Line, 2,300; incand., 110; power, 220.

City lighting contract: Hours lighted per year, arc and incand., 3,200.

No. public arcs, 55; 4 amp. mag. Price per year, \$85.

No. ornamental standards, 5 lights, 59. Price, per year, \$35. Also 22 standards, 1 light, 200 watt; price \$24.

Commercial lighting: No. arcs, 50; No. incandescents, 8,000.

Price current per kw. hr., 13.5c. to 6c. Disc., 1c. per kw. hr.

Other lamps used, 1 Cooper-Hewitt; 3 moving-picture arcs.

Power circuits: No. motors, 63; price per kw. hr., 6c., 1 h. p. or over. Min. charge, \$1 per h. p. per mo.

Output of station, kw. hrs. for year, 1,055,857. and Diesel engine, 360 h. p.

Generating power used, Gas; rated h. p., 500.

Cost of producer coal per ton, \$10.

Mitchell Power Co., Mitchell.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.

Controlled by the Light & Development Co., of St. Louis, Mo.

Capital stock, auth., \$500,000; issued, \$500,000.

Bonds, \$260,000; due 1928; int., 6 p. c.

President, Hugo Wurdack.

Secretary, T. J. Spangler.

Treasurer, Horace W. Beck.

Manager, E. J. Sherwood.

Pur. agents, Lt. & Develop. Co.

Supt. and mgr., E. J. Sherwood.

Process manufacture, Lowe.

Price coke per ton, delivered, \$7.80.

Price oil per gal., delivered, 6.1c.

Candle-power, 20.

Calorific value, 600 B. t. u.

Annual production, 19,847,000 c. f.

Gas holder capacity, 30,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 78,000 c. f.

High pressure mains, miles, 14.

Pressure, 3 to 12 lbs.

Annual sales, approx., 17,000,000 c. f.

Gas unaccounted for, 13.5 p. c.

Pop. of city, 7,500; of dist. supplied, 5,500.

No. consumers, 952.

No. meters, reg., 634; prepay., 330.

Price gas: Light and Fuel, gross, \$1.75; net, \$1.65.

No. ranges, 950; water heaters, 58; heaters, 65.

No. commercial gas arc lamps, 6.

Supplies Mitchell.

ELECTRICAL DEPARTMENT.

System operated: Arcs, D. C.; incand., A. C., 1-phase, 60 cycles; power, A. C., 3-phase, 60 cycles.

Generating capacity: Lighting and power, 600 kw.

Voltage: Arcs, 75; incand., 110; power, 220.

City lighting contract: Hours lighted per year, 4,000.

No. public arcs, 81; 325 watt. Price per year, \$60.

No. public incand., 238; 60-100 watt Mazdas. Price per year, \$27.

No. commercial incand., 18,000.

Commercial lighting: Price current per kw. hr., gross, 10c.

MacDONALD-MANN COKE QUENCHING CHUTES quench the coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Power circuits: Motors, 316 h. p. Price per kw. hr., 6c.
Output of station, kw. hrs. for year, 1,238,352
Generating power used, Steam and Oil; rated 550 h. p.
Cost of station boiler coal, per ton, \$4.77.

Rapid City Gas Light Co., Rapid City.

RRs.: C. & No. W.; C., M. & St. P.; Mo. Riv. & No. W. Ex.: Am.

Co. went into hands of Receiver, March, 1914.
Capital stock, \$50,000.
Bonds, \$50,000; due 1923; interest, 5 p. c.
Trustee, A. C. Hunt.
Manager and pur. agent, F. P. Hooper.
Process manufacture, Coal.
Price coal per ton, delivered, \$6.10.
Candle-power, 18.
Calorific value, 650 B. t. u.
Annual production, 5,000,000. c. f.
Max. day's send out, 20,000 c. f.
Total gas holders capacity, 40,000 c. f.
Holder pressure, 3.2 in.
Miles of mains, approx., 5.
Street main pressures, max., 3 in.; min., 2 in.
Annual sales, approx., 5,000,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. dist. supplied, 5,000; of city, 3,854 (1910).
No. consumers, 250.
No. meters, reg., 225; prepay., 25.
Price of gas: Gross, \$2; net, \$1.80.
No. public lamps, 5; lighted, 4,015 hours.
Contract includes repairs, care, lighting and extinguishing.
Ranges in use, 140; heaters, 150; water heaters, 160.
No. commercial gas arc lamps, 55.
Supplies Rapid City.

Sioux Falls Gas Co., Sioux Falls.

RRs.: C. & No. W.; C., M. & St. P.; C., R. I. & P.; G. N.; Ill. Cen.; So. Dak. Cen. Ex.: G. N.; Am.

Capital stock auth., \$500,000; issued, \$255,000.
Bonds, \$433,000; due 1940; int., 5 p. c.
President, Walton Clark.
Secretary, G. W. Curran.
Treasurer, James Ball.
Supt., A. S. Graham.
Pur. agent, J. A. Pearson.
Process manufacture, Lowe.
Calorific value, 575 B. t. u.
Miles of mains, approx., 54.08.
Annual sales, approx., 122,885,500 c. f.
Pop. dist., 26,000; of city, the same (est.).
No. consumers, 4,421.
No. meters, reg., 2,958; prepay., 1,463.
Price gas: Light and Fuel, sliding scale, gross \$1.20 to 90c.; net \$1.10 to 80c.
Ranges, 4,100; heaters, 795; water heaters, 1,425.
No. commercial gas arc lamps, 500.
Supplies Sioux Falls.

Watertown Gas Co., Watertown.

RRs.: C., R. I. & P.; C. & No. W.; G. N.; Minn. & St. L.; So. Dak. Cen. Ex.: Ad.; Am.; G. N.

Capital stock, \$80,000.
Bonds, \$60,000; due 1929; int., 6 p. c.
President, M. R. Baskerville.
Vice-president, H. A. Park.
Secretary and treas., H. S. Fletcher.
Purchasing agent, H. S. Fletcher.
Gen. mgr., H. S. Fletcher.
Superintendent, Chas. Heirzel.
Process manufacture, Water (Tenney).
Candle-power, 23.
Calorific value, 650 B. t. u.
Maximum day's send out, 50,000 c. f.
Total gas holders capacity, 50,000 c. f.
Miles of mains, approx., 15.
Street main pres., max. 5 in.; min., 3 in.
Annual sales, approx., 15,000,000 c. f.
Gas unaccounted for, 9.3 p. c.
Pop. dist. supplied, 4,500; of city, 7,010.
No. meters, reg., 100; prepay., 600.
No. consumers, 700.
Price gas: Light, net, \$1.50; Fuel, net, \$1.50.
Ranges in use, 620; heaters, 25; water heaters, 300.
No. commercial gas arc lamps, 200.
Supplies Watertown.
(No 1918 report.)

Yankton Light and Heating Co., Yankton.

RRs.: C. & No. W.; C. M. & St. P.; G. N. Ex.: Am.; G. N.

Capital stock, auth. and issued, \$50,000.
Bonds, \$39,000; due 1925; int., 6 p. c.
President, Isaac Piles.
Secretary, Chas. Smith.
Treasurer, M. P. Ohlman.
Manager and pur. agt., Charles Smith.
Supt. and engineer, Chas. Smith.
New business manager, Charles Smith.
Process manufacture, Water (Tenney).
Price coke per ton, delivered, \$15.40.
Price oil per gal., delivered, 7.625c.
Average candle-power, 18.
Calorific value, 575 B. t. u.
Annual production, 15,000,000 c. f.
Total gas holder capacity, 45,000 c. f.
Holder pressure, 4 in.
Max. day's send out, 45,000 c. f.
High pressure mains, 10 miles; pressure, 1.5 lbs.
Street main pressures, max., 4 in.
Annual sales, approx., 15,000,000 c. f.
Pop. dist. supplied, 4,500; of city, 4,787.
No. consumers, 695.
No. meters, reg., 467; prepay., 228.
Price gas: Light and Fuel, \$1.75; 1st 5 M.; \$1.25 2d 5 M.; \$1.05 for over 10 M.
Ranges in use, 645; heaters, 70; water heaters, 109.
No. commercial gas arc lamps, 70.
Supplies Yankton.

REEVES GAS ENGINES are the highest type machines on the market and their installation insures fuel economy and continuity of operation.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

TENNESSEE

Total population, 2,296,816.

Bristol Gas and Electric Co., Bristol.RRs.: Holston Val.; N. & W.; So.; Va. & So.
W. Ex.: So.

(Operated by Doherty Organization.)

Capital stock, \$300,000.

Bonds, \$425,000; due 1939; interest, 5 p. c.

President, H. L. Doherty.

Secretary, M. F. Steelman.

Treasurer, S. M. Vance.

General manager, S. M. Vance.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.59.

Candle-power, 17.

Gas holder capacity, 49,560 c. f.

Miles of mains, approx., 16.4.

Street main pressure, min., 2.4 in.

Annual sales, 17,762,000 c. f.

Gas unaccounted for, 25.1 p. c.

Pop. towns supplied, 13,395; of dist. supplied, 15,810.

No. consumers, 747.

No. meters, 752.

Price gas: Light and Fuel, gross, \$1.25; net \$1.

Ranges in use, 797; other appliances, 743.

No. commercial gas arc lamps, 38.

Supplies Bristol, Tenn., and Bristol, Va.

ELECTRICAL DEPARTMENT.

(Business conducted under same name as gas company.)

System: Arcs, A. C., series; incand., A. C., 60 cycle; power, A. C., 3 phase, 60 cycle.

Generating capacity: Lighting, 700 kw.

Purchased power capacity, 1,150 kw.

Voltage: Line, 2,300; incand., 110; power, 220.

No. public arcs, 78; 500 watt; price per year, \$72.

No. public incand., 1,214; 60 watt; price per yr., \$12.

Public lamps lighted all night and every night.

White Way system: 5 and 3 light standards:

861-60 watt Mazda lamps; 353-48 c. p., 6.6

amp. lamps; 5 lights, \$21.60 per yr.; 3

lights, \$14.40.

Price incand., Com'l, per kw. hr., 10c. and 8c.; disc., 5 p. c.

Power circuits: H. P., 1,918. Price per kw. hr., 1.8c.

Output of station, kw. hrs., total for year, 4,005,861.

Hydro electric power contracted for with Watauga Power Co., 1,000 h. p.

Auxiliary, Steam Turbines; 300 kw. each.

Chattanooga Coke and Gas Co., Chattanooga.

RRs. (See Chattanooga Gas Co.)

(Successor to Chattanooga Gas & Coal Products Co., Inc.).

Capital stock, \$253,200.

Notes, \$1,000,000.

President, Lewis T. Wolle.

Secretary, N. W. Ross.

Treasurer, R. N. Scheffey.

Manager, J. H. Jones.

Superintendent, J. H. White.

High pressure mains, 3 miles.

Type of oven, Semet-Solvay.

No. of ovens, 24.

Coal charged per oven, 14 net tons.

Coke yield, 77 p. c.

Time required for coking, 16 hrs.

Grade coke made, foundry, furnace and domestic.

Candle-power, 17. Calorific value, 625 B. t. u.

By-products made per year (est): Gas, 480,-

000,000 c. f.; tar 900,000 gals.; ammonia

sulphate, 2,400,000 lbs.; coke, 110,000 tons.

Coke used for foundry trade and pig iron furnaces.

Gas sold to Chattanooga Gas Co. for domestic use.

Chattanooga Gas Co., Chattanooga.

RRs.: Cen. of Ga.; Chat. So.; So.; Cin., N. O.

& Tex. Pac.; N., C. & St. L. S. Bs.: Chat.

Packet; Tenn. Riv. Nav. Ex.: So.

(Controlled and operated by United Light and Railways Co.)

Capital stock, pref., \$500,000; com., \$750,000; annual div., pref., 6 p. c.

Bonds, 544,000; due 1927; int., 5 p. c.

President, J. P. Hoskins.

Vice-pres., R. Schaddelee.

Secretary, L. H. Heinke.

Treasurer, C. M. Hurd.

Engineer, T. J. Weber.

General manager, S. E. DeFrese.

Pur. agt., S. E. De Frese.

Superintendent, S. De Frese.

New bus. mgr., S. De Frese.

Process manufacture, Coal and Lowe.

Purchases coke-oven gas from Chattanooga Gas & Coal Products Co.

Candle-power, 17.5. Calorific value, 600 B. t. u.

Max. day's send out, 712,700 c. f.

Total gas holders capacity, 1,000,000 c. f.

Holder pressure, 4 in.

Miles of mains, approx. (3 in. basis), 105.68.

Street main pressures, max., 4 in.; min., 2.5 in.

High pressure mains, 1.3 miles; pressure, 8 lbs.

Annual sales, approx., 196,923,200 c. f.

Pop. dist. supplied, 40,000; of city, 44,604.

No. consumers and meters, 4,861.

Price gas: Light and Fuel, gross \$1.10; net \$1.

Supplies Chattanooga and suburbs.

**Tycos Temperature Instruments for Gas Works**

H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Clarksville Gas Co., Clarksville.

RRs.: L. & N.; Tenn. Cen. S. B.: Ryman
Line. Ex.: Am.; So.

Controlled by Kentucky Public Service Co.
Operated by J. G. White Management Corp.
General manager, H. D. Fitch.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.35.
Candle-power, 16. Cal. val., 600 B. t. u.
Max. day's send out, 34,700 c. f.
Total gas holders capacity, 20,000 c. f.
Miles of mains, approx., 8.2.
Street main pres., max., 2.5 in.; min., 2 in.
Annual sales, approx., 8,900,000 c. f.
Gas unaccounted for, 15 p. c.
Pop. city, 8,548; of dist. supplied, 6,000.
No. consumers and meters, 446.
Price gas: gross, \$1.75; net, \$1.40.
Ranges in use, 341; water heaters, 86.
No. commercial gas arc lamps, 72.
Supplies Clarksville.

Cleveland Gas Co., Cleveland.

(Franchise granted S. E. De Frese.)

The Citizens Gas Light Co., Jackson.

RRs.: Ill. Cen.; M. & O.; N. C. & St. L.;
B. & N. W. Ex.: Am.; So.

Controlled by Middle West Utilities Co.
Capital stock, \$200,000; ann. div., 1 p. c.
Bonds, \$194,000; due 1926; int., 5 p. c.
President, John L. Wisdom.
Vice-pres. and gen. mgr., L. D. Spragle.
Secretary, W. H. Briggs.
Treasurer, Thos. Polk.
Pur. agent, C. A. Harding.
Engineer, L. D. Spragle.
Superintendent, John Lee.
New bus. mgr., L. D. Spragle.
Process manufacture, Coal and Lowe.
Price coal per ton, delivered, \$5.72.
Price of oil per gal., 8c.
Candle-power, 16.
Calorific value, 650 B. t. u.
Annual prod., coal gas, 33,266,600 c. f.; water
gas, 2,000,000 c. f.
By-products made: Coke, 2,091 tons; tar,
32,170 gals.
Max. day's send out, 183,000 c. f.
Gas holder capacity, 130,000 c. f.
Holder pressure, 5 in.
Miles of mains, 24.
Street main pressures, max., average, 2.5 in.
Annual sales, approx., 36,000,000 c. f.
Gas unaccounted for, 10 p. c.
By-products sold: Coke, 1,000 tons; tar, 25,000
gals.
Pop. city, 21,262; of dist. supplied, 18,000.
No. consumers, 2,000.
No. meters in service, reg., 600; prepay., 1,400.
Price gas: Gross, \$1.50; net, \$1.35 sliding
scale for large consumers, 1st 5 M., \$1.35;
2d 5 M., \$1.25; all over 10 M., \$1.10; if
paid before 10th. Min., 50c.

Ranges in use, 947; heaters, 215; water heat-
ers, 324.

No. commercial gas arc lamps, 600.
Supplies Jackson.

Washington County Gas Co., Johnson City.

RRs.: East Tenn. & West. N. C.; Car., Clinch-
field & O.; So. Ex.: So.

Controlled by Appleby-Wagner Co., Saginaw,
Mich.
Capital stock, \$100,000.
Bonds, \$115,000; due 1936; int., 6 p. c.
President, B. G. Appleby.
Vice-pres., R. B. Wagner.
Secretary, C. H. Orton.
Treasurer, C. W. Orton.
Manager and pur. agent, E. J. Wagner.
Superintendent, Earle Coombs.
Process Coal and Water (Tennuey).
Annual production: Coal gas, 19,000,000 c. f.
Water gas, 1,000,000 c. f.
Price coal per ton, del'd, \$4; oil per gal., 9c.
Candle-power, 16.
Calorific value, 600 B. t. u.
Gas holder capacity, 100,000 c. f.
High pressure mains, 22 miles; pressure, 1.25
to 1.5 lbs.
Annual sales, approx., 20,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. of city, 8,700; dist. supplied, 12,000.
No. consumers and meters, 510.
Price gas: Light and fuel, gross, \$1.35; net,
\$1.25. (Inc. to \$1.55 per 1,000 c. f. until
Oct. 1, 1918.)
No. ranges, 470; heaters, 300; water heaters,
170.
No. commercial gas arc lamps in use, 202.
Supplies Johnson City.

The Knoxville Gas Co., Knoxville.

RRs.: So.; L. & N. S. Bs.: Knox. & Dan-
dridge Line; Knox. & Kingston Line;
Tenn. Riv. Nav. Ex.: Ad.; So.

(Operated by Doherty Organization.)

Capital stock, pref., \$100,000; com., \$300,000;
ann. div., pref., 6 p. c.
Bonds, \$475,000; due 1933; int., 5 p. c.
President, Henry L. Doherty.
Vice-presidents, Frank W. Frueauff, A. W.
Young.
Treasurer, John E. Hood.
Secretary, A. Bishop.
Gen'l mgr., A. W. Young.
Process manufacture, Coal and Lowe.
Mixture, 99 p. c. coal; 1 p. c. water.
Candle-power, 17.
Calorific value, 600 B. t. u.
Max. day's send out, 876,500 c. f.
Total gas holders capacity, 300,000 c. f.
Miles of mains, approx., 78.26.
Street main pressures, max., 5 in.; min., 3 in.
Annual sales, approx., 185,980,800 c. f.
Gas unaccounted for, 13.6.
Pop. dist. supplied, 47,630; of city, 36,346.
No. consumers and meters, 5,298.
Price gas: Light and Fuel, gross \$1.10; net \$1.
Ranges in use, 6,240; water heaters, 1,628;
other appliances, 23,588.
Supplies Knoxville, Park City and Oakwood.



1803

Our long experience at your service
HOLDERS, PURIFIERS, CONDENSERS, ETC.
R. D. WOOD & CO., PHILA., PA.

1918



Memphis Gas and Electric Co., Memphis.

RRs.: C., R. I. & P.; Ill. Cen.; L. & N.; Mo. Pac.; N., C. & St. L.; St. L. & S. F.; So.; St. L. So. W.; Y. & M. V. S. Bs.: Lee Line; M. & A. C. Packet; Delta Packet; by bridge or ferry with West Memphis, Ark. Ex.: Am.; Pac.; So.; W. F.

(Successor to Memphis Consolidated Gas and Electric Co.)

Capital stock, \$6,000,000.

Bonds, \$8,408,000; int., 5 p. c.

President, W. M. Flook.

Secretary and pur. agt., V. A. Henderson.

Treasurer, J. W. Clapp.

General manager, J. F. Ramier.

Engineer, O. K. Stieg.

Process manufacture, Lowe.

Candle-power, 20.

Calorific value, 625 B. t. u.

Annual production, 710,000,000 c. f.

Total gas holders capacity, 1,000,000 c. f.

Max. day's send out, 3,000,000 c. f.

Miles of mains, approx., 190.

Street main pressures, max., 5 in.; min., 2.5 in.

Annual sales, approx., 710,000,000 c. f.

Pop. of city, 131,105; of dist. supplied, the same.

No. consumers and meters, 19,000.

Price gas: Light and Fuel, \$1 per 1,000 c. f. for 1st 2,000 c. f.; 80c. for excess; 60c. per month minimum charge.

No. public gas lamps, 2,000.

No. hours each lamp is lighted per year, 4,000.

Price does not include repairs, care, lighting and extinguishing.

Gas appliances in use: Ranges, 25,000; heaters, 15,000; water heaters, 10,000.

No. commercial gas arc lamps, 1,500.

Supplies Memphis and suburbs.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C. 60 cycle; power, A. C. 3 phase, 60 cycle.

Generating capacity: Lighting and power, 14,000 kw.

Voltage: Lighting, 107-214; power, 200.

City lighting contract: Hours lighted per year: Arc, 4,000.

No. public arcs, 1,250; 450 watt. Price per year, \$75.

Commercial lighting: No arcs, 500; No. incand., 385,000.

Price current per kw. hr., gross 11c. Disc., 1c. Other lamps used, 350 Nernst.

Power circuits: Motors, 11,000 h. p.; price per kw. hr., 10c; disc. as to quantity.

Output of station, kw. for year, 20,000,000.

Generating power used, Steam; rated h. p., 7,200.

Nashville Gas and Heating Co., Nashville.

RRs.: L. & N.; Tenn. Cen.; N., C. & St. L. S. B.: Ryman Line. Ex.: Am.; Ad.; So.

(For capitalization, bonds, etc., see Appendix.)

President, C. H. Geist.

Secretary, G. W. Curran.

Treasurer, James Ball.

General manager, S. E. Linton.

Purchasing agent, J. A. Pearson.

Process manufacture, Coal and Lowe.

Candle-power, 16.

Miles of mains, approx., 170.6.

Annual sales, approx., 302,258,600 c. f.

Pop. city supplied, 110,000 (estimated).

No. consumers, 14,273.

No. meters, reg., 10,921; prepay., 3,352.

Price gas: Light and Fuel, gross \$1.10; net \$1.

No. ranges, 12,962.

No. commercial gas arc lamps, 4,486.

Supplies Nashville.

TEXAS

Total population, 4,472,494.

Amarillo Gas Co., Amarillo.

RRs.: A., T. & S. F.; C., R. I. & G. C., R. I. & El P.; Ft. W. & Den. City. Ex.: W. F.

Capital stock, \$150,000.

Annual dividend, 8 p. c.

Bonds, \$135,000; due 1934; int., 6 p. c.

President, J. C. Storm.

Manager, E. R. Mayer.

Secretary, G. C. Nobles.

Engineer, E. R. Mayer.

Supt. and new business mgr., E. R. Mayer.

Process manufacture, Lowe.

Candle-power, 20.

Calorific value, 650 B. t. u.

Max. day's send out, 150,000 c. f.

Total gas holders capacity, 120,000 c. f.

Holder pressure, max., 8.5 in.

Miles of mains, approx., 25.

Street main pressures, max., 4.5 in.; min., 3 in.

Annual sales, approx., 45,000,000 c. f.

Gas unaccounted for, 1.5 p. c.

Pop. dist. supplied, 12,000; of city, est., 15,000.

No. consumers, 1,800.

No. meters, reg., 1,250; prepay., 550.

Price gas: Light and Fuel, gross \$1.50; net

\$1.40; sliding scale, 1st 5 M., \$1.50; 2d

5 M., \$1.40; 3d 5 M., \$1.30; all over 15 M.,

\$1.20. Disc., 10 p. c., 10 days.

Ranges in use, 1,500; heaters, 400; water heaters, 450.

No. commercial gas arc lamps, 175.

Supplies Amarillo.

Austin Gas Light Co., Austin.

RRs.: Hous. & Tex. Cen.; Iowa Cen.; Mo., Kan. & Tex. Ex.: Am.; Pac.; W. F.

Operated by Gas & Electric Improvement Co., Chicago.

Capital stock, pref., \$275,000; com., \$250,000.

Ann. div., pref., 7 p. c.

Bonds, \$134,000; int., 5 p. c.; and \$440,000; int., 6 p. c.

**Williams' "Agrippa" Boring-Tool Holder**

The Boring Tool takes any size or shape of bar and requires no bushings. Its sleeve bar permits either straight or angular adjustment of cutter without resetting.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

President, E. C. Beach.
 Secretary, C. V. Clark.
 Treasurer, E. C. Beach.
 Manager and pur. agent, A. P. Knies.
 Superintendent, Wm. Lawlor.
 Process manufacture, Lowe.
 Price oil per gal., 5c.
 Candle-power, 20.
 Max. day's send out, 600,000 c. f.
 Total gas holders capacity, 300,000.
 Miles of mains, approx., 76.
 Street main pressures, max., 4 in.; min., 3 in.
 High pressure mains, 55 miles.
 Annual sales, approx., 115,000,000 c. f.
 Gas unaccounted for, 11 p. c.
 Pop. dist. supplied, 30,000; city, 29,860 (1910);
 now est., 35,000.
 No. consumers, 4,174.
 No. meters, reg., 1,967; prepay., 2,207.
 Price gas: Light and Fuel, gross \$1.50; net
 \$1.30 to \$1.10.
 Ranges in use, 4,846; heaters, water heaters,
 etc., 750.
 No. commercial gas arc lamps, 1,028.
 Supplies Austin.

Beaumont Gas Light Co., Beaumont.

RRs.: So. Pac.; A., T. & S. F.; Gulf & Inter-
 state; K. C. So.; B., S. L. & West. Ex.:
 W. F.
 Capital stock, pref., \$100,000; com., \$300,000.
 Bonds, \$568,100 1st mtge., 6 p. c.; due 1944.
 President, Henry M. Dawes.
 Secretary, H. B. Hurd.
 Treasurer, Rufus C. Dawes.
 Engineer, Joseph C. Markley.
 Pur. agent and manager, M. T. Walker.
 Process of manufacture, Lowe.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 106,164,000 c. f.
 Max. day's send out, 327,000.
 Gas holder capacity, 300,000 c. f.
 Miles of mains, approx., 51.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 100,262,000 c. f.
 Gas unaccounted for, 4 p. c.
 Pop. dist. supplied, 22,000; of city, 20,640
 (1910).
 No. consumers, 3,428.
 No. meters, reg., 1,823; prepay., 1,605.
 Price gas: Light, gross, \$1.40; net, \$1.25;
 sliding scale to 80c.
 Ranges in use, 4,319; heaters, 1,100; water
 heaters, 603.
 No. commercial gas arc lamps, 897.
 Supplies Beaumont.

Southwestern Gas Co., Brenham.

RRs.: A., T. & S. F.; Hous. & Tex. Cen. Ex.:
 W. F.
 Capital stock auth., \$200,000; issued, \$142,-
 700.
 Bonds, \$74,760; due 1935; int., 6 p. c.
 Receiver, G. M. Moran.
 Superintendent, J. J. Campbell.
 New bus. mgr., J. J. Campbell.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$7.55.

Price of oil per gal., 2c.
 Candle-power, 18.
 Calorific value, 620 B. t. u.
 Annual production, 7,516,000 c. f.
 Max. day's send out, 30,000 c. f.
 Gas holder capacity, 50,000 c. f.
 Miles of mains, 9.
 Street main pressures, avg., 3.5 in.
 Annual sales, approx., 7,140,600 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. dist. supplied, 7,100; of city, 7,100 (est.).
 No. consumers, 203.
 No. meters, reg., 161; prepay., 42.
 Price gas: Light and Fuel, gross, \$1.50; net,
 \$1.35.
 No. ranges, 124; heaters, 72; water heaters,
 39.
 No. commercial gas arc lamps, 41.
 Supplies Brenham.
 (No 1918 report.)

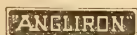
Texas Power and Light Co., Brownwood.

RRs.: A., T. & S. F.; Ft. W. & Rio G. Ex.:
 W. F.
 (Successor to Brownwood Gas & Electric
 Co. For capitalization and officers, see
 Parent Cos. and Appendix.)
 Vice-pres. and gen'l mgr., F. R. Slater, Dallas,
 Tex.
 Local mgr., W. P. Murphy.
 New bus. mgr., Hartwell Jalonick, Dallas.
 Process manufacture, Oil (Beal's).
 Price oil per gal., 5c.
 Calorific value, 675 B. t. u.
 Gas holder capacity, 25,000 c. f.
 Miles of mains, approx., 18.3.
 Street main pressures, max., 4 in.
 Amount sales, approx., 15,800,000 c. f.
 Pop. of city, 11,500.
 No. consumers, 635.
 No. meters, reg., 634; prepay., 3.
 Price gas: Light and Fuel, 1st 3 M., \$1.50;
 next 2 M., \$1.15; next 5 M., \$1.00; next
 40 M., 85c; next 50 M., 80c; over 100 M.,
 75c. Min. mo. charge, \$1. Dis., 10c., 10
 days.
 No. ranges, 564; water heaters, 66.
 Supplies Brownwood, Texas.

ELECTRICAL DEPARTMENT.

System operated: Arc, series; incand., A. C.;
 power, A. C., 3-phase, 60 cycles.
 Generating capacity, 1,235 kw.
 Voltage: Incand., 110; power, 220.
 City lighting contract: Hours lighted per
 year, arc, 3,650 (all night).
 No. public incand., 292.
 Price, commercial, 15c. and 8c. Disc., 10 p. c.,
 10 days.
 Power circuits: Price per kw. hr., 6c. to 1c.
 and \$1.50 per kw. Disc., 10 p. c., 10
 days.
 Power: Motors, 1,148 h. p.
 Branch output, kw. hrs. for year, 2,129,000.
 Generating power, Steam and Oil.
 Transmission line to Comanche and Dublin.

RELIABLE



RANGES

So readily apparent are the many desirable features of "RELIABLE 'ANGLIRON'" ranges and so strongly do they appeal to the most exacting that sales are effected with least effort. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Texas Power and Light Co., Cleburne.

RRs.: A., T. & S. F.; Mo., Kan. & Tex.; Trinity & B. Val. Ex.: Am.; W. F.

(Successor to Cleburne Electric and Gas Co. For capitalization and officers, see Parent Cos. and Appendix.)

Vice-pres. and gen. mgr., F. R. Slater, Dallas
Local mgr., W. E. Gooch.

New bus. mgr., Hartwell Jalonick.

Process manufacture, Coal.

Price coal per ton, delivered, \$7.08.

Candle-power, 16. Calorific value, 525 B. t. u.

Max. day's send out, 67,000 c. f.

Total gas holders capacity, 40,000 c. f.

Miles of mains, approx., 17.

Street main pressures, max., 4 in.; min., 2.5 in.

Annual sales, approx., 16,500,000 c. f.

Gas unaccounted for, 30 p. c.

Pop. of city, 14,000.

No. consumers, 851.

No. meters, reg., 329; prepay., 522.

Price gas: Light and Fuel, 1st 3 M., \$1.50; next 2 M., \$1.15; next 5 M., \$1.00; next 40 M., 85c; next 50 M., 80c; over 100 M., 75c. Min. mo. charge, \$1. Disc., 10c., 10 days.

Ranges in use, 799; water heaters, 136.

Supplies Cleburne.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A. C., 3 phase, 60 cycle.

Voltage: Incand., 110; power, 220-110.

City lighting contract: Hours lighted per year, arc, all night schedule.

No. public arcs, 31; 450 watt. Price per year, \$78.

No. public incand., 215.

Commercial lighting: No. incand., 1,636 kw. equiv.

Price current per kw. hr., gross, 14c. and 7c. Disc., 10 p. c., 10 days.

Power circuits: Motors, 2,258 h. p.; price, \$1.50 and 6c. to 1c. per kw. Dis., 10 p. c., 10 days.

Output of branch, kw. hrs. for year, 3,675,000.

Generating power: Sub-station, 900 K. V. A. transformer capacity.

Supplied from trans. system of Texas Power & Light Co.

Corpus Christi Gas Co., Corpus Christi.

RRs.: S. A. & A. Pass.; Texas Mex.; St. L., B. & Mex. Ex.: W. F.; Mex. Nat.

Capital stock, auth., \$350,000; issued \$188,500.

Bonds, \$210,000, due 1944; int., 5 p. c.

President, Henry M. Wallace.

Vice-president, W. T. Utley.

Secretary and treas., R. G. St. John.

Manager and new bus. mgr., A. E. Beach.

Process manufacture, Lowe.

Price of coke per ton, delivered, \$8.40; oil per gal., 4.05c.

Candle-power, 18.

Calorific value, 630 B. t. u.

Max. day's send out, 103,400 c. f.

Gas holder capacity, 110,000 c. f.

Miles of mains, 15.

Street main pressures, max., 3.5 in.

Pop. city, 8,222 (1910); dist. supplied, 18,000.

No. consumers, 665.

No. meters, reg., 338; prepay., 327.

Price of gas: Light and Fuel, gross, \$1.50; net, \$1.40.

Gas ranges in use, 466; heaters, 259; water heaters, 170.

No. commercial gas arc lamps, 52.

Supplies Corpus Christi and suburbs.

El Paso Gas Co., El Paso.

RRs.: A., T. & S. F.; El. P. & So. W.; So. Pac.; T. & P. Ex.: Pac.; W. F.

Successor to El Paso Gas & Electric Co.

Controlled by Southwestern Power & Light Co. For capitalization and bonds, see Appendix.

President, W. W. Turney.

Secretary, J. W. Johnson.

Treasurer, J. W. Johnson.

Purchasing agent and mgr., K. L. Simons.

Superintendent, S. S. Nichols.

Process manufacture, Coal and Lowe.

Mixture, 42 p. c. coal; 58 p. c. water.

Price coal per ton, delivered, \$4.78.

Price coke per ton, delivered, \$8.

Price oil per gal., delivered, 4.6c.

Candle-power, 16.

Calorific value, 595 B. t. u.

Max. day's send out, 1,103,000 c. f.

Total gas holder capacity, 750,000 c. f.

Miles of mains, approx., 116.5.

Street main pressures, max., 6 in.; min., 4 in.

High pressure mains, 20 miles; pressure, 15 to 20 lbs.

Annual sales, 294,900,000 c. f.

Gas unaccounted for, 5.5 p. c.

Pop. of city, 52,000; of district, 65,000.

No. consumers, 9,665.

No. meters, reg., 7,331; prepay., 2,797.

Price gas: Light and Fuel, gross, \$1.40 to 90c.; disc., 10c.

Ranges in use, 7,735; water heaters, 3,038.

No. commercial gas arc lamps, 1,609.

Supplies El Paso, Tex., and Juarez, Mex.

Galveston Gas Co., Galveston.

RRs.: A., T. & S. F.; Gal., Hous. & Hend.; Gulf & Interstate; So. Pac.; Int. & G. N.; Mo., Kan. & Tex. SBs.; M. SS.; So. Pac. Lines. Ex.: Am.; Pac.; W. F.

Controlled by Southwestern Power & Light Co. For capitalization and bonds, see Appendix.

Capital stock, \$750,000.

Bonds, \$250,000; due 2015; int., 6 p. c.

President, John Sealy.

Vice-pres., R. Waverly Smith and Fred M. Lege, Jr.

Sec. and treas., Charles S. French.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Pur. agent, W. P. Hughes.
 General mgr., Fred M. Legee, Jr.
 New bus. mgr., W. G. Stark.
 Engineer, P. E. Nicholls.
 Superintendent, P. E. Nicholls.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$6.93; coke, per ton, \$6.15; oil, per gal., 35c.
 Candle-power, 18.
 Calorific value, 550 B. t. u.
 Annual production, 147,264,000 c. f.
 Total gas holders capacity, 500,000 c. f.
 Holder pressure, max., 15.6 in.
 Max. day's send out, 656,300 c. f.
 Miles of mains, approx., 63.07.
 Street main pressures, max., 5 in.; min., 3.5 in.
 High pressure mains, 2.5 miles; pressure, 15 lbs.
 Annual sales, approx., 130,000,000 c. f.
 Gas unaccounted for, 11.6 p. c.
 Pop. city, 40,000; of dist. supplied, 40,000.
 No. meters, reg., 3,271; prepay., 1,875.
 No. consumers, 5,092.
 Price gas: Light and Fuel, \$1.50 gross; \$1.40 net, first 5,000 c. f.; next 5,000 c. f., \$1.30 net; next 5,000 c. f., \$1.20; next 5,000 c. f., \$1.05; next 5,000 c. f., 90c.; over 25,000 c. f., 80c. net.
 No. gas ranges in use, 4,623; water heaters, 906.
 No. commercial gas arc lamps, 327.
 Supplies Galveston.

Greenville Gas Co., Greenville.

RRs.: Mo., Kan. & Tex.; St. L., So. W. Ex.:
 Am.; Pac.; W. F.

Capital stock, \$150,000.
 Bonds, \$150,000; due 1939; int., 6 p. c.
 President, _____
 Secretary, _____
 Treasurer, C. L. Burger.
 Manager and pur. agent, C. L. Burger.
 Supt. and engineer, John J. Starnes.
 New bus. mgr., L. H. Barnes.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.50.
 Candle-power, 18; calorific value, 600 B. t. u.
 Gas holder capacity, 80,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 125,000 c. f.
 Miles of mains, approx., 23.
 Street main pressures: max., 4 in.; min., 3 in.
 Annual sales, approx., 25,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. of city, 8,850; pop. of dist. supplied, 10,000.
 No. consumers, 982.
 No. meters, reg., 574; prepay, 408.
 Price gas: Light and Fuel, \$1.50.
 Gas appliances in use: Ranges, 923; heaters, 464; water heaters, 158.
 No. commercial lamps in use, 94.
 Supplies Greenville.

Houston Gas and Fuel Co., Houston.

RRs.: A., T. & S. F.; Hous., E. & W. Tex.;
 Hous. & Tex., Cen.; Int. & G. N.; Gal.,
 Hous. & Hend.; B., S. L. & West.; Mo.,
 Kan. & Tex.; St. L., B. & Mex.; S. A. &
 A. Pass.; So. Pac.; Trin. & B. Val.; Gal-
 Hous. (El.); S. B.; Collins Line. Ex.:
 Am.; W. F. _____

Controlled by The United Gas & Electric Corporation.

(For capitalization and bonds, see Appendix.)

President, James A. Baker.

Vice-president, C. L. Carter.

Secretary and treasurer, J. A. McKenna.

Asst. secy. and treas., W. A. Raymond.

Gen. mgr., F. D. Murphy.

New bus. mgr., Harry E. Dannar.

Process manufacture, Lowe.

Engineers and pur. agents, United Gas & Elec. Engineering Corporation.

Candle-power, 17.48. Calorific value, 600 B.t.u.

Annual production, approx., 669,235,000 c. f.

Max. day's send out, 3,729,000 c. f.

Total gas holders capacity, 4,000,000 c. f.

Miles of mains, approx., 237.68.

High pressure mains, 2 miles; pressure, 30 in.

Street main pressures, max., 5 in.; min., 4 in.

Annual sales, approx., 548,168,000 c. f.

Gas unaccounted for, 17 p. c.

Pop. dist. supplied, 125,914; of city, 78,800.

No. consumers, 17,914.

No. meters, reg., 12,428; prepay., 5,486.

Price of gas: Light and Fuel, gross, \$1.10; net, \$1.00 to 70c.

Ranges in use, 17,123; water heaters, 4,786.

No. commercial gas arc lamps, 2,403.

Supplies Houston.

Southwestern Gas Co., Mineral Wells.

R. Rs.: W., M. W. & No. W. Ex.: Pac. _____

Capital stock, auth., \$200,000; iss., \$142,700.

Bonds, \$74,700; due, 1935; int., 6 p. c.

Receiver, G. M. Moran.

Process of manufacture: Oil gas (Beals).

Annual production, oil gas, 10,838,000 c. f.

Price oil per gallon, delivered, 2c.

Candle-power, 18. Calorific value, 620 B. t. u.

Gas holder capacity, 20,000 c. f.

Max. day's send out, 32,000 c. f.

Street mains, approx., 14 miles; press., max., 3 in.

Annual sales, approx., 10,297,600 c. f.

Gas unaccounted for, 5.5 p. c.

Pop. of city, 4,000; of dist. supplied, 7,500.

No. consumers, 364.

No. meters, reg., 238; prepay., 126

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

Gas appliances in use: Ranges, 232; heaters,

81; water heaters, 27.

No. commercial arc lamps in use, 28.

Supplies Mineral Wells.

(No 1918 report.)

Do your GOODMAN STOPPERS need repairs? Send them to us today. They will be returned like new.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Palestine Light, Heat and Power Co., Palestine.

RRs.: Int. & G. N.; Dallas, Cors., Pal. & Gulf
Ex.: Pac.

Operated by Gas & Electric Improvement Co.,
Chicago.

Capital stock, pref., \$100,000; com., auth.,
\$300,000 issued, \$100,000.

Bonds, \$136,000; due 1940; interest 5 p. c.

President, E. Chandler Beach.

Secretary, W. H. Clifford.

Treasurer, A. Volney Foster.

Purchasing agent, C. S. Melson.

General manager, C. S. Melson.

Superintendent, H. F. Levy.

Process manufacture, Lowe.

Price coke per ton, delivered, \$10.50.

Price oil per gal., delivered, 7c.

Candle-power, 18.

Max. day's send out, 65,000 c. f.

Total gas holders capacity, 50,000 c. f.

Miles of mains, approx., 13.3.

Street main pressures, max., 3.5 in.; min.,
3 in.

Annual sales, approx., 18,100,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. dist. supplied, 8,000; of city, 10,482.

No. consumers, 805.

No. meters, reg., 595; prepay., 210.

Price gas: Light, gross \$2; net \$1.75. Fuel,
gross and net \$1.50.

No. public lamps, 87 Welsbachs.

Price per year, \$30.

Price includes care, lighting and extinguish-
ing.

No. hours lighted, dusk till dawn.

Ranges in use, 905; heaters and water heat-
ers and other appliances, 880.

No. commercial gas arc lamps, 108.

Supplies Palestine.

Texas Power and Light Co., Paris.

RRs.: A., T. & S. F.; P. & G. N.; T. & P.; Tex.
Mid. Ex.: Pac.; W. F.

(Successor to Paris Light & Power Co. For
capitalization and officers, see Parent Cos.
and Appendix.)

Vice-pres. and gen'l mgr., F. R. Slater, Dallas.

New bus. mgr., Hartwell Jalonick, Dallas.

Local mgr., Walter N. Munroe.

Process manufacture, Lowe.

Price coke per ton, \$9.85.

Price of oil per gal., 45c.

Calorific value, 528 B. t. u.

Max. day's send out, 105,000 c. f.

Total gas holders capacity, 125,000 c. f.

Miles of mains, approx., 22.7.

Street main pressures, max., 4 in.

Annual sales, approx., 24,600,000 c. f.

Gas unaccounted for, 22 p. c.

Pop. of city, 15,000.

No. consumers, 1,127.

No. meters, reg., 554; prepay., 672.

Price gas: Light and Fuel, 1st 5 M. c. f., \$1.50;
next 5 M., \$1.35; next 10 M., \$1.15; next
20 M., \$1.05; next 20 M., 95c.; all over
60 M., 85c. Min. mo. charge, \$1. Disc.,
10c., 10 days.

Ranges in use, 1,075; water heaters, 384.

Supplies Paris.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 60
cycle; power, A. C. and D. C., 3 ph., 60
cycles.

Generating capacity, 1,050 kw.

Voltage: Arcs, series; incand., 110; power,
220-110.

City lighting contract: Hours lighted per year,
arcs and incand., all night.

No. public arcs, 147; 7.5 amp. Price per year,
\$70.

No. public incand., 110.

Commercial lighting: No. incand., 2,460. kw.
equiv.

Price current per kw. hr., gross, 15c. and 8c.
Disc., 10 p. c., 10 days.

Rates for dom. use, 15c. and 8c. Disc., 10 p.
c., 10 days.

Power circuits: Motors, 1,970 h. p.

Price current, \$1.50 and 6c. to 1c. per kw. hr.
Disc., 10 p. c., 10 days.

Other uses: Railway (Paris Transit Co. being
associated).

Power from trans. system of Texas Pr. &
Lt. Co.

Port Arthur Gas & Power Co., Port Arthur.

RRs.: K. C. So.; So. Pac. Ex.: W. F. & Co.

(Controlled by National Utilities Co.)

Capital stock, \$250,000.

Bonds, \$150,000; due 1930; int., 5 p. c.

President, J. S. Connelly.

Vice-president, G. M. Craig.

Secretary, S. B. Redmond.

Treasurer, G. H. Eubank.

Gen'l mgr. and pur. agent, J. S. Connelley.

Engineer, A. W. Jackson.

Superintendent, A. W. Jackson.

New bus. mgr., S. B. Redmond.

Process manufacture, Lowe (crude oil).

Price oil per gallon, delivered, 2.75c.

Candle-power, 20.

Calorific value, 600 B. t. u.

Annual production, 60,000,000 c. f.

Gas storage capacity, 110,000 c. f.

Max. day's send out, 250,000 c. f.

Miles of mains, approx., 22.

Street main pressures, max., 3 lbs.; min., 1 lb.

Individual regulators give house press. 3 oz.

Annual sales, approx., 54,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. of city, 7,663 (1910); of dist. supplied,
17,000.

No. consumers and meters, 1,000.

Price gas: Light, gross, \$1.50; net, \$1.40 for 3
M. or less; over 3 M. to 5 M., \$1.35; 5
M. to 10 M., \$1.30; 10 M. to 15 M., \$1.20;
15 M., \$1.10. Min. per mo., \$1.

No. ranges, 690; heaters, 485; water heaters,
140.

No. commercial gas arc lamps, 200.

Supplies Port Arthur.

San Angelo Gas Co., San Angelo.

RR.: A., T. & S. F. Ex.: W. F.

Capital stock, \$40,000.

President, John Freeland.

Secretary, W. B. Hunter.

Precision 3-in-1 Gauges for forced-draught indications are of the dead-
beat type, and give concentrated control of draught conditions by showing in one instrument
conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Treasurer, W. B. Hunter.
 Purchasing agent, John Freeland.
 Manager, John Freeland.
 Supt. and new bus. mgr., John Freeland.
 Process manufacture, Beal (Crude Oil).
 Price oil per gal., 2.75c.
 Candle-power, 18.
 Calorific value, 650 B. t. u.
 Miles of mains, approx., 15.
 Street main pressure, max., 6 in.; min., 4 in.
 Gas holder capacity, 20,000 c. f.
 Max day's send out, 30,000 c. f.
 Annual sales, approx., 10,800,000 c. f.
 Gas unaccounted for, 6 p. c.
 Pop. of city, 10,321; of dist. supplied, 3,000.
 No. consumers, 300.
 No. meters, reg., 270; prepay., 30.
 Price gas: Light and Fuel, \$1.50.
 No. public lamps, 25.
 Gas appliances in use: Ranges, 200; heaters, 65.
 No. commercial gas arc lamps in use, 19.
 (No 1918 report.)

San Antonio Public Service Co., San Antonio.

RRs.: So. Pac.; Int. & G. N.; Mo., Kan. & Tex.; S. A. & A. Pass.; S. A. U. & G. Ex.; Am.; Pac.; W. F.

(Successor to San Antonio Gas & Elec. Co.)
 Capital stock, \$2,200,000.
 Bonds, \$984,000; due 1949; interest, 5 p. c.
 President, Emerson McMillin.
 Vice-president, W. B. Tuttle.
 Auditor, P. L. King.
 Sec. and treas., R. C. Jones.
 Engineer, H. C. Abeel.
 Purchasing agent, H. Henson.
 Superintendent, F. L. Weissner.
 New bus. mgr., W. G. Morgan.
 Process manufacture, Lowe.
 Annual production, 472,714,800 c. f.
 Miles of mains, approx., 211.
 Pop. dist. supplied, est., 130,000; of city, same.
 No. consumers, 13,011.
 No. meters, 12,789.
 Price gas: Monthly increment rate, max., \$1.25 to 70c. gross; plus 10 p. c. net.
 Supplies San Antonio.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycle, 2 and 3 phase.
 Voltage: Arcs, 70; incand., 110-220; power, D. C., 500; A. C., 220.
 Commercial lighting: Monthly increment rate, max., 10c.; min., 4c. per kw. hr. gross, less 10 p. c. net.
 Power circuits: Price current, max., 5c.; min., 2c. gross, less 10 p. c. net.
 Output of station kw. hrs. for year, 30,721,090.
 Generating power used, Steam.

Sherman Gas Light and Fuel Co., Sherman.

RRs.: Mo., Kan. & Tex.; St. L. So. W.; T. & P.; Houston & Tex. Central; St. L., S. F. & Tex. Ex.: Am.; Pac.; W. F.; U. S.
 Company in hands of Receiver.
 Capital stock, \$200,000.
 Bonds, \$175,500; due 1923; int., 5 p. c.
 Receiver, W. M. Chaffin, Jr.

Local mgr. and pur. agt., W. M. Chaffin, Jr.
 Superintendent of works, Geo. W. McDonald.
 Process manufacture, Lowe (Gas Mach. Co.).
 Price coke per ton, delivered, \$7.
 Price oil per gal., 3.5c.
 Candle-power, 20.
 Calorific value, 650 B. t. u.
 Max. day's send out, 245,000 c. f.
 Total gas holder capacity, 120,000 c. f.
 Miles of mains, approx., 28.
 Street main pressures, max., 3 in.; min., 2 in.
 High pressure mains, miles, 5; pressure, 3 lbs.
 Annual sales, approx., 35,000,000 c. f. (1913)
 Gas unaccounted for, 11 p. c.
 Pop. dist. supplied, 10,000; of city, 12,412.
 No. consumers, 2,070 (1913).
 No. meters, reg., 1,250; prepay., 820.
 Price gas: Light, gross \$2; net \$1.90. Fuel, gross \$1.50; net \$1.40.
 Ranges in use, 1,250; heaters, 725; water heaters, 875.
 No. commercial gas arc lamps, 390.
 Supplies Sherman.
 (No 1918 report.)

Temple Gas Light Co., Temple.

RRs.: A. T. & S. F.; Mo., Kan. & Tex. Ex.: Am.; W. F.

Capital stock, auth., \$150,000; issued, \$150,000.
 Bonds, \$150,000; due, 1941; int., 5 p. c.
 President, Henry M. Wallace.
 Vice-president, W. T. Utley.
 Secretary and treas., R. G. St. John.
 General manager, James R. Haines.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$7.90.
 Price oil per gal., 3.9c.
 Candle-power, 18.
 Calorific value, 625 B. t. u.
 Annual production, 24,000,000 c. f.
 Gas holder capacity, 110,000 c. f.
 Max. day's send out, 114,000 c. f.
 Miles of mains, approximate, 15.
 Street main pressures, max., 3.5 in.
 Annual sales, approx., 19,000,000 c. f.
 Gas unaccounted for, 8.4 p. c.
 Population of city, 10,993.
 No. consumers, 896.
 No. meters, reg., 513; prepay., 383.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.
 Gas appliances in use: Ranges, 943; heaters, 527; water heaters, 200.
 No. commercial gas arc lamps in use, 134.
 Supplies Temple.

Tyler Gas Co., Tyler.

RRs.: Int. & G. N.; St. L. So. W. Ex.: Pac.
 Capital stock, \$100,000.
 President, William Dall.
 Sec'y and treas., H. C. Osborn.
 Gen'l mgr. and pur. agent, G. M. Moran.
 Engineer, G. M. Moran.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$7.55.
 Price of oil per gal., 3.5c.
 Annual production, 9,000,000 c. f.
 Candle-power, 18.
 Calorific value, 610 B. t. u.
 Gas holder capacity, 50,000 c. f.

WE BUY SPENT OXIDE FROM COAL GAS WORKS
SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
 and 29th Street

PHILADELPHIA, PA.

Holder pressure, 3 in.
 Max. day's send out, 27,000 c. f.
 Miles of mains, 7; pressures, avg., 3 in.
 Annual sales, approx., 8,100,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 10,400 (1910); dist. supplied, 3,400.
 No. consumers, 365.
 No. meters, reg., 281; prepay., 84.
 Price gas. Light, gross, \$1.65; net, \$1.50, with sliding scale: 1st 10,000 c. f., \$1.50; 2d 10,000 c. f., \$1.25; 3d 10,000 c. f., \$1; 4th 10,000 c. f., 95c.
 Ranges, 237; heaters, 99; water heaters, 115.
 No. commercial gas arc lamps in use, 70.
 Supplies Tyler, Tex.
 (No 1918 report.)

Waxahachie Gas Co., Waxahachie.

RRs.: Hous. & Tex. Cen.; Mo., Kan. & Tex.; Trinity & B. Val. Ex.: Am.; W. F.
 Capital stock, auth., \$150,000; issued, \$150,000.
 Bonds, \$150,000, due 1941; int., 5 p. c.
 President, Henry M. Wallace.
 Vice-pres., W. T. Utley.
 Sec. and treas., R. G. St. John.
 General manager, H. L. St. John.
 Superintendent, John R. Ellis.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$12.51.
 Price of oil per gal., 3.98c.
 Candle-power, 18; calorific value, 625 B. t. u.
 Annual production, 10,800,000 c. f.
 Gas holder capacity, 87,000 c. f.
 Max. day's send out, 51,209 c. f.
 Miles of mains, approximate, 12.
 Street main pressures, avg., 3.5 in.
 Annual sales, approx., 9,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of town supplied, 6,205.

No. consumers, 407.
 No. meters, reg., 288; prepay., 119.
 Price gas: Light and Fuel, gross, \$1.65; net, \$1.50.
 Ranges, 314; heaters, 318; water heaters, 125.
 No. commercial gas arc lamps, 44.
 Supplies Waxahachie.

Consumers Gas and Fuel Co., Weatherford.

RRs.: A., T. & S. F.; T. & P.; W., N. W. & No. W. Ex.: Pac.; W. F.

(Successor to Crystal Ice Co.)
 Executive office, Mineral Wells, Tex.
 Capital stock, \$300,000.
 President, W. H. Gross.
 Secretary, T. W. Owen.
 Treasurer, T. W. Owen.
 Manager and pur. agent, T. W. Owen.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$8.50 to \$10.
 Price oil, per bbl., \$2.30.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Annual production, 7,000,000 c. f.
 Gas holder capacity, 40,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 15,000 c. f.
 Miles of mains, approx., 7.
 Street main pressures: max., 4 in.; min., 3.9 in.
 Annual sales, approx., 6,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. of city, 5,074; dist. supplied, 5,000.
 No. consumers, 315.
 No. meters: Prepay, 300.
 Price gas: Light, \$1.50; Fuel, \$1.
 Gas appliances in use: Ranges, 185; heaters, 40; water heaters, 10.
 Supplies Weatherford.
 Company supplies natural gas in Mineral Wells. See Natural Gas Dept.

UTAH

Total population, 438,974.

Utah Power & Light Co., Ogden Div..

RRs.: So. Pac.; Ore. Short L.; U. P.; Den. & Rio G.; Salt Lake & Ogden. Ex.: Pac.; W. F.; Am.

Controlled by Utah Securities Corp. For capitalization, bonds, officers, etc., see Appendix.

Div. manager, P. M. Parry.
 Superintendent, A. E. Bruerton.
 New bus. mgr., J. H. Wells.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$4.55.
 Calorific value, 600 B. t. u.
 Annual production, 64,000,000 c. f.
 By-products made: Coke, 3,800 tons; tar, 63,270 gals.
 Max. day's send out, 220,000 c. f.
 Gas holder capacity, 230,000 c. f.
 Holder pressure, max., 4 in.
 Miles of mains, approx., 31.
 Street main pressures, max., 6 in.; min., 4 in.
 High pressure mains, 6 miles; pressure, 5 lbs.
 Annual sales, approx., 58,740,000 c. f.

Gas unaccounted for, 9.07 p. c.
 By-products sold: Coke, 3,800 tons; tar, 70,000 gals.
 Pop. dist. supplied, 30,000; of city, 26,000.
 No. meters, reg., 2,438; prepay., 202.
 No. consumers, 2,500.
 Price gas: Light, gross, \$1.25 1st 2,000 c. f.; \$1.15 next 5,000 c. f.; \$1 all over 7,000 c. f. Disc., 10c., 7 days. Min. charge, 50c. per meter.
 Ranges in use, 2,855; heaters, 818; water heaters, 430.
 Supplies Ogden.

ELECTRICAL DEPARTMENT.

System operated: A. C., 60 cycle, 7,200 alt. Power, D. C., 1 and 3-phase, 60 cycles.
 Generating capacity: Lighting, 8,400 k.w. Power, 500 kw.
 Voltage: Arcs, 75; incand., 115; power, 115-230 A. C.; 240 D. C.
 City lighting contract: Hours lighted, 4,066.
 No. public arcs, 476; 320 watt. Price per year, \$54.

SERVICE CLEANERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our New American Service Cleaners have been improved and they are now sold generally throughout the country.

DRIP PUMPS

These are made of brass and are exceptionally strong and durable.

No. public incand., 8; 400 c. p. Type C. Price per year, \$46.20.
Commercial lighting: No. arcs, 12; No. incand., 106,000.
Price current per kw. hr., gross, 9c. to 5c. Disc., 10 p. c., 7 days.
Power circuits: Price per kw. hr., 9c. to 1.5c.
No. motors, 565.
Other uses: Flat-irons, cooking and heating.
Generating power used, Water.

Utah Valley Gas and Coke Co., Provo.

RRs.: Den. & Rio G.; S. P., L. A. & S. L.
Ex.: W. F.

Controlled by P. W. Brooks & Co., Inc., New York City.

Capital stock, pref. auth., \$200,000; issued, \$50,000; com. auth., \$500,000; issued, \$150,000.

Annual dividend, pref., 7 p. c.

Bonds, \$130,000; due 1935; int., 6 p. c.

President, Fred W. Freese.

Sec'y and treas., A. F. Beringer, Salt Lake.

General mgr. and pur. agent, A. F. Beringer.

Engineer, A. F. Beringer.

Supt. of dis., S. A. Stum.

New bus. agts., J. M. Vick and Walter Adams.

Process manufacture, Coal (Standard).

Price coal per ton, delivered, \$3.45.

Candle-power, 17; calorific value, 600 B. t. u.

By-products made: Coke, 930 tons; tar, 16,000 gals

Gas holder capacity, 48,000 c. f.

Holder pressure, max., 4.2 in.

Max. day's send out, 70,000 c. f.

Miles of mains, approx., 19; press., max., 3 lbs.; min., 1 lb.

Annual sales, approx., 15,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. of city, 10,000 (1915); dist. supplied, 7,500.

No. consumers, 925.

No. meters, reg., 910; prepay, 40.

Price gas: Light and Fuel, gross, \$1.60 to \$1.10; net, \$1.50 to \$1. 1st 2,000 c. f., \$1.60; next 3,000 c. f., \$1.40; next 3,000 c. f., \$1.20; all over 8,000 c. f., \$1.10. Disc. 10c., 10 days.

No. ranges in use, 875; heaters, 275; water heaters, 80.

No. commercial gas arc lamps, 175.

Supplies Provo.

Utah Gas and Coke Co., Salt Lake City.

RRs.: Ore. Short L.; Den. & Rio G.; S. P.; L. A. & S. L.; Salt Lake & Ogden; S. L. & L. A.; W. Pac. Ex.: Pac.; W. F.

(Owned by American Public Utilities Co.)

(For capitalization and bonds, see Appendix.)

President, J. H. Brewer.

Vice-pres., Chas. B. Kelsey.

Secretary and pur. agt., Blaine Gavett.

Treasurer, W. J. Ripley.

Gen. mgr., Geo. H. Waring.

Engineer, C. E. Gray, Jr.

Process manufacture, Coal and Lowe.

Mixture, 90 p. c. coal; 10 p. c. water.

Price coal per ton, delivered, \$3.40.

Price oil per gal., delivered, 6 c.

Candle-power, 17. Cal. val., 600 B. t. u.

Max. day's send out, 1,450,000 c. f.

Total gas holder capacity, 1,550,000 c. f.

Miles of mains, 165.

Street main pressures, max., 5.5 in.; min., 2 in.

High pressure mains, 4 miles; pressure, 2 lbs.

Annual sales, approx., 436,500,000 c. f.

Gas unaccounted for, 6.2 p. c.

Pop. dist. supplied, 90,000; of city, 110,000.

No. consumers, 13,620; meters, 13,442.

Price gas: Light and Fuel, gross, \$1; net, 90c. to 70c.

Ranges, 12,400; heaters, 2,703; water heaters, 3,021.

No. commercial gas arc lamps, 2,413.

Supplies Salt Lake City.

(No report.)

VERMONT

Total population, 364,322.

Barre Gas Co., Barre.

RRs.: Barre; Cent. Vt.; Mont. & Wells. Riv.
Ex.: Am.

(Successor to Peoples Lighting, Heating and Power Co.)

Capital stock, \$100,000.

Bonds, \$75,000; due 1924; int., 6 p. c.

President, W. H. H. Slack.

Secretary, W. H. H. Putnam.

Treasurer, H. H. Blanchard.

General manager, A. W. LaFountain.

Purchasing agent, Joseph M. Nelson.

Supt. and engineer, Joseph M. Nelson.

New bus. manager, Joseph M. Nelson.

Process manufacture, Lowe.

Price coal per ton, delivered, anth., \$8.70.

Price oil per gal., 7.25c.

Candle-power, 18.5.

Calorific value, 630 B. t. u.

Annual production, 25,000,000 c. f.

Total gas holders capacity, 100,000 c. f.

Holder pressure, 6.5 in.

Max. day's send out, 90,000 c. f.

Miles of mains, approx., 17.

Street main pressure, max., 3.8 in.; min. 2.7 in.

Annual sales, approx., 22,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 9,000; of city, est., 14,000.

No. consumers, 1,530.

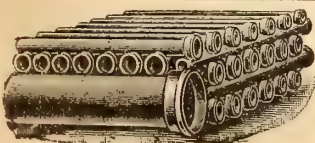
No. meters, reg., 489; prepay., 1,041.

Price gas: Light, gross, \$1.75; net, dom., \$1.60; com., \$1.25. Fuel, gross, \$1.75; net, \$1.25; indus., gross, \$1.75; net, \$1.25.

Ranges in use, 1,175; heaters, 325; water heaters, 220.

No. commercial gas arc lamps, 45.

Supplies Barre City.



CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

Twin State Gas and Electric Co., Bennington.

RR.: Rutland. Ex.: Am.; Nat.

(Operated by Middle West Utilities Co.)
 (For capitalization and officers, see Dover, N. H. Division.)
 Supt. E. E. Larrabee.
 Process manufacture, Lowe (Sutherland).
 Price coal per ton, delivered, \$7.75.
 Price oil per gal., delivered, 6.2c.
 Candle-power, 18; calorific value, 600 B. t. u.
 Total gas holders capacity, 50,000 c. f.
 Miles of mains, approximate, 8.
 Street main pressures: max., 3.3 in.; min., 2 in.
 Annual sales, approx., 7,500,000 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. dist. supplied, 3,500; of city, 6,211.
 No. consumers, 724.
 No. meters, reg., 382; prepay, 342.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.
 Ranges in use, 503; heaters, 68; water heaters, 166.
 No. commercial gas arc lamps, 27.
 Supplies Bennington.

Twin State Gas and Electric Co., Brattleboro.

RRs.: Bos. & Me.; Cen. Vt. Ex.: Am.

(Operated by Middle West Utilities Co.)
 (For capitalization and officers, see Dover, N. H. Division.)
 Local manager, W. H. Richardson.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$8.
 Price oil per gal., delivered, 6.5c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 24,175,800 c. f.
 Total gas holders capacity, 35,000 c. f.
 Holder pressure, 4.8 in.
 Max. day's send out, 60,000 c. f.
 Miles of mains, approx., 8.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., 22,000,000 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. dist. supplied, 5,000; of city, 7,541.
 No. meters, reg., 647; prepay, 800.
 No. consumers, 1,447.
 Price gas: Light and Fuel, gross, \$1.60; net, \$1.50.
 Ranges in use, 936; heaters, 343; water heaters, 252.
 Supplies Brattleboro and West Brattleboro, Vt.

ELECTRICAL DEPARTMENT.

System operated: A. C., 1 and 3 phase, 60 cycle, 7,200 alt.
 Generating capacity: Lighting and power, 825.
 Voltage: Incand., 110; power, 220 and 550.
 City lighting contract: Hours lighted per year, incand., 4,000.
 No. public incand., 450; 100 watt Tungstens.
 Price per year, \$20.
 Commercial lighting: No. incand., 18,000.
 Price current per kw. hr., gross, 10c. to 6c.
 Power price per kw. hr., 8c. to 2c.

Output of station, kw. hrs. for year, 1,695,000.
 Generating power used, Water; rated h. p., 300.
 Cost of station boiler coal per ton, \$4.25.
 Also operates street railway.

Burlington Gas Light Co., Burlington.

RRs.: Cen. Vt.; Rutland. S. B.: Champ. Trans. Ex.: Am.; Nat.

Operated by The American Gas Co., Philadelphia.
 Capital stock, \$1,250,000.
 Bonds, \$1,250,000; due 1955; int., 5 p. c.
 President, Morris W. Stroud.
 Vice-pres. and gen'l mgr., S. P. Curtis.
 Vice-president, J. C. Lowry.
 Secretary, F. H. Parker.
 Treasurer, J. B. Townsend, 3d.
 Pur. agent, F. D. Wharton.
 Engineer, R. C. Cornish.
 Elec. engineer, H. M. Blake.
 Manager, F. H. Parker.
 Process manufacture, Lowe.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Annual production, 99,479,000 c. f.
 By-products made: Tar, 62,580 gals.
 Total gas holder capacity, 500,000 c. f.
 Holder pressure, max., 3.5 in.
 Max. day's send out, 387,000 c. f.
 Miles of street mains, approx., 41.
 Street main pressures, max. 3.5 in.; min. 2 in.
 High pressure mains, miles, 3.2; pressure, 15 lbs.
 Annual sales, approx., 90,035,000 c. f.
 Gas unaccounted for, 9.2 p. c.
 By-products sold: Tar, 151 gals.
 Pop. dist. supplied, 27,000; of city, 20,468.
 No. consumers, 4,858.
 No. meters, reg., 1,388; prepay., 3,470.
 Price gas: Light and Fuel, net, 1st 10,000 c. f., \$1.10; next 10,000 c. f., \$1.00; next 30,000 c. f., 90c.; next 50,000 c. f., 80c.; all over 100,000 c. f., 75c.
 No. gas ranges in use, 3,138.
 No. commercial gas arc lamps, 440.
 Supplies Burlington and Winooski.

ELECTRICAL DEPARTMENT.

Operated under name of the Burlington Light & Power Co.
 System operated: A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting and power, 3,000 kw.
 Voltage: Arcs, 70; incand., 110; power, 220.
 City lighting contract: Hours lighted, 4,000.
 No. arcs, 42; 450 watt. Price per year, \$70.
 No. incand., 147; 40 watt. Price per year, \$750.
 Commercial lighting: No. incand., 65,000.
 Price commercial lighting per kw. hr., gross, 10c. Disc., sliding scale to 5.5c.
 Power circuits: No. motors, 486; price per kw. hr., 5c. to 2.75c.
 Output of station kw. for year, 6,288,200.
 Generating power used, Water and Steam: rated h. p., 4,000.
 Supplies Burlington, Winooski, Fort Ethan Allen, Essex Junction.

ULCO LEAD WOOL FOR SAFETY**IN ROPE FORM****UNITED LEAD COMPANY
111 BROADWAY, NEW YORK**

Capital City Gas Co., Montpelier.

RRs.: Cen. Vt.; Mont. & Wells Riv. Ex.: Am.

Capital stock, \$100,000.
 Annual dividend, 9.5 p. c.
 President, Fred Blanchard.
 Clerk, F. N. Smith.
 Treasurer, Geo. L. Blanchard.
 General mgr., George L. Blanchard.
 Pur. agent, George L. Blanchard.
 Superintendent, H. C. Smith.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.76.
 Candle-power, 16.
 Annual production, 21,300,000 c. f.
 Total gas holder capacity, 140,000 c. f.
 Holder pressure, max., 5 in.
 Max. day's send out, 70,000 c. f.
 Miles of mains, approx., 17.
 Street main pressures, max., 5 in.; min., 4 in.
 Annual sales, approx., 21,000,000 c. f.
 By-products sold: Coke, 1,050 tons; tar, 25,000 gals.
 Pop. of dist. supplied, 7,900; of city, est., 8,000.
 No. consumers, 1,550.
 No. meters, reg., 600; prepay., 950.
 Price gas: Light and Fuel, gross, \$2; discounts as follows: To 3 M., 40c.; over 3 M. to 5 M., 50c.; over 5 M. to 10 M., 55c.; over 10 M. to 20 M., 65c.; over 20 M. to 30 M., 70c.; over 30 M. to 50 M., 80c.; over 50 M. to 75 M., 90c.; over 75 M., \$1. Min. mo. charge, 50c.
 Ranges in use, 975; heaters, 250.
 No. commercial gas arc lamps, 60.
 Supplies Montpelier.

Rutland Railway Light and Power Co., Rutland.

RRs.: Clar. & Pitts.; D. & H.; Rutland. Ex.: Am.; Nat.

Controlled by General Gas & Electric Co., New York City.
 Capital stock, \$1,700,500.
 Bonds, \$1,989,000; due 1946; interest, 5 p. c.
 President, W. S. Barstow.
 Vice-pres., F. S. Nicholson.
 Clerk and treas., H. L. Hansen.
 Asst. clerk, C. N. Wilson.
 Gen. mgr., F. S. Nicholson.
 Asst. treas., J. P. Campbell.
 Pur. agent, gas dept., W. H. Lawson.
 Superintendent, W. H. Lawson.
 New bus. mgr., W. H. Lawson.
 Process manufacture, Coal and Lowe.
 Mixture supplied, 97 p. c. coal; 3 p. c. water.
 Price coal per ton, delivered, \$6.05-\$8.60.
 Price oil per gal., delivered, 8.1c.
 Candle-power, 16.
 Calorific value, 650 B. t. u.
 Max. day's send out, 201,700 c. f.
 Total gas holders capacity, 175,000 c. f.
 Miles of mains, approx., 44.8 (3 in. equiv.).
 Street main pressures, max., 6 in.; min., 2.5 in.
 Annual sales, approx., 45,000,000 c. f.

Gas unaccounted for, 14,35 p. c.
 Pop. dist. supplied, 14,800.
 No. meters, reg., 966; prepay, 2,010.
 No. consumers, 2,942.
 Price gas: Light and Fuel (effective Jan. 15, 1918); 1st 10,000 c. f., \$1.65; 10,000-20,000 c. f., \$1.60; 20,000-50,000 c. f., \$1.45; 50,000-150,000 c. f., \$1.20; all over 150,000 c. f., \$1.05.
 Ranges in use, 1,944; water heaters, 630.
 No. commercial gas arc lamps, 140.
 Supplies Rutland.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 3 phase, 60 and 25 cycle; power, D. C. and A. C., single and 3 phase.
 Voltage, 115-230. Transmission, 44,000 v.
 No. public incand., 949. Price per year, \$19.75, all night; \$15.80 till 12.30 a. m.
 Price current per kw. hr., 12c. to 6c.
 Power circuits: Motors, 382; price per kw. hr., 8c. to 2c. Disc., 5 p. c.
 Generating power, Water; rated 5,000 h. p.
 Output of station kw. hrs., total for year, 20,000,000 (incl. power purchased.)

St. Albans Gas Light Co., St. Albans.

RR.: Cen. Vt. Ex.: Nat.; Am.

Capital stock, \$50,000.
 Bonds, \$65,000; due 1938; int., 6 p. c.
 Lessee, E. H. Gay, Boston, Mass.
 Gen'l mgr. and pur. agt., Dr. R. J. Boynton.
 Supt. and engineer, Dr. R. J. Boynton.
 New bus. mgr., Dr. R. J. Boynton.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.75.
 Price oil per gal., 7.25c.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Total gas holders capacity, 40,000 c. f.
 Holder pressure, max., 5 in.
 Max. day's send out, 45,000 c. f.
 Miles of mains, approx., 10.
 Street main pressures, max., 5 in.; min., 2 in.
 Annual sales, approx., 12,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. of city, 6,381; dist. supplied, the same.
 No. consumers, 883.
 No. meters, reg., 446; prepay., 437.
 Price gas: Light and Fuel, gross, \$1.75; net, \$1.60.
 Ranges in use, 780; heaters, 120; water heaters, 190.
 No. commercial gas arc lamps, 33.
 Supplies St. Albans.

St. Johnsbury Gas Co., St. Johnsbury.

RRs.: Bos. & Me.; St. J. & Lake C.; M. C. Ex.: Am.

Capital stock, \$150,000 auth.; \$87,500 issued.
 Annual dividend, 6 p. c.
 Mortgage note outstanding \$27,000; int. 6 p. c.
 President, F. M. Abbott.
 Secretary, L. M. Abbott.

**SMOKE STACK AND CHIMNEY PAINTS**

We have different kinds of smoke stack and chimney paints depending upon the temperature to be met with and on other conditions; write and we will submit specifications. For most service we recommend our No. 750 Smoke Stack Black.

Write for
 REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Treasurer, L. M. Abbott.
 Gen. mgr. and engineer, Chas. L. O'Loughlin.
 Supt. and pur. agt., Chas. L. O'Loughlin.
 New bus. mgr., Chas. L. O'Loughlin.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$8.75 (anth.)
 Price oil per gal., delivered, 6.5c.
 Candle-power, 19; calorific value, 650 B. t. u.
 Total gas holders capacity, 75,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 71,700 c. f.
 Miles of mains, approx., 12.
 Street main pressures, max. 3 in.; min. 3 in.
 Annual sales, approx., 16,500,000 c. f.
 Gas unaccounted for, 6.25 p. c.
 Pop. dist. supplied, 5,000; of city, 8,098.
 No. consumers, 1,415.
 No. meters, reg., 144; prepay., 1,271.
 Price gas (Since Jan. 1, 1918): Light and Fuel, \$2.00 and sliding scale: Less than 5,000 c. f., \$2.00; over 5,000 c. f. up to 20,000 c. f., \$1.75; 20,000 to 30,000 c. f., \$1.65; 30,000 to 40,000 c. f., \$1.55; 40,000 to 100,000 c. f., \$1.45; 100,000 c. f. to 160,000 c. f., \$1.35; 160,000 c. f. and over, \$1.25.
 Ranges in use, 1,132; heaters, 412; water heaters, 300.
 No. commercial gas arc lamps, 26.
 Supplies St. Johnsbury.

Springfield Gas Co., Springfield.

RR.: Spring. El. Ex.: Am.

Capital stock, \$50,000.
 Bonds, \$24,500; due 1935; int., 6 p. c.
 President, W. D. Woolson.
 Secretary, H. H. Blanchard.
 Treasurer, H. H. Blanchard.
 Pur. agt., W. O. White.
 General manager, W. O. White.
 New bus. mgr., W. O. White.
 Engineer, R. F. Droun.
 Superintendent, W. O. White.
 Process manufacture, Lowe (Sutherland).
 Price oil per gal., 9.5c.
 Candle-power, 19. Cal. val., 650 B. t. u.
 Annual production, 8,500,000 c. f.
 Total gas holders capacity, 50,000 c. f.
 Holder pressure, max., 3 in.
 Max. day's send out, 53,000 c. f.
 Miles of mains, approx., 8.
 Street main pressure, avg., 3 in.
 Annual sales, approx., 8,500,000 c. f.
 Pop. dist. supplied, 5,000; of city, est., 7,500.
 No. consumers, 812.
 No. meters, reg., 310; prepay., 502.
 Price gas: Light and Fuel, gross, \$2; net \$1.75.
 Ranges, 600; water heaters, 300.
 Supplies Springfield.

VIRGINIA

Total population, 2,202,522.

Alexandria Gas Works, Alexandria.

RRs.: B. & O.; C. & O.; So.; Wash., Alex., & Mt. Ver.; Wash. So. S. Bs.: Randall Pot. R. Line; Md., Del. & Va. Ry.; Mt. V. & M. H. Ferry to Washington, D. C.
 Ex.: Ad.; So.

(Municipal plant.)

Chairman, Jas. B. Fitzgerald.
 Treasurer, Thos. W. Robinson.
 Clerk, J. B. Waller.
 Purchasing agent, Committee on Light.
 Superintendent, F. W. Latham.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.90.
 Candle-power, 17.
 Calorific value, 650 B. t. u.
 Annual production, 53,316,000 c. f.
 By-products made: Coke, 2,400 tons; tar, 80,000 gals.
 Total gas holders capacity, 133,000 c. f.
 Holder pressure, max., 4.8 in.
 Max. day's send out, 197,000 c. f.
 Miles of mains, approx., 22.5.
 Street main pressures, max., 4.5 in.; min., 3 in.
 Annual sales, approx., 46,023,000 c. f.
 Gas unaccounted for, 13.67 p. c.
 By-products sold: Coke, 1,400 tons; tar, 80,000 gals. (Ammonia sold by contract; contractor distills).
 Pop. dist. supplied, 21,000; city, 15,329.
 No. consumers, 2,175.

No. meters, reg., 922; prepay, 1,253.
 Price gas: Light and Fuel, gross \$1.30; net \$1.
 No. public lamps, 92; incl. 67 Graetzin.
 No. hours lighted per year, 4,380.
 No. ranges, 800; heaters, 200; water heaters, 300.
 No. commercial arc lamps, 150.
 Supplies Alexandria City.

Bristol Gas and Electric Co., Bristol.

(See report under Bristol, Tenn.)

Charlottesville Gas Works, Charlottesville.

RRs.: C. & O.; So. Ex.: Ad.; So.

(Municipal plant.)

Chairman, W. T. Elliott.
 Treasurer, W. G. Steel.
 Gen'l mgr., H. A. Stecker.
 Superintendent, E. C. Pond.
 Purchasing agent, H. A. Stecker.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.
 Candle-power, 17.
 Calorific value, 600 B. t. u.
 Annual production, approx., 35,000,000 c. f.
 By-products made: Coke, 4,000 tons; tar, 35,000 gals.
 Max. day's send out, 128,000 c. f.
 Total gas holders capacity, 160,000 c. f.
 Holder pressure, 3.6 in.
 Miles of mains, approx., 12.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Street main pressures, max., 4.5 in.; min., 2.5 in.
 Annual sales, approx., 22,000,000 c. f.
 Gas unaccounted for, 25 p. c.
 By-products sold: Coke, 2,800 tons; tar, 1,864 gals.
 Pop. of city, 6,765; of dist. supplied, 8,000.
 No. consumers, 1,262.
 No. meters, reg., 572; prepay., 690.
 Price gas: Light and Fuel, \$1.25.
 Ranges in use, 964; heaters, 60; water heaters, 30.
 Supplies Charlottesville.

City of Danville Gas Dept., Danville.

RR.: Dan. & Western; So. Ex.: So.
 (Municipal plant.)
 Sec'y and treas., Frank Talbott.
 Pur. agent and supt., Frank Talbott.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$5.50.
 Candle-power, 16.
 Calorific value, 615 B. t. u.
 Annual production, 82,302,000 c. f.
 By-products made: Coke, 4,000 tons; tar, 101,458 gals.
 Total gas holders capacity, 360,000 c. f.
 Max. day's send out, 380,000 c. f.
 Miles of mains, approximate, 25.
 Street main pres., max. 4 in.; min. 1.5 in.
 Annual sales, 79,780,000 c. f.
 Gas unaccounted for, .09 p. c.
 By-products sold: Coke, 3,258 tons; tar, 80,000 gals.
 Pop. city, 19,020 (1910); now est. 22,000.
 Pop. dist. supplied, 15,000.
 No. consumers, 2,275.
 No. meters, reg., 2,250; prepay., 25.
 Price gas: Light and Fuel, gross, \$1; net 90c.
 Supplies Danville.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; power, A. C. and D. C.
 Voltage: Incand., 104; power, 104-208.
 No. public arcs, 212; other public lamps, 116-250 watts; 70-170 watts; 56-100 watts; 288-75 watts.
 Price current per kw. hr., gross, 8c. Disc., 10 p. c.; commercial, 6c.; dis., 10 p. c.
 Power circuits: price per kw. hr., 3c. to 1.5c. Disc., 10 p. c.
 Generating power used, Steam.
 Cost of station boiler coal, per ton, \$5.30.

City Gas Works, Fredericksburg.

RRs.: Pot., Fred. & Pied.; Ex., Rich., Fred. & Pot.; Md., Del. & Va. Ry. Ex.: Ad.

(Municipal plant.)
 Bonds, \$50,000; due 1930; interest, 4 p. c.
 Chairman Light Com., E. G. Heffin.
 City treasurer, C. R. Howard.
 City manager, R. Stuart Royer.
 Act'g supt., E. H. Goodrich.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.
 Candle-power, 16.

Calorific value, 550 B. t. u.
 Annual production, 23,479,000 c. f.
 By-products made: Tar, 24,387 gals.
 Total gas holders capacity, 50,000 c. f.
 Holder pressure, max., 3 in.
 Max. day's send out, 92,600 c. f.
 Miles of mains, approx., 6.
 Street main pressures, max., 3 in.; min., 3 in.
 Annual sales, approx., 18,090,000 c. f.
 By-products sold: Coke, 760 tons; tar, 19,387 gals.
 Gas unaccounted for, 15 p. c.
 Pop. dist. supplied, 6,200; of city, 6,138.
 Consumers and meters, 719.
 Price gas: Light and Fuel, gross, \$1.10; net, \$1. Min. bill, 25c. Discounts as follows:
 15 days, 300 c. f. to 10,000 c. f., 10c.;
 10,000 c. f. to 20,000 c. f., 15c.; 20,000 c. f. to 30,000 c. f., 20c; 30,000 to 40,000 c. f., 25c.; over 40,000 c. f., 30c.
 Ranges in use, 375; heaters, 155; water heaters, 183.
 No. commercial gas arc lamps, 126.
 Supplies Fredericksburg.

Newport News and Hampton Railway, Gas and Electric Co., Hampton.

RRs.: C. & O.; N. N. & O. P. S. B.: Old Dom. Ex.: Ad.; Am.; W. F.

(Successor to Hampton, Phoebus & Ft. Monroe Gas. Corp.)

For capitalization, bonds and officers, see Appendix.

For operating data, see report under Newport News.

Lynchburg Traction and Light Co., Lynchburg.

RRs.: C. & O.; N. & W.; So. Ex.: Ad.; So.

Controlled by American Railways Co.
 Capital stock, \$750,000; ann. div., 6 p. c.
 Bonds, \$1,750,000; due 1930, 1931 and 1932; int., 5 p. c.
 President, Van Horn Ely.
 Sec'y and treas., W. W. Perkins.
 General mgr., John W. Hancock.
 Superintendent, W. G. Claytor.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$5.
 Candle-power, 16.
 Calorific value, 580 B. t. u.
 Total gas holders capacity, 250,000 c. f.
 Holder pressure, 4 in.
 Max. day's send out, 275,000 c. f.
 Miles of mains, approx., 42.
 Street main pressures, max., 4 in.; min., 3.5 in.
 Annual sales, approx., 66,000,000 c. f.
 Gas unaccounted for, 15 p. c.
 Pop. of city supplied, 29,465.
 No. consumers, 3,300.
 No. meters, reg., 1,900; prepay., 1,400.
 Price gas: Light and Fuel, gross \$1.20; net, 10,000 c. f., \$1.10; excess, \$1.
 Ranges in use, 2,776; heaters, 2,625; water heaters, 750.
 No. commercial gas arc lamps, 21.
 Supplies Lynchburg.

HUNT PIVOTED BUCKET CONVEYORS have been designed for handling coal, coke, etc., with minimum attendance and at minimum expense. Our engineers have made a special study of gas works problems, and will help you select equipment for your individual requirements. Write for Catalogue N15-4.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C.; incand., A. C., 1 phase, 60 cycle; power, A. C., 3 phase, 60 cycle.
 Generating capacity: Lighting and power, 4,500 kw.
 Voltage: Incand., 110; power, 110-220.
 City lighting contract: Hours lighted per year, 4,000.
 700 Type C lamps, 600 c. p., 250 c. p. and 100 c. p. Price per year, \$40, \$32, \$25 and \$12, respectively.
 Commercial lighting: No. arcs, 30; No. incand., 49,000.
 Price current per kw. hr., 8c.; disc. to 3c., sliding scale.
 Other lamps, 6,000 Mazdas; 25 to 400 watt.
 Power circuits: Motors, 3,100 h. p.; price per kw. hr., 3c.; disc., sliding scale to 1.25c.
 Output of station, kw. for year, 11,585,000.
 Generating power used: Water, rated h. p. 3,200.
 Cost of station boiler coal, per ton, \$2.60.

Newport News and Hampton Railway, Gas and Electric Co., Newport News.

RRs.: C. & O.; N., N. & O. P.; Citizens Ry., Lt. & P.; Nor. & Ports. Trac. S. Bs.: Old Dom.; Clyde SS. Ex.: Ad.

Controlled by Allen & Peck, Inc.

For capitalization, bonds and officers, see Appendix.

General manager, E. F. Peck.
 Supt. and new bus. mgr., W. F. Croston.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$2.85.
 Price oil, per gal., delivered, 5.45c.
 Candle-power, 14.5.
 Calorific value, 600 B. t. u.
 Annual prod., coal gas, 127,843,000 c. f.; water gas, 30,368,000 c. f.
 By-products made: Coke, 7,700 tons; tar, 167,718 gals.; ammonia, 47,972 lbs.
 Gas holder capacity, 350,000 c. f.
 Holder pressure, max., 7 in.
 Max. day's send out, 569,000 c. f.
 Miles of mains, approx., 44.
 Street main pressures, max., 6 in.; min., 3 in.
 High pressure mains, 11.5 miles; pressure, 5 lbs.
 Annual sales, approx., 135,250,000 c. f.
 Gas unaccounted for, 14.5 p. c.
 By-products sold: Coke, 5,613 tons; tar, 167,718 gals.; ammonia, 47,972 lbs.
 Pop. cities, est., 39,500; dist. supplied, 45,000.
 No. consumers, 5,512.
 No. meters, reg., 1,374; prepay, 4,138.
 Price gas: Light and Fuel, Newport News, \$1; Hampton and Phoebus, Light, \$1.20-\$1.10; Fuel, \$1.20-\$1.
 Ranges in use, 4,931; heaters, 795; water heaters, 1,173.
 No. commercial gas arc lamps, 407.
 Supplies Newport News, Hampton, Phoebus and Fort Monroe.

ELECTRICAL DEPARTMENT.

System: Arcs, D. C.; incand., A. C., single phase; power, A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting, 10,800 kw.
 Voltage: Arc, 80; incand., 125; power, 240-250.
 City lighting contract: Hours lighted, arcs, 2,000 and 4,000; incand., 4,000.
 No. public arcs, 47; 528 watt. Price per year, 23 (lighted 2,000 hrs.), \$42.50; 24 (lighted 4,000 hrs.), \$85.
 No. public incand., 158; 250 c. p.; price per year, \$47; 56 80 c. p., price per year, \$26.
 Commercial lighting: No. incand., 60,000.
 Price per kw. hr., gross, 10c. Dist., 10 p. c., 10 days.
 Power circuits: No. motors, 369.
 Price current per kw. hr., 8c. Disc., 10 p. c.
 Output of station, kw. hrs. for year, 10,000,000.
 Generating power used, Steam; rated 2,800 h. p.
 Cost of station boiler coal per ton, \$2.90.

City Gas Co. of Norfolk, Norfolk.

RRs.: A. C. L.; A. B. & A.; C. & O.; N. & Port. Trac.; N. Y., Phila. & Norf.; N. & W.; Norf. & So.; S. A. L.; So.; Vir. Ry. S. Bs.: Clyde SS.; Ches. Co.; Old Dom.; Mer. and Min. Trans.; Md., Del. & Va. Ry.; Balt. Packet; Norf. & Wash.; Leroy Ferry to Portsmouth and West Norfolk, Va. Ex.: Ad.; So.

Controlled by Virginia Railway & Power Co.
 Capital stock, \$500,000.

Bonds, \$500,000; due 1926; interest, 6 p. c.
 President, Thos. S. Wheelwright.
 Vice-pres., C. B. Buchanan.
 Secretary and treas., W. J. Kehl.
 Pur. agent, C. C. Johnson.
 Gen'l supt. and engineer, Harold Miller.
 Gen'l manager, T. Norman Jones, Jr.
 Process manufacture, Coal and Lowe.
 Mixture supplied, coal, 30 p. c.; water, 70 p. c.
 Candle-power, 19.
 Total gas holder capacity, 1,550,000 c. f.
 Max. day's send out, 2,100,000 c. f.
 Miles of mains, approx., 144.5.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 426,911,700 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. dist. supplied, 135,000; of city, 130,000 est.
 Consumers and meters, 12,830.
 Price gas: Light and Fuel, gross \$1.30, net \$1.20, and sliding scale to gross \$1.00, net 90c.
 Ranges, 11,500; heaters, 5,400; water heaters, 2,100.
 No. commercial gas arc lamps, 1,200.
 Supplies Norfolk.

Petersburg Gas Co., Petersburg.

RRs.: N. & W.; A. C. L.; S. A. L. Ex.: So.

Operated by The American Gas Co.
 Capital stock, \$250,000.
 Bonds, \$208,000; due 1931; interest 5 p. c.
 President, M. W. Stroud.
 Vice-pres. and gen'l mgr., S. P. Curtis.
 Vice-president, J. C. Lowry.

GAS EXHAUSTERS

Foul Gas Service



GAS BOOSTERS

Continuous Duty

Secretary, W. L. Fox.
 Treasurer, J. B. Townsend, 3d.
 Pur. agent, F. D. Wharton.
 Engineer, R. C. Cornish.
 Manager, R. A. Goudy.
 Process manufacture, Coal and Lowe.
 Calorific value, 600 B. t. u.
 Annual prod.: Coal gas, 69,077,000 c. f.; water gas, 41,472,000 c. f.
 By-products made: Coke, 4,408 tons; coal gas tar, 87,138 gals.
 Total gas holders capacity, 310,000 c. f.
 Max. day's send out, 472,100 c. f.
 Miles of mains, approx., 24.
 Street main pressures, max., 3 in.; min., 2 in.
 Annual sales, approx., 91,393,000 c. f.
 Gas unaccounted for, 16.4 p. c.
 By-products sold: Coke, 1,613 tons; coal gas tar, 70,210 gals.
 Pop. city, 24,127; dist. supplied, 25,582.
 No. consumers, 2,736.
 No. meters, reg., 1,683; prepay, 1,053.
 Price gas: Light and Fuel, gross \$1.25; net, \$1.15. Industrial rate, net, \$1. Prepayment meters, net, \$1.25.
 Ranges in use, 2,725; water heaters, 465.
 No. commercial gas arc lamps, 860.
 Supplies Petersburg.

Portsmouth Gas Co., Portsmouth.

RRs.: A. C. L.; C. & O.; N. Y., Phila. & Norf.; S. A. L.; So. S. Bs.; Balt. Packet; Norf. & Wash.; Ches. & Ohio; Va. Nav.; Old Dom.; Clyde SS., or ferry with Norfolk, Va. Ex.: Ad.; So.

Capital stock, \$320,000; ann. div., 6 p. c.
 Bonds, \$62,000; due 1928; interest, 5 p. c.
 President, B. B. Ferguson.
 Secretary and treas., C. S. Morse.
 General manager, B. B. Ferguson.
 Pur. agt. and supt., B. B. Ferguson.
 New bus. mgr., B. B. Ferguson.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$6.04.
 Price of oil per gal., 7.8c.
 Candle-power, 17.5.
 Calorific value, 580 B. t. u.
 Annual production, 55 p. c. coal gas; 45 p. c. water gas.
 Gas holder capacity, 525,000 c. f.
 Holder pressure, max., 7 in.
 Max. day's send out, 664,000 c. f.
 Miles of mains, approx., 30.
 Street main pressures, max., 6 in.; min., 3 in.
 High pressure mains, miles, 7; pressure, 14 to 20 lbs.
 Annual sales, approx., 116,000,000 c. f.
 Gas unaccounted for, 13 p. c.
 Pop. dist. supplied, 25,000; of city, est. 40,000.
 No. consumers, 4,703.
 No. meters, reg., 1,448; prepay., 3,255.
 Price gas: Light, gross, \$1.10; net, \$1.
 No. ranges, 4,000; heaters, 800; water heaters, 100.
 No. commercial gas arc lamps, 500.
 Supplies Portsmouth.

Henrico County Gas Co., Richmond.

RRs.: (See Richmond City Gas Works.)

Controlled by Southern Gas & Electric Co.
 Capital stock, \$100,000.
 Bonds, \$100,000; due 1937; int., 5 p. c.
 President, L. I. Pollitt.
 Vice-pres., A. C. Howard.
 Sec'y and treas., M. C. Bugg.
 Asst. sec'y-treas., M. G. Banigan.
 Superintendent, Geo. W. Rhodes.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$6 (plus freight).
 Candle-power, 18; calorific value, 590 B. t. u.
 Annual production, 60,165,500 c. f.
 By-products made: Tar, 14,969 gals.
 Gas holder capacity, 80,000 c. f.
 Holder pressure, max., 4.5 in.
 Max. day's send out, 278,000 c. f.
 Miles of mains, approx., 29.1.
 Street main pressures, max., 4.5 in.; min., 3.6 in.
 Annual sales, approx., 52,235,100 c. f.
 Gas unaccounted for, 12.5 p. c.
 By-products sold: Tar, 21,048 gals.
 Pop. dist. supplied, 8,000; of city (Richmond), 127,628.
 No. consumers, 1,707.
 No. meters, reg., 1,275; prepay., 432.
 Price gas: Light and Fuel, gross, 95c.; net, 90c.
 No. gas ranges in use, 1,617.
 Supplies Barton Heights, Ginter Park, Highland Park, North Richmond.

Richmond City Gas Works, Richmond.

RRs.: A. C. L.; C. & O.; So.; Rich., Fred. & Pot.; S. A. L. S. Bs.: Old Dom.; Va. Nav. Ex.: Ad.; So.

(Municipal plant.)
 Operated by Administrative Board.
 Chairman, John Hirschberg.
 Treasurer, City Treasurer Jas. B. Pace.
 Supt. and pur. agent, Wm. P. Knowles.
 Process manufacture, Coal and Lowe.
 Price coal per ton, delivered, \$4.75.
 Price oil per gal., delivered 7.36c.
 Candle-power, 19.14.
 Calorific value, 600 B. t. u.
 Annual prod., coal gas, 214,068,100 c. f.; water gas, 602,359,000 c. f.
 Total gas holders capacity, 2,740,000 c. f.
 Holder pressure, 9 in.
 Max. day's send out, 3,584,900 c. f.
 Miles of mains, approx., 162.
 Street main pressures, max., 4.5 in.; min., 2 in.
 High pressure mains, miles, 3.25; pressure, 4 lbs.
 Annual sales, approx., 735,908,300 c. f.
 Gas unaccounted for, 8.27 p. c.
 Pop. city, est. 160,000; dist. supplied, the same.
 No. consumers and meters, 18,174.
 Price gas: Light and Fuel, 80c.
 No. public lamps, 352. Price per year, \$13.60.

PUMPS

For Tar and Ammoniacal Liquors



P.H. & F.M. ROOTS CO.

Connerville
 Indiana

New York

Chicago

Price includes repairs, care, lighting and extinguishing.

No. hours lighted per year, 4,380.

Gas appliances in use, 16,087.

Supplies Richmond.

Roanoke Gas Light Co., Roanoke.

RRs.: N. & W.; Vir. Ry. Ex.: Ad.; So.

Operated by The C. H. Geist Co.

(For capitalization and bonds, see Appendix.)

President, C. H. Geist.

Vice-President, W. H. Lewis.

Secretary, C. H. Weak.

Treasurer, H. A. Lang.

Gen. mgr., H. S. Schutt, Philadelphia, Pa.

Manager, W. J. McCorkindale.

Superintendent, James J. Baines.

Process manufacture, Coal and Lowe.

Candle-power, 16.

Calorific value, 550-600 B. t. u.

Annual prod., coal gas, 113,000,000 c. f.; water gas, 52,000,000 c. f.

Total gas holder capacity, 300,000 c. f.

Holder pressure, max., 7 in.

Max. day's send out, 670,000 c. f.

Miles of mains, approx., 52.

Street main pressures, max., 5 in.; min., 2 in.

Annual sales, approx., 131,000,000 c. f.

Gas unaccounted for, 17 p. c.

Pop. dist. supplied, 40,000; of city, 34,874.

No. consumers, 4,674.

No. meters, reg., 4,006; prepay., 608.

Price gas: Light and Fuel, gross, \$1.30; net, \$1.20.

Ranges in use, 4,500; water heaters, 1,619.

No. commercial gas arc lamps, 859.

Supplies Roanoke, Virginia Heights, Raleigh Court and Wasena.

Rosslyn Gas Co., Rosslyn.

RRs.: Wash. & Old Dom. (El); Wash.-Va. (El). Ex.: Ad.

Capital stock, \$50,000.

Bonds, \$81,000; due 1942; interest, 5 p. c.

President, Frank P. Leetch.

Secretary-treas., Sanford N. Whitwell.

Gas supplied by Georgetown Gas Light Co., Washington, D. C.

Calorific value, 600 B. t. u.

Gas holder capacity, 50,000 c. f.

High pressure mains, 20 miles; press., 7 lbs.

Max. day's send out, 80,000 c. f.

Gas unaccounted for, 7.5 p. c.

Annual sales, approximate, 20,000,000 c. f.

Population of dist. supplied, 5,000.

No. consumers, 880.

No. meters, reg., 403; prepay., 477.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.

Ranges in use, 700; heaters, 150; water heaters, 50.

Supplies Rosslyn, Clarendon, Balston, Cherrydale and Ft. Myer, Va.

Staunton Gas Co., Staunton.

RRs.: B. & O.; C. & O. Ex.: Ad.

(Company in hands of Receiver).

Capital stock, com., \$150,000; pref., auth., \$70,000; issued, \$70,000.

Annual div., pref., 6 p. c.

Bonds, \$100,000; due 1929; int., 6 p. c.

Receiver, Charles S. Hunter.

Superintendent, Carl Riddleberger.

Process manufacture, Lowe.

Price coke per ton, \$10; oil, per gallon, 9c.

Candle-power, 18.

Calorific value, 485 B. t. u.

Annual production, 28,000,000 c. f.

By-products made: Tar, 3,000 gals.

Gas holder capacity, 65,000 c. f.

Holder pressure, 3 in.

Max. day's send out, 100,000 c. f.

Miles of mains, approx., 18.5.

Street main pressures, max., 3.5 in.; min., 2.5 in.

Annual sales, approx., 22,000,000 c. f.

Gas unaccounted for, 20 p. c.

By-products sold: Tar, 3,000 gals.

Population of city, 13,711; of dist. supplied, 5,000.

No. consumers, 1,213.

No. meters, reg., 838; prepay, 375.

Price gas: Light and Fuel, gross, \$1.25; net, \$1.20.

Gas appliances in use: Ranges, 1,229.

No. commercial gas arc lamps, 231.

Supplies Staunton.

Stonega Coal and Coke Co., Stonega.

(Operate by-product coke ovens.)

Suffolk Gas-Electric Co., Suffolk.

RRs.: A. C. L.; N. & W.; So.; S. A. L.; Norf. & So.; Vir. Ry. S. Bs.: Old Dom. Ex.: Ad.; So.

Controlled by Southern Gas & Electric Corp. Capital stock, \$50,000.

Bonds, \$100,000; due 1929; interest, 5 p. c.

President, Francis T. Homer.

Vice-president, A. C. Howard.

Sec'y and treas., L. I. Pollitt.

General mgr., L. I. Pollitt.

Superintendent, Geo. F. Lindley.

New bus. mgr., A. A. Creinar.

Process manufacture, Lowe.

Price coke per ton; delivered, \$6.

Candle-power, 18.

Calorific value, 590 B. t. u.

Annual production, 22,189,500 c. f.

By-products made: Tar, 2,911 gals.

Max. day's send out, 110,000 c. f.

Total gas holders capacity, 130,000 c. f.

Holder pressure, max., 5 in.

Miles of mains, 9.

Street main pressures, max., 5 in.; min., 3.5 in.

Annual sales, approx., 19,716,500 c. f.

Gas unaccounted for, 8.91 p. c.

By-products sold: Tar, 8,828 gals.

Pop. dist. supplied, 6,000; of city, 7,008 (1910).

No. consumers, 837.

No. meters, reg., 374; prepay., 463.

OUR HEAT EXCHANGERS give the greatest efficiency because they embody the principles of high speed counter current flow in thin films.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Price gas: Light and Fuel, gross \$1.50; net \$1.30. Scale rate: 1st 10 M., \$1.50; 2d 10 M., \$1.40; all over 20 M., \$1.30. Ranges in use, \$79; water heaters, 339. No. commercial gas arc lamps, 365. Supplies Suffolk.

Winchester Gas and Electric Light Co., Winchester.

RRs.: B. & O.; Cum. Vy. Ex.: Ad.; U. S.

Capital stock, \$35,600.
Annual dividend, 3 p. c.
Bonds, \$24,000; due 1930; interest, 5 p. c.
President, James B. Russell.
Secretary and treasurer, J. Fred. Goss.
Purchasing agent, J. Fred. Goss.
Manager, John H. Cunningham.

Superintendent, J. Fred. Goss.
Process manufacture, Coal.
Price coal per ton, delivered, \$3.15.
Candle-power, 19.
Max. day's send out, 43,000 c. f.
Total gas holders capacity, 25,000 c. f.
Miles of mains, approx., 7.
Street main pres., max., 3.1 in.; min., 1.8 in.
Annual sales, approx., 12,600,000 c. f.
Gas unaccounted for, 6 p. c.
Pop. of dist. supplied, 6,000; of city, 5,864.
No. meters, reg., 585; prepay., 190.
No. consumers, 775.
Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.
Ranges, 385; heaters, 101; water heaters, 135.
No. commercial gas arc lamps, 42.
Supplies Winchester.
(No 1918 report.)

WASHINGTON

Total population, 1,565,810.

North Pacific Public Service Co., Aberdeen.

RRs.: No. Pac.; C., M. & P. S.; O.-W. R. R. & Nav. S. Bs.: Gray's Harbor Com. Co. and S. Bs. from San Francisco. Ex.: No.; Am.

(Formerly Gray's Harbor Gas Co.)

Controlled by Seymour & Brewer. Tacoma, Wash.

For capitalization, bonds, officers and companies consolidated see "Parent Companies.")

Gen'l mgr., F. C. Brewer.
Local manager, N. S. Burcombe.
Pur. agent, F. C. Brewer.
Superintendent, F. Olsen.
Indus. fuel engineer, A. F. Douglas.
Process manufacture, Coal.
Price coal per ton, delivered, \$7.43.
Candle-power, 15.
Calorific value, 600 B. t. u.
Annual production, 45,817,600 c. f.
By-products made: Coke, 2,783 tons; tar, 44,517 gals.; ammonia, 20,960 gals.
Total gas holders capacity, 120,000 c. f.
Holder pressure, 3 in.
High pressure mains, approx., 32 miles; pressure, 10 lbs. to 5 lbs.
Max. day's send out, 200,000 c. f.
Annual sales, approx., 45,359,424 c. f.
Gas unaccounted for, 10 p. c.
By-products sold: Coke, 556 tons; tar, 44,517 gals.; ammonia, 20,960 gals.
Pop. dist. supplied, 15,000; of cities, 22,000.
No. consumers, 2,494.
No. meters, reg., 1,603; prepay, 891.
Price gas: Light and Fuel, gross, \$1.70; net, \$1.60 for 1st 1,000 c. f.; next 4,000 c. f., \$1.50 to \$1.40; next 5,000 c. f., \$1.40 to \$1.30; next 5,000 c. f., \$1.30 to \$1.20; all over 15,000 c. f., \$1.20 to \$1.10. Min. charge, 50c. Street lgt. flat rate service; \$3 for posts with 3 arc lamps.
No. public gas lamps, 38.
No. hours each lamp is lighted per year, 3,800.

Contract includes repairs, care, lighting and extinguishing.

Ranges in use, 1,100.

No. commercial gas arc lamps, 1,130.

Supplies Aberdeen and Hoquiam.

Valley Gas Co., Auburn.

RRs.: C. M. & St. P.; No. Pac.; Gt. No. & Interurban. Ex.: No.

Capital stock issued, \$25,000.
Bonds, \$25,000; due 1927; interest, 6 p. c.
President, Eugen Kuhne.
Treasurer and pur. agent, Eugen Kuhne.
Manager, Eugen Kuhne.
Process manufacture, Wood-Gas.
By-product: Tar and charcoal.
Calorific value, 500 B. t. u.
Gas holder capacity, 50,000 cu. ft.; pressure, 3 in.
Street mains, approx., 6.5 miles; pressure, max., 3.5 in.
Max. day's send out, 25,000 c. f.
Annual sales, approx., 6,000,000 c. f.
By-products sold: Tar, 10,000 gals.
Population of city, 3,500; dist supplied, 3,000.
No. consumers and meters, 225.
Price gas: Light, gross, \$1.35; net, \$1.25 up to 2,500 c. f.; 2,501 to 5,000 c. f., \$1.10-\$1; 5,001 to 10,000 c. f., \$1.90c.; 10,001-20,000 c. f., 90c.-80c.; 20,001 c. f. and over, 80c.-70c. Minimum charge, \$1.00.
Gas appliances in use: Ranges, 225; heaters, 30; water heaters, 50.
Supplies Auburn; extending to Kent.

ELECTRICAL DEPARTMENT.

(Franchise for electric constructing plant.)

Price per kw. hr., 6.5c. 5 45 kw. 2c. all over.



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Puget Sound Traction, Light and Power Co., Bellingham.

RRs.: C. M. & St. P.; G. N.; No. Pac. S.
Bs.: P. C.; Al. P.; Inland Nav. Ex.:
West.; G. N.; No.; Ad.; W. F.; Am.
Western Dom.

(For capitalization, see Appendix.)
Chmn. of Board, Fred'k S. Pratt.
President, A. W. Leonard.
Vice-president, Wm. H. McGrath.
Clerk, William T. Crawford.
Secretary, Jas. B. Howe.
Treasurer, H. B. Sawyer.
Under management of Stone and Webster.
Manager (Bellingham Div.), Leslie R. Coffin.
Process manufacture, Coal and Water.
Calorific value, 628 B. t. u.
Annual production, 49,547,000 c. f.
By-products made: Coke, 2,947 tons; tar, 43,750 gals.
Max. day's send out, 248,600 c. f.
Gas holder capacity, 190,000 c. f.
Miles of mains, approx., 55.3.
Street main pressures, max., 5 in.; min., 3 in.
Annual sales, approx., 41,669,900 c. f.
Gas unaccounted for, 15.9 p. c.
Pop. dist. supplied, 30,000; of city, 24,298.
No. meters, reg., 2,562; prepay., 95.
Price gas: Light and Fuel, 1st 5,000 c. f., \$1.55; all in excess 5,000, \$1.30. Disc. 10 p. c., 10 days.
Ranges in use, 1,831; heaters, 374; water heaters, 404.
No. commercial gas arc lamps, 185.
Supplies Bellingham.

ELECTRICAL DEPARTMENT.

System operated: Incand., single and 3 phase, 60 cycles: power, 3 phase, 60 cycles.
Generating capacity: Lighting and power, 4,530 kw.
Voltage: Line, 2,300; incand., 115; power, 2,300-460-230.
City lighting contract: Hours lighted per year, ares, 3,300; incand., 4,000.
No. public incand., 508; 65.3-346.5 watts.
Commercial lighting: Incand, 4,050 kw. equiv.
Price per kw. hr.: Residential lighting, 8c., first 60 kw. hr. per month; 6c. all over net. Commercial lighting, 8c. 0 to 60 kw. hr. per month per active kw.; 6c. over 60 kw. hrs. per month per active kw.
Quantity discounts up to 15 p. c. (on commercial rate).
Cooking and heating, 3c. per kw. hr.
Power circuits: Motors, 651.
Price current per kw. hr., less than 1 h. p., 8c. and 6c.; 1 to 20 h. p., 5c. to 1.5c.; 21 to 100 h. p., 5c. to 1 1/4c.; 101 h. p. and over 5c. to 1c. Disc., 25 p. c. if power is used "off peak" for customers with 21 h. p. or more.
Fans, irons, etc., 2,726 kw.
Output of station, gen. and purch., kw. for year, 27,603,000.
Generating power: Water, rated h. p., 3,200; Steam, rated h. p., 3,728.

North Pacific Public Service Co., Centralia.

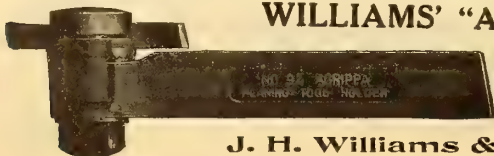
RR.: No. Pac. Ex.: No.

(Formerly Centralia & Chehalis Gas Co.)
Controlled by Seymour & Brewer, Tacoma, Wash.)
(For capitalization bonds, officers and companies consolidated, see "Parent Companies.")
Gen'l manager and pur. agent, F. C. Brewer.
Local manager, M. C. Hancock.
Process manufacture, Coal.
Candle-power, 16.
Calorific value, 600 B. t. u.
Price coal per ton, delivered, \$7.18.
Annual production, 19,000,000 c. f.
By-products made: Coke, 1,213 tons; tar, 20,562 gals.
Gas holder capacity, 117,000 c. f.
Holder pressure, max., 3 in.
High pressure mains, 22 miles; pressure, 5 lbs.
Max. day's send out, 75,000 c. f.
Annual sales, approx., 19,000,000 c. f.
Gas unaccounted for, 10 p. c.
By-products sold: Coke, 365 tons; tar, 20,562 gals.
Pop. of city, 7,311, Centralia; 4,507, Chehalis.
No. consumers, 1,030.
No. meters, reg., 600; prepay., 430.
Price of gas, Light and Fuel, \$1.75 gross, 1st 1,000 c. f.; next 4,000 c. f., \$1.60-\$1.50; next 5,000 c. f., \$1.50-\$1.40; next 5,000 c. f., \$1.40-\$1.30; next 5,000 c. f., \$1.30-\$1.20.
Gas appliances in use: Ranges, 450; heaters 430; water heaters, 125.
No. commercial gas arc lamps in use, 451.
Supplies Centralia and Chehalis.

Puget Sound Gas Co., Everett.

RRs.: G. N.; No. Pac. S. Bs.: B. C. & P. S.
Route; S. & E. Nav.; Inland Nav. Ex.:
No.; G. N.

(Successor to Everett Gas Co.).
(Controlled by H. M. Byllesby & Co.).
Capital stock, pref., \$225,000; common., \$950,000.
Annual dividend, pref., 5 p. c.
President, Elmer Dover.
Sec'y and treas., R. J. Graf.
Manager and pur. agt., W. W. Flanders.
Superintendent, W. W. Flanders.
Process manufacture, Lowe (Oil).
Calorific value, 600 B. t. u.
Annual production, 62,131,000 c. f.
By-products made: Tar, 107,570 gals.
Total gas holders capacity, 300,000 c. f.
Holder pressure, max., 4.5 in.
Max. day's send out, 263,000 c. f.
Miles of mains, approx., 57.86.
Street main pressures, max., 4.5 in.; min., 3 in.
High pressure mains, miles, 20.69; pressure, 22 lbs.
Annual sales, approx., 54,264,500 c. f.
Gas unaccounted for, 12.7 p. c.
Pop. dist. supplied, 36,200; of cities, 31,200.
No. consumers, 3,119.

**WILLIAMS' "AGRIPPA" PLANING-TOOL HOLDER**

The Planing Tool with thirty-six angles of adjustment may be used on shapers or for heavy turning on lathes.

J. H. Williams & Co., 74 Richards St., B'klyn, N. Y.

No. meters, reg., 1,474; prepay., 1,645.
 Price gas: Light and Fuel, basic rate, net,
 \$1.60 to 65c.
 No. Humphrey public ares, 2 posts, 3 lamps
 and 4 lamps; lighted, 1,440 hours per
 year.
 Contract includes repairs, care, lighting and
 extinguishing.
 Ranges in use, 2,930; heaters, 869; water heat-
 ers, 1,241.
 No. commercial gas arc lamps, 840.
 Supplies Everett, Snohomish and Monroe.

ELECTRICAL DEPARTMENT.

System, 3-phase, 60 cycle; arcs, magnetic D.
 C.; incand. 4 amp. D. C. and A. C.
 Sub-station capacity: Lighting and power,
 1,000 kw.
 Voltage: Incand., 110; power, 220.
 City lighting contract: Hours lighted per
 year, 3,830.
 No. public ares, 58; 310 watt. Price per year,
 \$72.
 No. public incand., 85; 60 c. p. Price per year,
 \$18.
 Commercial lighting: No. incand., 11,103.
 Price per kw. hr., gross, 9c. to 2.7c. Dis.,
 10 p. c.
 Power circuits: No. meters, 72; price per kw.
 hr., 5.4c. to 1.98c. Discount, 10 p. c.
 Power used also for flatirons, electric signs
 and appliances.
 No. consumers, 1,031.
 Output of station, kw. for year, 1,161,120.
 Current purchased from Puget Sound Trac-
 tion, Light & Power Co.
 Supplies Snohomish and Monroe.

Olympia Gas Co., Olympia.

RRs.: No. Pac.; Port. T. So.; O. W. S. Bs.:
 From San Francisco and S., T. & O.
 Route: Shelton Trans. Ex.: No.; Gt.
 No.; Am.

Capital stock, pref., \$50,000; com., \$50,000.
 Bonds, \$120,000; due 1945; interest, 5 p. c.
 Gas purchased from Tacoma Gas Co.
 Annual purchase, 20,910,160 c. f.
 Emergency oil gas plant.
 Calorific value, 615 B. t. u.
 Gas holder capacity, 25,000 c. f.
 Holder pressure, approx., 4 in.
 Miles of mains, approx., 18.86.
 Street main pressures, max., 4 in.; min.,
 3.5 in.
 High pressure mains, 4.62 miles; pressure, 10
 lbs.
 Annual sales, approx., 19,009,240 c. f.
 Gas unaccounted for, 9.1 p. c.
 Pop. dist. supplied, 7,030; of city, 7,000.
 No. consumers, 975.
 No. meters, reg., 859; prepay., 116.
 Price gas: Light and Fuel, basic rate, net,
 \$1.50 to 65c.
 Gas appliances in use: Ranges, 766; heaters,
 342; water heaters, 306.
 No. commercial gas arc lamps in use, 154.
 Supplies Olympia, Sherlock and Lacey.

Key City Light and Power Co., Port Townsend.

RRs.: Port. T. So. S. Bs.: B. C. & P. S.
 Route; Straits Co. Int. SS.; Hastings Co.
 Ex.: G. N.; No.; W. F.

Capital stock, \$80,000.
 President, Peter Mitty.
 Secretary, J. M. Kinkaid.
 Treasurer, John Siebenbaum.
 Gen. mgr. and pur. agent, J. M. Kinkaid.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$4.10.
 Candle-power, 18; calorific value, 650 B. t. u.
 Total gas holders capacity, 40,000 c. f.
 Max. day's send out, 10,000 c. f.
 Miles of mains, approximate, 6.5.
 Street main pres., max., 8 in.; min., 2 in.
 Annual sales, approx., 3,500,000 c. f.
 Pop. dist. supplied, 3,000; of city, 4,181.
 No. meters, reg., 160; prepay., 65.
 No. consumers, 250.
 Price gas: Light, gross, \$2; net, \$1.80.
 Ranges, 100; heaters, 21; water heaters, 60.
 Supplies Port Townsend.

ELECTRICAL DEPARTMENT.

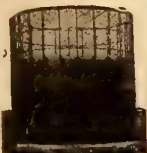
System: 3-phase, A. C.
 Sub-station capacity, 560 kw.
 Commercial lighting: 4.5c. to 11c., according
 to hours used. Dom. rates 11c. for 1st 60
 kw.; 6.5c. for all above.
 Lamps used, 80 c. p., Type C. street series.
 Power circuits: No. motors, 17; price per kw.
 hr., 2c. to 7c. Disc., 10 p. c.
 Output of station, kw. hrs. for year, 400,000.
 Generating power used, Gas Engine auxiliary
 plant; rated h. p. 100.
 Cost of station fuel oil, 11c. per gal.
 Power furnished from Olympic Power Co.

Seattle Lighting Co., Seattle.

RRs.: G. N.; No. Pac.; Col. & P. S.; C., M. &
 St. P. S. Bs.: Am. H. SS. S. Bs. from
 San Francisco and Seattle to Alaska,
 stopping en route at Vancouver and Vic-
 toria, B. C.; Bell Bay Trans.; S. & E.
 Nav.; B. C. & P. S.; Inland Nav. S. Bs.
 from Tacoma, Straits Co.; Int. SS.; West-
 ern St. Nav.; Thompson Co.; S. T. & O.
 Route; Lower F. Riv. Route; Alaska
 SS. Co.; No. Nav. Co. Ex.: No.; W. F.;
 G. N.; Con.

Capital stock, pref., \$1,000,000; com., \$3,000,-
 000.
 Ann. div. pref., 6 p. c.; com., 2 p. c.
 Bonds, \$358,000 1st 5s. due 1944; \$5,475,500
 ref. 5s due 1949; \$2,000,000 deb. 6s due
 1920.

President, J. D. Farrell.
 Vice-president, Rufus C. Dawes.
 Secretary, H. R. Clise.
 Treasurer, F. K. Lane.
 Engineer, Jos. C. Markley.
 Manager and pur. agent, F. K. Lane.
 Superintendent, S. E. Hutchinson.
 New bus. mgr., S. R. Hutchinson.
 Process manufacture, Coal and Lowe.
 Also manufacture coke oven gas (see below).
 Annual prod.: Coal-gas, 743,064,300 c. f.;
 water gas, 487,730,900 c. f.



As manufacturers of large lines of Hydraulic Equipment for Steel
 Work, we are kept in constant touch with the most
 advanced practice of today.

R. D. WOOD & CO., PHILA., PA.



Candle-power, 19.
 Total gas holders capacity, 3,700,000 c. f.
 Max. day's send out, 3,500,000 c. f.
 Miles of mains, approx., 586.
 Street main pressures, max., 7 in.; min., 5 in.
 Annual sales, approx., 1,155,717,100 c. f.
 Gas unaccounted for, 7 p. c.
 Pop. dist. supplied, 250,000; of city, 237,194.
 No. meters, reg., 40,554; prepay, 7,983.
 Price gas: Light and Fuel, gross \$1.30 to 75c.
 Min. charge, 65c.
 Ranges, 31,718; heaters, 7,890; water heaters, 12,505.
 No. commercial gas and arc lamps, 1,035.
 Supplies Seattle and suburbs.

COKE OVEN OPERATIONS.

Type of oven, Klönne.
 No. of ovens, 20. Dimensions of chambers:
 Length, 27 ft.; width, 16.5 in.; height, 7 ft., 11 in.
 Coal charged per oven, 33 tons. Coke yield, 67 p. c.
 Time required for coking, 24 to 26 hours.
 Medium hard coke made.
 All gas sold for city use.
 Calorific value, 607 B. t. u.
 By-products made per year: Gas, 46,107,400 c. f.; tar 321,284 gals.; ammonia liquor, 2,185,927 gals.
 Coke used for mfr. of water gas and sold for dom. and indus. purposes.
 Tar sold to mfrs. of creosote, pitch and roofing materials.

Spokane Gas and Fuel Co., Spokane.

RRs.: G. N.; Spok. & In. Emp.; O. R. R. & Nav.; No. Pac.; Spok. Int. Ex.: No.; West.; G. N.; Pac.

(Operated by Doherty Organization.)
 (For capitalization and bonds, see Appendix.)
 President, H. L. Doherty.
 1st Vice-pres., F. W. Frueauff.
 2d Vice-pres. and treas., Harry Warner.
 Secretary, Harry Warner.
 Asst. secy., C. B. Wedum.
 General manager, Harry Warner.
 Process manufacture, Coal and Lowe.
 Mixture: 90 p. c. coal gas; 10 p. c. water gas.
 Candle-power, 16.
 Calorific value, 610 B. t. u.
 Total gas holders capacity, 455,000 c. f.
 Max. day's send out, 902,000 c. f.
 Miles of mains, approx., 148.62
 Street main pressures, max., 6 in.; min., 3 in.
 Annual sales, approx., 232,911,100 c. f.
 Gas unaccounted for, 9.8 p. c.
 Pop. dist. supplied, 110,000; of city, 104,402.
 No. meters, reg., 10,782.
 No. consumers, 10,291.
 Price gas: 1st 2,000 c. f., \$1.50; next 3,000, \$1.40; next 5,000 c. f., \$1.30; next 5,000, \$1.20; all over 15,000 c. f., \$1.10. Disc., 10c., 10 days. Min. bill, 25c.
 Ranges in use, 9,979; heaters and grates, 2,199; water heaters, 2,908.
 Supplies Spokane.

Tacoma Gas Co., Tacoma.

RRs.: No. Pac.; C., M. & St. P.; G. N.; O. R., R. & N.; Tacoma E. S. Bs.; Am. H. SS.; Western St. Nav.; P. C. SS.; S. T. & O. Route. S. Bs. from Seattle, Wash.; Alaska SS. Co.; Pac. Coast Co. Ex.: No.; G. N.; W. F.; Am.; Con.

Operated by Elmer Dover, Receiver.
 Process manufacture, Coal and Lowe (Oil).
 Annual prod., coal gas, 142,210,000 c. f.; water gas, 182,570,000 c. f.
 By-products made: Coke, 9,428 tons; tar, 314,281 gals.; ammonia 38,559 lbs.
 Calorific value, 615 B. t. u.
 Total gas holder capacity, 1,600,000 c. f.
 Holder pressure, max., 12 in.
 Max. day's send out, 1,320,000 c. f.
 Miles of mains, approx., 243.
 Street main pressures, max., 6 in.; min., 3 in.
 High pressure mains, miles, 95; pressure, 20 to 40 lbs.
 Annual sales, approx., 272,000,000 c. f.
 Gas unaccounted for, 16.2 p. c.
 By-products sold: Coke, 1,404 tons; tar, 300,200 gals.; ammonia 38,104 lbs.
 Pop. dist. supplied, 96,300; of city, est., 90,000.
 No. consumers, 12,336.
 No. meters, reg., 9,805; prepay., 2,531.
 Price gas: Light and Fuel, basic rate, net, \$1.50 to 65c.
 Ranges in use, 10,112; heaters, 2,294; water heaters, 5,616.
 No. commercial gas arc lamps, 3,424.
 Supplies Tacoma, Puyallup, Ruston and Dupont.

Pacific Power and Light Co., Vancouver.

RRs.: No. Pac.; Spok., Port. & Seat. S. Bs.; D. P. & A. Nav.; Dallas Trans. S. Bs. from Portland, Ore.; Van. Trans. Ex.: Pac.; No.

Owned and controlled by American Power & Light Co.
 (For capitalization and officers, see Appendix.)
 Vice-pres. and gen'l mgr., Lewis A. McArthur.
 Portland, Ore.
 Local mgr., J. F. Urquhart.
 Crude oil gas supplied by Portland Gas & Coke Co.
 Calorific value, 570 B. t. u.
 Total gas holders capacity, 32,000 c. f.
 Miles of mains, approx., 22.3.
 Street main pressure, max., 4 in.; min., 3 in.
 High pressure mains, 22 miles; pressure, 5 lbs.
 Annual sales, approx., 14,700,000 c. f.
 Pop. city, 10,000; dist. supplied, the same.
 No. consumers, 926.
 No. meters, reg., 779; prepay., 144.
 Price gas: Light and Fuel, gross, \$1.40.
 Ranges, 948; water heaters, 278.
 No. commercial gas arc lamps, 303.
 Supplies Vancouver.

RELIABLE

"ANGLIRON"

RANGES

The bright polished and nickel-plated door frames, ebony black finished angle iron main front, main top and base in connection with the white porcelain enameled trimmings, all with surface smooth as glass, effect a most beautiful and attractive appearance. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Pacific Power and Light Co., Walla Walla.

RRs.: O-W. R. R. & Nav.; No. Pac. Ex.:
N. P., W. F. _____

Controlled by American Power & Light Co.
(For financial and officers, see same company
under Appendix.)

Vice-pres. and gen'l mgr., Lewis A. McArthur.
Portland, Ore.

Local mgr., C. S. Walters.

Process manufacture, Coal.

Price coal per ton, delivered, \$5.50.

Calorific value, 615 B. t. u.

Gas holder capacity, 130,000 c. f.

Max. day's send out, 99,000 c. f.

Miles of mains, approximate, 39.5.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 31,800,000 c. f.

Gas unaccounted for, 6.9 p. c.

Pop. dist. supplied, 22,000; of city, 22,000.

No. consumers, 2,083.

No. meters, reg., 1,374; prepay., 752.

Price gas: Light, gross, \$1.90 to 90c. Disc.,
10c., 10 days. Min. mo. charge, 50c.

No. ranges, 1,448; water heaters, 301.

Supplies Walla Walla.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System: 3-phase, 60 cycles, A. C.

Local generating capacity, 3,750 kw.

Voltage: Incand., 110; power, 110-220-440.

No. public arcs, 175; hours lighted, 4,000.

Price arc, Public, per year, \$66.24.

No. public incand., 541; hours lighted, 4,000.

Price incand., Public, \$28 (cluster of 3).

Commercial lighting: No. incand., 3,152 kw.
equiv.

Price incand., Com'l, per kw. hr., net, 10c. and
6c. Domestic, 10c. and 8c. Disc., 10 p. c.

Power supplied from transmission system of
P. P. & L. Co.

Steam reserve capacity, 1,000 kw.

Output of branch, kw. hrs. for year, 7,991,000.

Supplies Walla Walla Valley Ry. Co. with
D. C.

Miles of mains, approximate, 12.

Street main pressures, max., 4 in.; min., 2 in.

High pressure mains, 12 miles; pressure, 5 lbs.

Annual sales, approx., 14,469,000 c. f.

Gas unaccounted for, 20 p. c.

Population of city, 4,050; of dist. supplied,
9,000.

No. consumers, 514.

No. meters, reg., 395; prepay., 119.

Price gas, sliding scale: 1st 3,000 c. f., gross,
\$1.94; net, \$1.75; next 2,000 c. f., \$1.66-
\$1.50; next 5,000 c. f., \$1.38-\$1.25; all
over 10,000 c. f., \$1.11-\$1. Min. charge,
\$1. Special terms to public and social or-
ganizations. Discount, 10 p. c., 10 days.
Supplies Wenatchee.

Pacific Power and Light Co., Yakima Branch, Yakima.

RRs.: O-W. R. R. & Nav.; No. Pac.; Ex.:
N. P.; W. F. _____

Controlled by American Power & Light Co.

(For financial and officers, see same com-
pany under Appendix.)

Vice-pres. and gen'l mgr., Lewis A. McArthur,
Portland.

Local mgr., Geo. C. Sawyer.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.30.

Calorific value, 603 B. t. u.

High pressure mains, approx., 28 miles; pres-
sure, 8 to 10 lbs.

House governors set for 3 in. to 4 in.

Gas holder capacity, 193,000 c. f.

Annual sales, approx., 36,859,000 c. f.

Gas unaccounted for, 16 p. c.

Pop. dist. supplied, 17,000; of city, 18,500.

No. consumers, 2,180.

No. meters, 2,003.

Price gas: Light and Fuel, \$1.70 to 90c. Disc.,
10c., 10 days. Min. mo. charge, 50c.

No. ranges, 1,654; water heaters, 472.

No. commercial gas arc lamps, 367.

Supplies Yakima.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C.,
1-ph., 60 cycles; power, A. C. 3-ph., 60
cycles.

Generating capacity, 10,500 kw.

Voltage: Incand., 110, power 220-110.

City lighting contract: Lamps lighted all
night.

No. public arcs, 169. Price per year, \$66.

No. public incand., 81; 100 watt. Price per
year, \$20.

Price current commercial lighting per kw. hr.,
net 10c. and 6c. Discounts, 10 p. c., 10
days.

Domestic rates, 10c. and 8c. net.

Power circuits: Price per kw. hr., 3c. to 0.5c.
Disc., 10 p. c., 10 days.

Output of branch, kw. for year, 8,758,000 c. f.

Generating power used, Steam and Water,
rated 14,100 h. p.

Supplies for transmission system of Pacific
Power and Light Co.

Central Washington Gas Co., Wenatchee.

RRs.: G. N.; Columbia & Okanogan SBs.
Ex.: G. N. _____

Controlled by Wenatchee Valley Gas & Elec-
tric Co.

Capital stock, \$100,000.

Bonds, \$6,000.

President and gen'l mgr., Geo. D. Brown.

Secretary, Fred. M. Crollard.

Treasurer and pur. agent, R. C. Kennedy.

Superintendent, W. R. Thomas.

Sales and service mgr., L. M. Shreve.

Engineer, J. B. Long.

Process manufacture, Lowe.

Price coke per ton, delivered, \$12.38.

Price oil per gallon, 4.75c.

Candle-power, 21.

Calorific value, 600 B. t. u.

Annual production, 14,469,000 c. f.

Gas holder capacity, 50,000 c. f.

Holder pressure, max., 4 in.

Max. day's send out, 59,000 c. f.



WEST VIRGINIA

Total population, 1,399,320.

Bluefield Gas and Power Co., Bluefield.

RRs.: N. & W. Ex.: So.

Controlled by Southern Gas & Electric Corporation.

Capital stock, pref., auth., \$50,000; issued, \$19,200; com., auth., \$300,000; issued, \$200,000.

Annual dividend, pref., 7 p. c.

Bonds, \$100,000; due 1937; int., 5 p. c.

President, Francis T. Homer.

Vice-president, A. C. Howard.

Treasurer, E. T. Tyree.

Asst. treas., M. G. Banigan.

Gen'l mgr. and secretary, L. I. Pollitt.

Manager, J. C. Nichols.

Process manufacture, Coal.

Price coal per ton, delivered, \$3.25.

Candle-power, 19; calorific value, 600 B. t. u.

Annual production, 20,641,985 c. f.

By-products made: Coke, 1,115.96 tons; tar, 18,487 gals.

Gas holder capacity, 78,000 c. f.

Miles of main, approx., 14.8.

Street main pressures, avg., 3.4 in.

Max. day's send out, 98,000 c. f.

Annual sales, approx., 17,465,470 c. f.

Gas unaccounted for, 11.6 p. c.

By-products sold: Coke, 706.56 tons; tar, 10,256 gals.

Pop. of city, est., 18,000; of dist. supplied, 12,000.

No. consumers, 833.

No. meters, reg., 456; prepay., 377.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35. Scale rates: 1st 10 M. c. f., net, \$1.35; all over 10,000 c. f., \$1.

No. public lamps, 25; lighted 4,000 hours.

Contract includes repairs, care, lighting and extinguishing.

Gas appliances in use: Ranges, 671; water heaters, 261.

No. commercial gas arc lamps in use, 151.

Supplies Bluefield.

Charles Town Gas and Water Co., Charles Town.

RRs.: B. & O.; N. & W. Ex.: So.

Company in hands of Receiver.

Capital stock, auth., \$25,000; issued, \$12,500.

Receiver, Leon H. Ware.

Purchasing agent, Leon H. Ware.

Superintendent, Leon H. Ware.

New bus. mgr., Leon H. Ware.

Process manufacture, Lowe.

Prices of coal per ton, delivered, anth. \$8; bit, \$5.65.

Price of oil, per gal., delivered, 8.5c. avg.

Candle-power, 20.

Calorific value, 600 B. t. u.

Annual production, 6,000,000 c. f.

Max. day's send out, 24,000 c. f.

Total gas holders capacity, 42,000 c. f.

Holder pressure, max., 4 in.

Miles of mains, approx., 7.

Street main pressures, max., 4 in.; min., 3.5 in.

Annual sales, 5,337,900 c. f.

Gas unaccounted for, 11 p. c.

Pop. city, 2,662; of dist. supplied, 4,000.

No. consumers, 500.

No. meters, reg., 100; prepay., 400.

Price gas: Light and Fuel, \$2 to \$1.10.

Ranges in use, 450; heaters, 50; water heaters, 65.

No. commercial gas arc lamps, 5.

Supplies Charles Town.

Clarksburg Gas & Electric Co., Clarksburg.

RRs.: B. & O. Ex.: So.

President, N. Goff.

Secretary, B. M. Despard.

Treasurer, R. T. Lowndes.

Purchasing agent, R. T. Lowndes.

Superintendent, L. Peck.

Process manufacture, Coal.

Pop. dist. supplied, 10,000; of city, 9,201.

Price gas: Light, gross \$1.10; net \$1.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas dept.)

System, A. C., 3 phase, 60 cycles, and D. C.

Voltage: incand., 110; power, 220.

Power generators, 700 kw. capacity.

No. public arcs, 172; lighted all night.

Price arc, Public, per year, \$51.

No. public incand., 30; 32 c. p.

Price incand., Public, per year, \$15.

Price incand., Commercial, per month, 25c. and 50c.

Power used: Steam, with gas for fuel.

(No 1918 report.)

Martinsburg Gas Co., Martinsburg.

RRs.: B. & O.; Cum. Vy. Ex.: Ad.: So.

Company in hands of Receiver.

Capital stock, auth., \$50,000; issued, \$26,420.

Receiver, Leon H. Ware.

Pur. agent, Leon H. Ware.

Superintendent, Leon H. Ware.

New bus. mgr., Leon H. Ware.

Process manufacture, Lowe.

Price coal per ton, delivered, anth. \$7.85; bit, \$5.25.

Price oil per gal., delivered, 8.5c. avg.

Annual production, 22,500,000 c. f.

Candle-power, 20.

Calorific value, 600 B. t. u.

Total gas holders capacity, 53,000 c. f.

Holder pressure, 4.2 in.

Max. day's send out, 96,000 c. f.

Miles of mains, approx., 20, including h. p. mains.

Provide your men with the greatest insurance against disaster. Use the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Street main pressures, max., 4 in.; min., 3.6 in.
High pressure mains, miles, 10; pressure, 12 lbs.

Annual sales, approx., 21,000,000 c. f.

Gas unaccounted for, 8 p. c.

Pop. dist. supplied, 12,000; of city, 10,698.

No. consumers, 1,550.

No. meters, reg., 400; prepay., 1,150.

Price gas: Light and Fuel., sliding scale:

1st 1,000 c. f., \$1.85; next 1,000 c. f., \$1.70-

\$1.60; next 1,000 c. f., \$1.60-\$1.50; next

2,000 c. f., \$1.55-\$1.45; next 5,000 c. f.,

\$1.50-\$1.40; next 10,000 c. f., \$1.45-\$1.35;

next 20,000 c. f., \$1.40-\$1.30; next 30,000 c. f., \$1.35-\$1.25; next 50,000 c. f., \$1.30-\$1.20; next 100,000 c. f., \$1.20-\$1.10. Min. charge, 60c. Discount, 10c. (Effective Feb. 1, 1918.)

Ranges in use, about 1,400; heaters, 300; water heaters, 250.

No. commercial gas arc lamps, 56.

Supplies Martinsburg.

National Tube Co., Wheeling.

(Koppers by-product coke-ovens under construction.)

WISCONSIN

Total population, 2,513,758.

City Gas Co., Antigo.

R.R.: C. & No. W. Ex.: Am.

(Successor to Antigo Gas. Co.)

Capital stock auth., \$25,000; issued, \$20,000.

Bonds, \$45,000; due 1934; int., 6 p. c.

Pres. and treas., W. G. Maxey.

Secretary, E. S. Hinman.

Purchasing agent, W. G. Maxey.

Superintendent, B. H. Strong.

Process manufacture, Lowe.

Price coke per ton, delivered, \$6.

Price oil per gal., delivered, 3.36c.

Candle-power, 18; calorific value, 600 B. t. u.

Gas holder capacity, 40,000 c. f.

Max. day's send out, 30,000 c. f.

Miles mains, approx., 8.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 15 p. c.

Pop. of city, 7,196; of dist. supplied, 3,000.

No. consumers and meters, 430.

Price gas: Light and Fuel, 1st 2,000 c. f.,

\$1.75; next 3,000 c. f., \$1.50; next 10,000

c. f., \$1.35; all over 15,000 c. f., \$1.25.

Discount, 10c. per 1,000 c. f.

Ranges in use, 175; heaters, 10; water heaters, 25.

No. commercial gas arc lamps in use, 60.

Supplies Antigo.

Price of oil per gal., 7.38c.

Calorific value, 614 B. t. u.

Annual prod., coal gas, 88,877,000 c. f.; water gas, 35,524,000 c. f.

By-products made: Coke, 6,032 tons; tar, 111,015 gals.; ammonia, 15,076 gals.

Max. day's send out, 439,000 c. f.

Total gas holders capacity, 115,000 c. f.

Holder pressure, max., 6 in.

Miles of mains, approx., 68.

Street main pressures, max., 4 in.; min., 2.5 in.

High pressure mains, miles, 8; pressure, 25 lbs.

Annual sales, approx., 111,043,400 c. f.

Gas unaccounted for, 10.24 p. c.

By-products sold: Coke, 3,137 tons; tar, 124,869 gals.; ammonia, 11,887 gals.

Pop. dist. supplied, 28,600; of city, 16,773.

No. consumers, 4,882.

No. meters, reg., 4,890.

Price gas: \$1.25—\$1.15 per 1,000 c. f. for first 5,000 c. f.; next 15,000 c. f., \$1.10—\$1; next 30,000 c. f., \$1—90c.; next 50,000 c. f., 85c.—75c.; disc., 10 p. c.; all over 100,000 c. f., 75c.—65c.; min. bill, 25c. to \$1 for 3 lt. to 60 lt. meters.

Ranges in use, 3,946; heaters, 171; water heaters, 432.

No. commercial gas arc lamps, 322.

Supplies Appleton, Neenah and Menasha.

Wisconsin Traction, Light, Heat and Power Co., Appleton.

R.Rs.: C. & No. W.; C., M. & St. P. Ex.: Am.

Capital stock, com., auth., \$1,000,000; issued, \$699,400.

Annual dividend, 5 p. c.

Bonds, \$1,500,000; due 1931; int., 5 p. c.; and \$350,000; due 1921; int., 5 p. c.

President, John I. Beggs.

Vice-pres., Chas. F. Pfister.

Secretary and treas., A. K. Ellis.

Purchasing agent, A. K. Ellis.

General manager, John I. Beggs.

Gen'l supt., A. K. Ellis.

New bus. mgr., C. J. Tippet.

Process manufacture, Coal and Lowe.

Price coal per ton, delivered, \$7.15.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 1 phase, 60 cycles; power, A. C. and D. C. 1 and 3 phase, 60 cycles.

Generating capacity: Lighting and power, 14,500 kw.

Voltage: Arcs, 72 and 80; incand., 122-244; power, 115-230.

Miles of overhead wires, 558.

City lighting contract: Hours lighted per year: Arc, 2,000; incand., 2,000.

No. public arcs, 317; 550 watt; price per year, \$65.

No. public Mazdas, 53—250 watts; price per year, \$40; 1—125 watts, price \$25; 3—400 watts, price \$50; 14—200 watts, price \$33.75; 2—300 watts, price \$45.75.

Precision CO₂ Recorders automatically record the percentage of carbon-dioxide in flue gases, and are a real practical means of reducing coal bills and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Commercial lighting: No. arcs, 9; No. incand., 57,946.

Price current per kw. hr.: Sliding scale, 10c. to 2c. Min. per mo., 1st 500 watts, 50c. and 10c. for each 100 watt connected load.

Power circuits. Motors, 5,350 h. p.; price per kw. hr., 6c. to 2c. Min., \$2 each 2 h. p. motor and \$1 additional per h. p. over 2 h. p.

Output of station, kw. for year, 29,006,200.
Generating power used, Steam and Water; rated h. p., 9,045.

Cost of station boiler coal per ton, \$6.65.

Ashland Light, Power and Street Railway Co., Ashland.

RRs.: C. & No. W.; No. Pac.; Wis. Cen. S. Bs.; U. S. & Dom. Co.; White Line; A. & B. Line. Ex.: Am.; Nat.; No.

Capital stock, com., auth., \$300,000; issued, \$200,000. Annual dividend, 5 p. c.

Bonds, \$761,000; due 1938; interest, 5 p. c.

President, L. E. Myers.

Secretary, W. H. P. Weston.

Treasurer, W. H. P. Weston.

General manager, F. R. Winders.

Mgr. gas dept., Fred Englund.

Process manufacture. Oil and Coal.

Price coal per ton, delivered, \$8.15.

Price oil per gal., 8.5c.

Candle-power, 24.

Calorific value, 675 B. t. u.

Max. day's send out, 70,000 c. f.

Gas holder capacity, 60,000 c. f.

Miles of mains, approx., 15.

Street main pressures, max., 3 in.; min., 2.5 in.

Annual sales, approx., 17,000,000 c. f.

Pop. city supplied, 11,594.

No. consumers, 991.

No. meters, reg., 770; prepay., 221.

Price gas: Light and Fuel, gross, \$1.80; net, \$1.65; all over 5,000 c. f., gross, \$1.70; net, \$1.55.

Ranges in use, 785; heaters, 91; water heaters, 126.

No. commercial gas arc lamps, 180.

Supplies Ashland.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
Capital apportioned to electric plant, approx., \$122,000.

Arc system, (1,200 c. p.) arcs capac.

Incand., A. C., 60 cycles; power, A. C., single and 3 phase, 60 cycles.

Transformer capacity, lighting and power, 600 kw.

Voltage: Arcs, 50; incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, arcs and incand., 4,000.

No. public arcs, 62; 550 watt. Price per year, \$49.35.

No. public incand., 437. Price per year, \$12.35.

Electric meters in use, 1,483.

No. unmetered customers, 137.

Commercial lighting: No. arcs, 65; incand., 12,000.

Price per kw. hr. gross, 5 to 12c. Discounts 5 to 10 p. c.

Power circuits: No. motors, 80; price current per kw. hr., 5 to 10c.; Disc., 5 to 10 p. c.

Output of station, kw. hrs. for year, 710,178.

Power used, Water.

Wisconsin Power, Light and Heat Co., Baraboo.

RRs.: C. & No. W. Ex.: Am.

Chicago office, 72 West Adams St.

Capital stock, auth., \$1,000,000; issued, \$363,500.

Bonds, \$950,000; due 1946; int., 5 p. c.

President, Marshall E. Sampsell.

Secretary and treas., H. M. Brooks.

Pur. agent, H. M. Brooks.

Chief engineer, J. D. Roberts.

General manager, W. E. Haseltine.

New bus. mgr., W. E. Haseltine.

Superintendent, G. R. Blakesley.

Process manufacture, Coal.

Price of coke per ton, delivered, \$10.

Candle-power, 16.

Calorific value, 600 B. t. u.

Annual production, 16,000,000 c. f.

By-products made: Coke, 2,015 tons; tar 30,600 gals.

Gas holder capacity, 50,000 c. f.

Holder pressure, 4 in.

Max. day's send out, 70,000 c. f.

Miles of mains, approx., 8.2.

Street main pressures, max., 4 in.; min., 3 in.

Annual sales, approx., 17,000,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 5,000; of city, 6,324.

Consumers and meters, 950.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.25.

Ranges, 450; heaters, 35; water heaters, 60.

No. commercial gas arc lamps, 80.

Supplies Baraboo.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System, incand. and power, A. C.

Generating capacity, lighting, 450 kw.

Voltage: Arcs, 80; incand., 110; power, 220.

City lighting: Hours lighted, all night.

No. public incand., 466. Price per year, \$65.

Price per kw. hr., sliding scale from 13c. net.

Power circuits: No. of motors, 50.

Power rates, sliding scale from 6c. net.

Output of station, kw. hrs. for year, 435,000.

Power used. Water; rated 150 kw. (city supply) and from Prairie du Sac via 35,000 kw. transmission.

Cost boiler fuel per ton, \$7.85.

Beaver Dam Fuel and Light Co., Beaver Dam.

RR.: C., M. & St. P. Ex.: U. S.

Capital stock auth., \$85,000; issued, \$81,500.

Annual dividend, 4.5 p. c.

Bonds, \$20,000; due 1925; int., 5 p. c.

President, H. A. Graham.

Secretary and treas., J. M. Rodger.

Supt. and pur. agent, E. A. Beule.

Process manufacture, Lowe.

Price coke per ton, delivered, \$5.25.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Price oil per gal., delivered, 5c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 21,018,000 c. f.
 Gas holder capacity, 50,000 c. f.
 Holder pressure, max., 3.4 in.
 Max. day's send out, 92,000 c. f.
 Miles of mains, approx., 15.5.
 Street main pressures, max., 3.4 in.; min., 3 in.
 Annual sales, approx., 19,518,000 c. f.
 Gas unaccounted for, 7 p. c.
 Pop. dist. supplied, 5,200; of city, 6,758.
 No. consumers, 1,071.
 No. meters, reg., 1,064; prepay., 7.
 Price gas, gross, \$1.50; net, \$1.30; 1st, 2,500 c. f.; next 2,500 c. f., \$1.40-\$1.20; next 35,000 c. f., \$1.30-\$1.10; all over 40,000 c. f., \$1.10-90c. Min. chg., 25c.
 No. ranges, 606; heaters, 102; water heaters, 25.
 No. commercial gas arc lamps, 99.
 Supplies Beaver Dam.

Beloit Water, Gas and Electric Co., Beloit.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.; W. F. _____

(For capitalization and bonds, see Appendix.)
 President, E. G. Cowdery.
 Vice-pres. and gen. mgr., B. F. Lyons.
 Secretary, C. H. Deppe.
 Treasurer, H. A. Von Oven.
 Asst. sec'y, E. L. Moorman.
 General supt., R. G. Krumrey.
 New bus. mgr., E. L. Moorman.
 Pur. agent, B. F. Lyons.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$4.70.
 Price oil per gal., delivered, 6c.
 Candle-power, 22.
 Calorific value, 600 B. t. u.
 Max. day's send out, 390,000 c. f.
 Total gas holders capacity, 360,000 c. f.
 High pressure mains, 46.8 miles; pressure, 0.5 to 2 lbs.
 Annual sales, approx., 100,300,000 c. f.
 Gas unaccounted for, 7.6 p. c.
 Pop. dist. supplied, 22,000; of city, 15,125 (1910).
 No. consumers, 3,763.
 No. meters, reg., 3,808; prepay., 2.
 Price gas: Light and Fuel, gross, \$1.35; net, \$1.25; sliding scale; 1st 5 M., net, \$1.25; next 10 M., \$1.15; next 35 M., 90c.; next 200,000 c. f., 70c.; next 200,000 c. f., 60c.; next 550,000 c. f., 50c.; all over 1,000,000 c. f., 45c.
 Ranges in use, 3,131.
 Supplies, Beloit, Wis., and So. Beloit, Ill.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 1 phase, 60 cycle; power, 3 phase, A. C., 60 cycle.
 Generating capacity: Lighting and power, 4,700 kw.
 Voltage: Arcs and incand., 116; power, 116-232.
 City lighting contract: Hours lighted: Arcs, 2,330 and 3,956.

No. public arcs, 191; 480 watt. Price per year, \$50 to \$65.
 Commercial lighting: No. incand., 11,679 (50 watt equiv.).
 Price current per kw. hr., gross, 13c. to 5c. Disc., 1c. per kw.
 Other lamps, 26,958; 40 watt equiv.
 Power circuits: No. motors, 350; price per kw. hr., 5c. to 2½c. Disc., 1c.
 Output of station, kw. hrs. for year, 7,109,000.
 Generating power used, Steam and Water, rated, 6,298 h. p.
 Cost of station boiler coal per ton, \$4.30.

Wisconsin Power, Light and Heat Co., Berlin.

RRs.: C., M. & St. P. S. B.: Berlin & Omro Line. Ex.: W. F. _____

Successor to Berlin Public Service Co.
 Controlled by Middle West Utilities Co., Chicago, Ill.
 Capital stock, auth., \$1,000,000; issued, \$363,500.
 Bonds, \$950,000; due 1946; int., 5 p. c.
 President, Marshall E. Sampsell.
 Secretary and pur. agent, H. M. Brooks.
 Treasurer, H. M. Brooks.
 Engineer, J. D. Roberts.
 Gen'l superintendent, W. E. Haseltine.
 New bus. mgr., W. E. Haseltine.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$10.50.
 Candle-power, 14.
 Calorific value, 600 B. t. u.
 Annual production, 9,000,000 c. f.
 By-products made: Coke, 300 tons; tar, 15,000 gals.
 Max. day's send out, 55,000 c. f.
 Total gas holder capacity, 25,500 c. f.
 Holder pressure, 4 in.
 Miles of mains, approx., 10.
 Street main pressures, max., 5 in.; min., 3 in.
 Annual sales, approx., \$361,000 c. f.
 Gas unaccounted for, 9 p. c.
 Pop. dist. supplied, 5,000; of city, 4,636 (1910).
 No. meters, reg., 490; prepay., 10.
 No. consumers, 500.
 Price gas: Light and Fuel, gross, \$1.55; net, \$1.45 for 1st 2,000 c. f.; next 3,000 c. f., \$1.30-\$1.20; next 5,000 c. f., \$1-90c.; all over 10,000 c. f., 90c.-80c. Min. charge, 50c. net.
 Ranges in use, 362; heaters, 10; water heaters, 115.
 No. commercial gas arc lamps, 12.
 Supplies Berlin. _____

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. series; incand., and power, A. C., 60 cycles, 2 and 3 phase.
 Generating capacity: Lighting and power, 2,165 kw.
 Voltage: Incand., 110; power, 110-220.
 City lighting contract: Hours lighted, moon-light schedule.
 No. public incand., 99; 250 c. p. Price per year, \$40.
 Commercial lighting: Price current per kw. hr., gross, 14c., 11c. and 8c. Disc., 1c. per kw. hr.

SYPHON AND "U"

American Meter Company

561 W. 47th St., New York, N. Y.

PRESSURE GAUGES. These have been improved so they can be repaired without the use of cement. We also manufacture all types of Arch Pressure Gauges and Single Tube Gauges.

Power: Price per kw. hr., 9c.; 8c.; 7c.; 6c.; 5c.; 3c. Disc., 1c. per kw. hr.; 50c. demand active h. p. Active based on 90 p. c., 80 p. c. and 70 p. c. bal.
Output of station, kw. for year, 878,204.
Generating power used: Steam, rated h. p., 1,000.
Cost of station boiler coal, per ton, \$5.

Citizens Gas Co., Burlington.

RRs.: C., M. & St. P.; Wis. Cen. Ex.: W. F. Nat.

Capital stock, \$40,000 auth.; \$36,200 issued.
Annual dividend, 5 p. c.
Bonds, \$12,000; due 1920; int., 5 p. c.
President, H. A. Runkel.
Secretary, W. H. Bushman.
Treasurer, E. Meinhardt.
General mgr., E. F. Rakow.
Pur. agent, E. F. Rakow.
New bus. mgr., E. F. Rakow.
Supt. and engineer, E. F. Rakow.
Process manufacture, Lowe.
Price coke per ton, delivered, \$6.10.
Price oil per gallon, 5c.
Candle-power, 20.
Calorific value, 600 B. t. u.
Annual production, 12,000,000 c. f.
Max. day's send out, 45,000 c. f.
Total gas holders capacity, 40,000 c. f.
Miles of high pressure mains, approx., 12.
Pressure, 3 lbs.
Annual sales, approx., 12,000,000 c. f.
Gas unaccounted for, 1 p. c.
Pop. dist. supplied, 3,500; of city, 3,212.
No. meters, reg., 660; prepay., 40.
No. consumers, 700.
Price gas: Light, gross \$1.60; net \$1.50. Fuel, gross \$1.60; net \$1.50.
Ranges in use, 520; heaters, 20; water heaters, 55.
No. commercial gas arc lamps, 50.
Supplies Burlington.

Wisconsin-Minnesota Light and Power Co., Chippewa Falls.

RRs.: C. & No. W.; C., M. & St. P.; Wis. Cen. Ex.: Am.; Ad.; Nat.

(Formerly Chippewa Falls W. W. & Ltg. Co., owned and operated by American Public Utilities Co.)

For information, recapitalization, bonds, etc., see Appendix.

President, J. H. Brewer.
Vice-presidents, W. B. Parsons and P. D. Kline.

Secretary, Blaine Gavett.
Treasurer, C. A. Boalt.
Local mgr. and supt., Holmes Ives.
Process manufacture, Lowe (Springer).
Price coke, delivered, \$6.45.
Price oil, per gal., 4.6c.
Candle-power, 18.

Calorific value, 600 B. t. u.
Max. day's send out, 65,000 c. f.
Total gas holders capacity, 96,000 c. f.
Miles of mains, approx., 9.2.
Street main pressures, max., 3.3 in.; min., 2.4 in.

Annual sales, approx., 20,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city, 8,893; dist. supplied, 10,000.
No. consumers, 800; No. meters, reg., 737.
Price gas: Light and Fuel, gross, \$1.40; net, \$1.30 to 75c.
No. commercial gas arc lamps, 30.
Supplies Chippewa Falls.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C., 3 phase, 60 cycle. Power, A. C.
Generating capacity: Lighting and Power, 1,000 kw.
Voltage: Line, 2,300; incand., 110; power, 110-220-440.
City lighting contract: Hours lighted per year: Arc, 4,000.
No. public arcs, 87; 500 watt. Price per year, \$52.20.
No. public incand., 34; 60 c. p. Price per year, \$16.20.
Commercial lighting: No. arcs, 3; No. incand., 584,141 kw. Price per kw. hr., gross, 13c. to 5c. Disc., 1c. per kw.
Power circuits: No. motors, 50.
Price current per h. p., 75c. and per kw., 2c.
Output of station, kw. for year, 1,968,895.
Generating power used, Water; rated 956 h. p. (No report.)

Wisconsin-Minnesota Light and Power Co., Eau Claire.

RRs.: C. & No. W.; C., M. & St. P.; Minn., St. P. & S. S. M. Ex.: Am.; Natl.; West.; W. F. _____

(Formerly Eau Claire Gas Light Co. Owned and operated by American Public Utilities Co. For capitalization, bonds, officers, companies merged, etc., see Appendix.)

Manager, William B. Voth.
Process manufacture, Coal.
Price coal per ton, delivered, \$4.50.
Candle power, 16; calorific value, 600 B. t. u.
Max. day's send out, 186,200 c. f.
Total gas holders capacity, 110,000 c. f.
Miles of mains, approx., 38.
Street main pressures, max., 4.4 in.; min., 3 in.

Annual sales, approx., 65,000,000 c. f.
Gas unaccounted for, 8 p. c.
Pop. dist. supplied, 18,000; of city, 18,310.
No. consumers, 3,210.
No. meters, reg., 1,329; prepay., 1,881.
Price gas: Light and Fuel, gross, \$1.30; net, \$1.20 to 75c.
Ranges in use, 2,068; heaters, 109; water heaters, 399.
No. commercial gas arc lamps, 275.
Supplies Eau Claire.
(No report.)

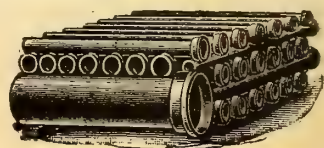
Eastern Wisconsin Electric Co., Fond du Lac.

RRs.: C. & No. W.; C., M. & St. P.; Wis. Cen. Ex.: Am.; Nat.; W. F. _____

(Controlled by Kelsey, Brewer & Co., Grand Rapids, Mich.).

(For capitalization and bonds, see Appendix.)
President, Joseph H. Brewer.
Secretary, Blaine Gavett.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
ALL REGULAR SIZES
R. D. WOOD & CO. : PHILADELPHIA, PA.



Treasurer, W. J. Ripley.
 Purchasing agent, W. J. Ripley.
 General mgr., Raymond H. Smith.
 Engineer, Geo. R. Horning.
 New bus. mgr., Frank Evans.
 Local mgr., A. G. Carson.
 Process manufacture, Coal and Lowe (Oil).
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual prod., coal gas, 75,000,000 c. f.; oil
 gas, approx., 1,000,000 c. f.
 By-products made: Coke, 4,332 tons; Tar,
 81,263 gals.
 Total gas holders capacity, 140,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 271,300 c. f.
 Miles of mains, approx., 43.1.
 Street main pressures, max., 6 in.; min., 3 in.
 Annual sales, approx., 79,185,800 c. f.
 Gas unaccounted for, 4.71 p. c.
 By-products sold: Coke, 3,077 tons; Tar,
 92,221 gals.
 Pop. dist. supplied, 22,800; city, 18,797 (1910).
 No. consumers, 3,587.
 No. meters, reg., 3,315; prepay., 272.
 Price gas: Light, gross, \$1.25; net, \$1.35. Fuel,
 \$1.25 to 95c.; 10 p. c. disc.
 No. ranges, 2,730; hot plates, 1,017; water
 heaters, 371.
 No. commercial gas arc lamps, 283.
 Supplies Fond du Lac and North Fond du Lac.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C.; incand., A. C.
 60 cycle; power, D. C. and A. C.
 Generating capacity: Lighting and A. C.
 power, 1,600 kw.; D. C. power, 500 kw.
 Voltage: Arcs, 3,500 series; incand., 110;
 power, 500 D. C.; 110-220 A. C.
 City lighting contract: Hours lighted, arcs, all
 night; incand., all night and some 3 hours
 No. public arcs, 217; 272 watt. Price per
 year, \$63.
 No. public incand., 58; 100 watt; 232; 60
 watt. Price per post of 5 lamps, \$30.
 Commercial lighting: No. arcs, 6; No. incand.,
 40,590.
 Price current per kw. hr., gross, 12c; dis-
 counts, 10 to 50 p. c.
 Power circuits: No. motors, 403; price per kw.
 hr., 8c to 3c; disc, 10 p. c.
 Power used for city and interurban railway.
 Output of station, kw. hrs. for year, 3,671,890.
 Generating power, Steam, rated 2,950 h. p.

Fort Atkinson Gas Co., Fort Atkinson.

RR.: C. & No. W. Ex.: Am.
 Capital stock, auth., \$25,000; issued, \$25,000;
 annual dividend, 6 p. c.
 Bonds, \$18,750; due 1930; int., 5 p. c.
 President, M. D. Foster.
 Secretary, Chas. De Forest.
 Treasurer, J. C. Brandel.
 Purchasing agent, Chas. De Forest.
 Manager and supt., Chas. De Forest.
 Process manufacture, Lowe.
 Price of coke per ton, delivered, \$10.30; oil
 per gallon, 8.95c.
 Calorific value, 610 B. t. u.

Annual production, 14,000,000 c. f.
 Gas holder capacity, 30,000 c. f.
 Holder pressure, max., 5 in.
 Max. day's send out, 90,000 c. f.
 Miles of mains, approx., 9.
 Street main pressures, max., 5 in.; min.,
 3 in.
 Annual sales, approx., 14,000,000 c. f.
 Gas unaccounted for, 2 p. c.
 Pop. city, est. 4,000; dist. supplied, 4,000.
 No. consumers, 630.
 No. meters, reg., 625; prepay., 5.
 Price gas: Light and Fuel, gross, \$1.70; net,
 \$1.60.
 Gas ranges, 515; heaters, 52; water heaters,
 78.
 Supplies Ft. Atkinson.

Wisconsin Public Service Co., Green Bay.

RRs.: C. & No. W.; G. B. & Western; C.,
 M. & St. P. S. Bs.: M. & R. Trans.;
 G. B. Trans.; Goodrich Trans.; Mutual
 Trans. Ex.: Am.; U. S.

Controlled by Wisconsin Securities Co.
 (For capitalization and bonds, see Appendix.)
 President, Clement C. Smith.
 Vice-pres., C. R. Phenicie.
 Vice-pres., Henry L. Rice.
 Secy. and treas., Howard Greene.
 Asst. secy. and asst. treas., Geo. Allison.
 Purchasing agent, Theo. F. Kaap.
 Gen. manager, J. P. Pulliam.
 Engineer, H. L. Rice.
 Superintendent, D. M. Workman.
 New bus. mgr., G. L. Wilkins.
 Process manufacture, Coal.
 Price of coke per ton, delivered, \$6.75.
 Annual production, 104,239,000 c. f.
 By-products made: Coke, 6,935 tons; tar,
 112,143 gals.
 Cal. val., 600 B. t. u.
 Max. day's send out, 360,000 c. f.
 Total gas holders capacity, 315,000 c. f.
 Holder pressure, 8 in.
 Miles of mains, approx., 68.
 Street main pres., max., 5 in.; min., 2.7 in.
 High pressure mains, 15 miles; pressure, 30
 lbs.
 Annual sales, approx., 90,291,000 c. f.
 Gas unaccounted for, 8.7 p. c.
 By-products sold: Coke, 5,012 tons; tar,
 6,871 gals.
 Pop. dist. supplied, 30,000; of city, est., 25,000.
 No. consumers, 3,675.
 No. meters, reg., 3,759.
 Price gas: \$1.15 for 1st 1,000 c. f.; \$1.05 for
 2d 1,000; 95c. for next 3,000; 90c. for
 next 10,000 c. f.; 85c. next 20,000 c. f.;
 next 65,000 c. f., 80c.; all over 100,000
 c. f., 75c. net. Min. chg., 50c.-40c.
 Ranges in use, 3,400; heaters, 400; water
 heaters, 700.
 No. commercial gas arc lamps, 125.
 Supplies Green Bay, De Pere and Allouez.



FOR GAS HOLDERS IN EXPOSED POSITIONS

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for
 Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., single phase, 60 cycles; incand., A. C. and D. C., single phase, 60 cycles; Power, 25 cycles, 3 phase and some 60 cycle, 3 phase.
 Generating capacity: Lighting, 4,000 kw.; Power, 8,000 kw.
 Volt., incand., 110; power, 110-220-440.
 Miles of trans. wires, 148; distribution, 150; underground cables, $1\frac{1}{2}$ miles.
 City lighting contract: No. hours lighted, 4,000.
 No. public ares, 314; 500 watt. Price per year, \$65.
 Commercial lighting: No. ares, 29.
 Price per kw. hr., gross, 12c. to 2.5c., and readiness to serve rate.
 Power circuits: No. motors, 604.
 Price current per kw. hr., 10c. Disc., 5 p. c. to 65 p. c.
 Output of station, kw. for year, 16,101,213.
 Generating power used. Steam and Water, rated (steam) 10,500 h. p.; (water) 7,500 h. p.
 Cost of station boiler coal per ton, \$6.25.

Interstate Light and Power Co., Hudson Div.

RR.: C. & No. W. Ex.: Am.

Controlled by Northern States Power Co.
 Managers, H. M. Bylesby & Co., Chicago.
 Local mgr., B. O. Lund.
 Local superintendent, Frank Hardwick.
 Process manufacture, Coal.
 Candle-power, 16; calorific value, 600 B. t. u.
 (Gas is received from North. States Pr. Co. at Stillwater at pressure from 5 to 25 lbs. At Hudson it passes through reducing governor to a storage holder, from which it is supplied to city at low pressure.)
 Gas purchased, 5,137,000 c. f.
 Gas holder capacity, 15,000 c. f.
 Holder pressure, 4.5 in.
 Max. day's send out, 22,000 c. f.
 Miles of mains, 7.15 (including .58 mile high pressure).
 Street main pressures, max., 3.5 in.; min., 2.5 in.
 Annual sales, approx., 4,374,000 c. f.
 Gas unaccounted for, 14.85 p. c.
 Pop. of city supplied, est., 3,000.
 No. consumers, 298.
 No. meters, reg., 277; prepay., 21.
 Price gas: Light and Fuel, gross, \$1.54 to \$1.20; net, \$1.44 to \$1.10.
 Gas appliances in use: Ranges, 240; heaters, 7; water heaters, 70.
 No. commercial gas arc lamps in use, 6.

Hurley Gas Co., Hurley.

RRs.: C. & No. W.; Wis. Cen. Ex.: Am Natl.

(Operated in coalition with Ironwood Gas Co., Ironwood, Mich., acting as receiving or distributing agent for said company, whose report covers operations of the Hurley Gas Co.)

New Gas Light Co., Janesville.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.; W. F. & Co.

(For capitalization and bonds, see Appendix.)
 President, Walton Clark.
 Secretary, Louise Merrill.
 Treasurer, James Ball.
 Comptroller, G. W. Curran.
 Purchasing agent, J. A. Pearson.
 Superintendent, I. F. Wortendyke.
 Process manufacture, Lowe.
 Miles of mains, approx., 33.64.
 Calorific value, 601.03 B. t. u.
 Annual sales, approx., 74,370,000 c. f.
 Pop. dist. supplied, 14,000.
 Consumers and meters, 3,160.
 Price gas: Light and Fuel, gross, \$1.40 1st 2,000 c. f.; net, \$1.30; next 3,000 c. f., gross, \$1.25; net, \$1.15 all in excess of 5,000 c. f., gross, \$1.10; net, \$1.
 No. commercial gas arc lamps, 125.
 Supplies Janesville.

Wisconsin Gas and Electric Co., Kenosha.

RRs.: C. & No. W.; C. & M. El. St. Bs.: Hill Steamship Co. Ex.: Am.

General office: Racine, Wis.
 Controlled by Wisconsin Edison Co.
 (For capitalization and bonds, see Appendix.)
 President, J. D. Mortimer.
 Vice-pres., S. B. Way.
 Sec. and treas., F. J. Boehm.
 Gen. mgr., D. E. Callender.
 Manager, G. H. Cook.
 Engineer, G. H. Cook.
 New bus. mgr., M. W. Everett.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$7.
 Price oil per gal., delivered, 6.87c.
 Calorific value, 600 B. t. u.
 Total gas holders capacity, 1,050,000 c. f.
 Holder pressure, 6 in.
 Max. day's send out, 659,000 c. f.
 Miles of mains, approx., 47.71.
 Street main pressures, max., 6 in.; min., 3 in.
 High pressure mains, 5 miles; pressure, 5 to 40 lbs.
 Annual sales, 184,586,500 c. f.
 Gas unaccounted for, 6.64 p. c.
 Pop. dist. supplied, 30,000; city, 32,000 (1910).
 No. consumers, 5,635.
 No. meters, 5,648.
 Price gas: Light and Fuel, \$1 to 55c., sliding scale. 1st 10 M., \$1 net; next 20 M., 50c., next 20 M., 60c.; all over 50 M., 55c.
 Ranges in use, 4,412; water heaters, 826.
 Supplies Kenosha (from Racine).

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C. series; incand., A. C. 60 cycle; power, A. C. 60 cycle 3 phase.
 Generating capacity, 6,900 kw.
 Voltage: Incand., 120; power, 240.
 City lighting contract: Hours lighted, arcs and incand., 3,970.
 Public ares, 250; price per year, \$61.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard Garage Heater of North America.
 Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Ornamental lamps, \$2; price per year, \$61.50.
Public incand., 148; price per year, \$24.
Commercial lighting: No. incand., 65,705; 16
c. p. equiv.
Price current per kw. hr., gross 12c. to 2c.
Power circuits: Motors, 2,299 h. p.; price per
kw. hr., 8c. to 3c. Inc. rate: demand rate
on high load factors as low as 1.5c.
Output of station, kw. for year, 4,053,898;
3,410,882 purchased.
Generating power used, Steam: rated h. p.
1,140.
Cost of station boiler coal, per ton, \$4.54.

Wisconsin-Minnesota Light and Power Co., La Crosse.

RRs.: C. & No. W.; C. B. & Q.; C., M. & St.
P.; G. B. & Western; La. C. & So. E.
S. B.: Diamond Jo Line (Bridge to La
Crescent, Minn.). Ex.: Ad.; Am.

(Formerly La Crosse Gas & Electric Co.)
(Owned by American Public Utilities Co.)
(For capitalization and bonds, see Appendix.)
President, J. H. Brever.
Vice-pres., W. B. Parsons and P. D. Kline.
Secretary, Blaine Gavett.
Treasurer, C. A. Boalt.
Asst. sec'y and asst. treas., W. J. Ripley.
Purchasing agent, Blaine Gavett.
Manager, L. E. Caldwell.
Process manufacture, Coal.
Price coal per ton, delivered, \$4.55.
Price of oil per gal., 4.64c.
Candle-power, 18.
Calorific value, 600 B. t. u.
Max. day's send out, 415,000 c. f.
Total gas holders capacity, 400,000 c. f.
Miles of mains, approx., 46.
Street main pressures, max., 6 in.; min., 3 in.
High pressure mains, 3 miles; pressure, 2 lbs.
Annual sales, approx., 120,000,000 c. f.
Gas unaccounted for, 10 p. c.
Pop. city supplied, 30,417.
No. meters, 4,599.
No. consumers, 4,495.
Price gas: Light and Fuel, \$1 to 65c.
Ranges in use, 3,713; heaters, 252; water
heaters, 708.
No. commercial gas arc lamps, 365.
Supplies La Crosse, Onalaska, La Crescent, No.
La Crosse.

ELECTRICAL DEPARTMENT.

System operated: D. C. and A. C.; 60 cycle, 3
phase.
Generating capacity: Lighting and power, 2,400
kw.
Voltage: Arcs, 110; incand., 110-220; power,
110-220-440.
City lighting contract: Hours lighted per year:
Arcs, 3,800.
No. public arcs, 256; 300 watt. Price per year,
\$55 and \$60.
Commercial lighting: No. arcs, 112.
Price per kw. hr., 7.5c.
Power circuits: Price current per kw. hr., 5c.
Discount on readiness to serve schedule.
Generating power used, Steam.
Cost of station boiler coal, per ton, \$4.70.

Operate a hot-water heating system, as a
residual of electric station, with about
250,000 ft. of radiation connected in stores,
offices and residences.
(No report.)

Madison Gas and Electric Co., Madison.

RRs.: C. & No. W.; C., M. & St. P.; Ill. Cen.
Ex.: Am.; W. F.

Practically all stock owned by American Light
& Traction Co.
(For capitalization, bonds, officers, etc., see
Appendix.)

President, Alanson P. Lathrop.
Vice-pres. and gen'l mgr., John St. John.
Sec'y and treas., Chas. E. Bennett.
Pur. agt., John Corscot, Jr.
Supt. of plants and dis., Geo. E. Wagner.
Process manufacture, Lowe.
Miles of mains, 92.
Annual sales, approx., 256,752,000 c. f.
Pop. city supplied, 30,000.
No. consumers, 7,534.
No. meters, 7,619.
Schedule of rates for gas used per month:
First 2,000 c. f. per mo., per 1,000 c. f.
gross \$1.25, net \$1.15; next 3,000 c. f. per
mo., per 1,000 c. f., gross \$1.15, net \$1.05;
next 15,000 c. f. per mo., per 1,000 c. f.,
gross \$1, net 90c.; over 20,000 c. f. per
mo., per 1,000 c. f., gross 85c., net 75c.;
minimum bill, 50c. per month.
Supplies Madison.

ELECTRICAL DEPARTMENT.

System: Incand., A. C.; power, A. C. and
D. C.
Voltage: Incand., 110; power, 220; D. C., 550.
Price current, per kw. hr., gross, 11c., 7c. and
3c. Disc., 1c. Min. bill, \$1.
Power circuits: Price (D. C. service) per kw.,
4c.; 50c. net per active h. p. per mo., plus
5c. gross. Min. bill, \$1.50 per mo. A. C.
power schedule, \$28, \$18 and \$9 per year.
Plus energy charge, 2c. net, 1st 500 kw.;
1c. next 1 M.; 0.75, excess of 1,500 kw.
Output of station, kw. hrs. total for year,
(sales) approx., 13,429,793.
Generating power use, Hydr. and Steam.
Also supply current to Southern Wisconsin
Railway Co.

Manitowoc Gas Co., Manitowoc.

RRs.: C. & No. W.; Wis. Cen. S.Bs.: Good-
rich Trans. Co.; Car Ferry between B. H.
Mich. and Manitowoc, Wis.; A. A. R. R.
Steamers: P. M. R. R. Car Ferry Lines.
Ex.: Am.; Nat.

Operated by Utilities Operating Co., Kalama-
zoo, Mich.
Capital stock, pref., \$150,000; com., \$100,000.
Annual dividend, pref., 6 p. c.
Bonds, \$241,000; due 1924; int., 5 p. c.
President, C. A. Runyan.
Secretary, Frank Wheeler.
Treasurer, L. F. Ryall.
General manager, D. F. Burritt.
Local mgr. and pur. agent, J. P. Eastman.
Engineer, W. D. Birbeck.

HUNT PIVOTED BUCKET CONVEYORS are reducing coal and coke
handling costs in a great many of the largest gas works. Catalogue N15-4 describes the
details of design, and shows a number of typical installations. Our engineers are at your service.
C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Superintendent, J. P. Eastman.
 New bus. mgr., J. P. Eastman.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$6.65.
 Candle-power, 16.
 Calorific value, 600 B. t. u.
 Annual production, 53,000,000 c. f.
 By-products made: Coke, 4,000 tons; tar, 50,000 gals.
 Max. day's send out, 210,000 c. f.
 Total gas holders capacity, 102,000 c. f.
 Holder pressure, max., 5.8 in.
 Miles of mains, approx., 35.
 Street main pressure, max., 6 in.; min., 3.5 in.
 Booster mains, 0.5 mile; pressure, 9 in.
 Annual sales, approx., 50,000,000 c. f.
 Gas unaccounted for, 7 p. c.
 By-products sold: Coke, 4,000 tons; tar, 50,000 gals.
 Pop. dist. supplied, 14,500; of city, 14,000 est.
 No. consumers, 2,454.
 No. meters, reg., 2,260; prepay., 194.
 Price gas. Light and Fuel, gross, \$1.30; net, \$1.20.
 Ranges in use, 2,450; heaters, 150; water heaters, 350.
 No. commercial gas arc lamps, 430.
 Supplies Manitowoc.

The Northwestern Iron Co., Mayville.

RRs.: C. M. & St. P. Ex.: W. F.

Main office, 1112, First National Bank Bldg., Milwaukee, Wis.
 President, H. J. Schlesinger.
 Vice-president, E. G. Wilmer.
 Secretary, Wilmot Saeger.
 Treasurer, A. A. Schlesinger.
 Gen'l mgr., J. H. Means.
 72 Otto-Hoffman ovens.
 Do not sell surplus gas.

Menominee and Marinette Light and Traction Co., Marinette.

RRs.: C., M. & St. P.; C. & No. W.; Wis. & Mich. S. Bs.; G. B. Trans.; Mo. & R. Trans.; Goodrich Trans.; Hills Line. Ex.: Am.; W. F.

(See report under Menominee, Mich.)

Menomonie Gas Co., Menomonie.

RRs.: C., M. & St. P.; C. & No. W. Ex.: Am.; W. F.

Receiver, Wisconsin Trust Co.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$5.75.
 Price of coke per ton, delivered, \$11.
 Price of oil per gal., 4.04c.
 Candle-power, 18.
 Calorific value, 625 B. t. u.
 Annual production, 10,305,300 c. f.
 Max. day's send out, 40,000 c. f.
 Gas holder capacity, 50,000 c. f.
 Miles of mains, approximate, 11.
 Street main pressures, max., 5 in.; min., 5 in.
 Annual sales, approx., 9,430,700 c. f.
 Gas unaccounted for, 7.5 p. c.
 Pop. dist. supplied, 8,000; of city, 5,036 (1910).
 No. consumers, 650.

No. meters, reg., 520; prepay., 96.
 Price gas: Gross, 1st 1,000 c. f., \$1.65; next 2,000 c. f., \$1.55; next 2,000 c. f., \$1.45; next 5,000 c. f., \$1.35; next 10,000 c. f., \$1.15; over 20,000 c. f., \$1.10.
 Ranges in use, 455; heaters, 30; water heaters, 121.
 No. commercial gas arc lamps, 160.
 Supplies Menomonie.

Milwaukee Gas Light Co., Milwaukee.

(RRs., S. Bs. & Ex.—see Milwaukee Coke & Gas Co., above.)

(For capitalization and bonds, see Appendix.)
 Chmn. of the Bd., Emerson McMillin.
 President, Alanson P. Lathrop.
 Vice-pres., Sheldon J. Glass.
 Secretary, Ewald Haase.
 Treasurer, Ewald Haase.
 Purchasing agent, Henry Harman.
 Gen. manager and engineer, R. B. Brown.
 Process manufacture, Coal and Lowe.
 Miles of main, approx., 575.
 Annual sales, approx., 4,111,000,000 c. f.
 Pop. dist. supplied, 440,000.
 No. meters, 103,000.
 Price gas: Light and Fuel, monthly increment rate, max., 75c.; min., 45c. net.
 Supplies Milwaukee.

Milwaukee Coke and Gas Co., Milwaukee.

RRs.: C. & No. W.; "Soo Line"; C. M. & St. P. Steamboats: L. V. Trans.; Goodrich Trans.; Rutld Transit; Anchor Line; W. Trans.; U. S. B.; Lack. Trans.; Crosby Trans.; Pere M. Line; Can. At. Trans.; P. M. RR. car Ferry Line. Ex.: Am.; Nat.; Ad.; Pac.; W. F.

(Not a distributing Co.; gas sold to Milwaukee Gas Light Co.)

Capital stock, auth., \$2,000,000; issued \$1,750,000.

Bonds, \$540,000; due ann. to 1935; int., 5 p. c.

President, Henry J. Schlesinger.

Secretary, Wilmot Saeger.

Asst. treas., A. A. Schlesinger.

Manager, John W. Shaeffer.

160 Semet-Solvay non-regenerating coke-ovens.

Dimensions: Length, 35 ft.; width, 16½ in.; height, 9½ ft.

Average daily production, 8,182,000 c. f.

Coal charged per oven, 9.75 tons. Coke yield, 75 p. c.

Time required for coking, 14 hrs.

Uses of coke: Foundry, factory, forge, furnace and domestic.

Proportion of gas sold for city use, 22 p. c.; used for heating retorts, 78 p. c.

Calorific value, 600-650 B. t. u.

By-products made: Gas, 9,515,415,000 c. f.; tar, 6,678,764 gals.; ammonia sulphate, 20,141,252 lbs.; light oil products, 2,230,626 gals.; coke, 711,900 tons; breeze, 68,690 tons; naphthalene, 1,150,563 lbs.



Tycos Temperature Instruments for Gas Works INDICATING—CONTROLLING—RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Monroe Light and Fuel Co., Monroe.

RRs.: C., M. & St. P.; Ill. Cen. Ex.: Am.; W. F.

Capital stock, \$30,000.

President, C. E. Gray.

Secretary, S. W. Gray.

Treasurer, W. G. Maxcy.

Manager and supt., H. W. Johannott.

Pur. agent, H. W. Johannott.

New bus. mgr., H. W. Johannott.

Process manufacture, Lowe.

Price of coal per ton, delivered, \$4.30.

Price coke per ton, delivered, \$10.60.

Price oil per gal., 8c.

Candle-power, 26; calorific value, 600 B. t. u.

Miles of mains, approx., 12.5.

Street main pressures, max., 4.9 in.; min., 4.5 in.

Max. day's send out, 50,000 c. f.

Gas holder capacity, 25,000 c. f.

Holder pressure, max., 4.75 in.

Compression tanks, 20,000 c. f.

Annual sales, approx., 15,725,000 c. f.

Gas unaccounted for, 2 p. c.

Pop. dist. supplied, 4,500; of city, 5,400 (1918).

No. consumers, 925.

No. meters, reg., 900; prepay., 7.

Price gas: Light and Fuel, first 5,000 c. f., \$1.75 per M.; next 5,000 c. f., \$1.60; next 5,000 c. f., \$1.50; next 5,000 c. f., \$1.40; next 5,000 c. f., \$1.35; all over 25,000 c. f., \$1.25; 10c. discount, 10 days.

Ranges in use, 625; heaters, 95; water heaters, 75.

No. commercial gas arc lamps, 65.

Supplies Monroe.

Oshkosh Gas Light Co., Oshkosh.

RRs.: C. & No. W.; C., M. & St. P.; Wis. Cen. Ex.: Am.; Nat.; W. F.

Capital stock, \$1,000,000.

Bonds, \$1,024,000; due 1932; int., 5 p. c.

President, Edgar P. Sawyer.

Secretary, Phil. H. Sawyer.

Treasurer, Phil H. Sawyer.

Manager and pur. agent, Wm. Wallen.

Superintendent, L. Christiansen.

New bus. mgr., Geo. Fitzgerald.

Process manufacture, Coal and Lowe.

Price of coal per ton, delivered, \$5.50.

Price of oil per gal., delivered, 6.7c.

Calorific value, 600 B. t. u.

Annual production, coal gas, 61,000,000 c. f.; water gas, 74,000,000 c. f.

By-products made: Coke, 4,700 tons; tar, 115,000 gals.; ammonia, 19,500 lbs.

Max. day's send out, 486,000 c. f.

Total gas holders capacity, 700,000 c. f.

Miles of mains, approx., 52.

Street main pressures, max., 4.5 in.; min., 2.5 in.

Booster mains, 3 miles; pressure, 2.5 lbs.

Annual sales, approx., 135,000,000 c. f.

Gas unaccounted for, 7 p. c.

By-products sold: Coke, 2,100 tons; tar, 44,000 gals.; ammonia, 14,500 lbs.

Pop. city, 38,000; of dist. supplied, 30,000.

No. consumers, approx., 5,300.

No. meters, reg., 5,200; prepay., 100.

Price gas: Light and Fuel, gross, \$1.25; net, \$1.

Ranges in use, 4,200; heaters, 2,600; water heaters, 1,400.

No. commercial gas arc lamps, 500.

ELECTRICAL DEPARTMENT.

System operated: Lighting, A. C., single phase, 7,200, alt.; power, 3 phase, 7,200 alt.

Generating capacity, 1,500 kw.

Voltage: Incand., 120; power, 240.

Miles of overhead wires, primary, 150; secondary, 115.

City lighting: Hours lighted, moonlight schedule.

No. public incand., 700 type C, Mazda.

Commercial lighting: No. ares, 25; incand., 57,000. Price per kw. hr., gross, 12c. Disc., net as low as 4c.

Power circuits: Motors, 3,000 h. p. Price current per kw. hr., 10c. and 8c. Disc., net as low as 2c.

Output of station, kw. for year, 3,883,000.

Generating power used, Steam; rated, 1,380 h. p.

Cost of station boiler coal per ton, \$5.22 $\frac{1}{4}$.**Platteville Gas Co., Platteville.**

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.; W. F.

Capital stock, pref. auth., \$15,000; issued, \$11,434.50; com. auth., \$45,000; issued, \$40,704.71.

President, H. C. George.

Sec. and pur. agent, Wm. C. Butterworth.

Gen. manager, Wm. C. Butterworth.

Superintendent, O. R. Henning.

New bus. mgr., Thomas Butterworth.

Process manufacture, Coal.

Price coal per ton, delivered, \$7.85.

Candle power, 16; calorific value, 600 B. t. u.

Annual production, 10,000,000 c. f.

Max. day's send out, 41,000 c. f.

Gas holder capacity, 60,000 c. f.

Holder pressure, max., 4 in.

Miles of mains, 7.08.

Street main pressures, max., 3.4 in.; min., 2.7 in.

Annual sales, approx., 10,000,000 c. f.

Gas unaccounted for, 7.35 p. c.

Pop. city, 4,452; of dist. supplied, 3,500.

No. consumers, 487.

No. meters, reg., 403; prepay., 84.

Price gas: Light and Fuel, gross, \$1.70. Disc. as follows: 10c. on 1st 2,000 c. f.; 20c. on next 3,000 c. f.; 30c. on next 5,000 c. f.; 40c. all over 10,000 c. f. Min. charge, 50c. 10-lt. meter; over 10-lt. meter, \$1.

No. ranges, 386; water heaters, 42.

No. commercial gas arc lamps, 112.

Supplies Platteville.

Portage American Gas Co., Portage.

RRs.: C., M. & St. P.; Wis. Cen. Ex.: W. F.; Nat.

Controlled by the American Gas Co.

Capital stock, \$40,000.

Bonds, \$115,000; due 1959; int., 5 p. c.



One of our five million foot holders has stood the most severe cyclones ever recorded in the United States.

R. D. WOOD & CO., PHILA., PA.

Président, M. L. Alverson.
 Vice-presidents, Morris W. Stroud and J. C. Lowry.
 Secretary, W. S. Stroud.
 Treasurer, J. B. Townsend 3d.
 Pur. agent, F. D. Wharton.
 Gen. mgr., S. P. Curtis.
 Engineer, R. C. Cornish.
 Manager, A. S. Quackenbush.
 Process manufacture, Coal.
 Calorific value, 600 B. t. u.
 Annual production, 26,442,000 c. f.
 By products made: Tar, 31,842 gals.
 Max. days' send out, 100,500 c. f.
 Total gas holders capacity, 75,000 c. f.
 Miles of mains, approx., 18.
 Street main pressures, max., 3 in.; min., 2 in.
 Annual sales, approx., 24,740,000 c. f.
 Gas unaccounted for, 5.6 p. c.
 By-products sold: Coke, 1,026 tons; tar, 24,203 gals.
 Pop. dist. supplied, 5,459; of city, the same.
 No. consumers, 1,291.
 No. meters, reg., 974; prepay., 317.
 Price gas: Light and Fuel, net, \$1.30 1st 2,000 c. f.; \$1.20 next 3,000 c. f.; \$1.10 next 5,000 c. f.; \$1 next 10,000 c. f.; 90c. over 20,000; min. charge, 3 and 5 lt. meters, 25c.
 No. public Welsbach gas lamps, 89.
 Contract includes repair, care, lighting and extinguishing.
 No. hours lamps is lighted per year, 4,100.
 Ranges in use, 1,107; heaters, 80; water heaters, 350.
 No. commercial gas arc lamps, 250.
 Supplies Portage.

Wisconsin Gas and Electric Co., Racine.

RRs.: C., M. & St. P.; C. & No. W. S. Bs.: C. R. & M. Line; Goodrich Trans. Ex.: Ad.; Am.; W. F.

Controlled by Wisconsin Edison Co.
 (For capitalization and bonds, see Appendix.)
 President, J. D. Mortimer.
 Vice-pres., S. B. Way.
 Sec. and treas., F. J. Boehm.
 Gen'l mgr., D. E. Callender.
 Engineer, J. Anderson.
 New bus. mgr., M. W. Everett.
 Auditor, E. Jorgenson.
 Process manufacture, Coal.
 Price of coal per ton, delivered, \$5.14.
 Calorific value, 600 B. t. u.
 By-products made: Coke, 46,981 tons; tar, 910,164 gals.; ammonia, 350,731 gals.
 Annual production, 661,810,000 c. f.
 Total gas holders capacity, 1,420,000 c. f.
 Holder pressure, max., 6 in.
 Max. day's send out, 1,278,000 c. f.
 Miles of mains, approx., 99.89.
 Street main pressures, max., 6 in.; min., 3 in.
 High pressure mains, 35.26 miles; pressure, 40 lbs.
 Annual sales, 402,064,300 c. f.
 Gas unaccounted for, 5.30 p. c.
 By-products sold: Coke, 36,000 tons; tar, 864,387 gals.; ammonia, 338,393 gals.
 Pop. dist. supplied, 44,000; of cities, 69,156.
 No. meters, reg., 11,469.

No. consumers, 11,306.

Price gas: Light and Fuel, \$1 to 55c.; sliding scale: 1st 4 M., \$1 net; next 11 M., 80c.; next 35 M., 60c.; over 50 M., 55c. Disc., 5 p. c. of first \$25 and 1 p. c. in excess of \$25. 10 days.

Ranges in use, 10,696; water heaters, 2,282.

No. commercial gas arc lamps, 263.

Supplies Racine, Kenosha, So. Milwaukee and Cudahy.

Oneida Gas Co., Rhinelander.

RRs.: C. & No. W.; Minn., St. P. & S. S. M. Ex.: Am.; West.

Capital stock, \$40,000.

President and treas., A. D. Daniels.

Secretary, J. S. Daniels.

General manager, W. E. Vaughn.

Supt. and new bus. mgr., W. E. Vaughn.

Pur. agent, W. E. Vaughn.

Process manufacture, Lowe.

Annual production, 9,000,000 c. f.

Price coke per ton, delivered, \$14.50.

Price oil per gal., 8.5c.

Candle-power, 16.

Calorific value, 625 B. t. u.

Gas holder capacity, 50,000 c. f.

Holder pressure, 3.8 in.

Max. day's send out, 40,000 c. f.

Street mains, approx., 8 miles: press., max., 4 in.; min., 3.33 in.

Annual sales, approx., 9,000,000 c. f.

Pop. of city, 6,500; dist. supplied, 3,500.

No. consumers, 600.

No. meters, reg., 525; prepay., 75.

Price gas: Light and Fuel, gross, \$1.50; net, \$1.35.

No. ranges, 350; heaters, 100; water heaters, 200.

No. commercial gas arc lamps in use, 150.

Supplies Rhinelander.

Ripon Light and Water Co., Ripon.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.; W. F.

Capital stock, \$100,000; ann. div., 5 p. c.

Bonds, \$100,000; due 1930; int., 5 p. c.

President, C. P. Haseltine.

Secretary, W. E. Haseltine.

Treasurer, W. E. Haseltine.

Gen. mgr. and pur. agt., W. E. Haseltine.

Engineer, A. Guenther.

New bus. mgr., W. A. Exner.

Superintendent, Frank Buelow.

Process manufacture, Oil (Patton).

Price coal per ton, delivered, \$4.

Price oil per gal., delivered, 5c.

Candle-power, 44.

Calorific value, 925 B. t. u.

Annual production, 6,500,000 c. f.

Max. day's send out, 30,000 c. f.

Total gas holders capacity, 8,000 c. f.

Holder pressure, max., 4 in.

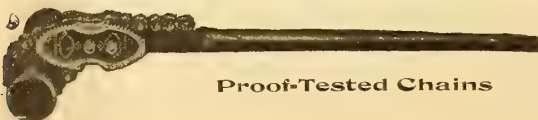
Miles of mains, approx., 12.

Street main pressures, max., 4 in.; min., 2.5 in.

Annual sales, approx., 5,500,000 c. f.

Gas unaccounted for, 16 p. c.

Pop. dist. supplied, 3,800; of city, 3,739.



Proof-Tested Chains

Williams' Improved "Vulcan"
Drop-Forged Chain Pipe Wrench

J. H. WILLIAMS & CO., 74 Richards St.,
 BROOKLYN, N. Y.

Consumers and meters, 467.

Price gas: Light and Fuel, gross \$2; net \$1.90.
Ranges in use, 284; heaters, 3; water heaters, 58.

No. commercial gas arc lamps, 20.
Supplies Ripon.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$35,000.
System operated: A. C., 3 ph., 60 cycle.

Generating capacity: Lighting and power, 525 kw.

Voltage: Incand., 110; power, 220.

City lighting contract: Hours lighted, 1,991 hrs. and 1,507 hrs.

No. public incand., 124; 250 watt. Price per year, \$35. Also 12 250 watt; price per year, \$39.

Commercial lighting: No. incand., 9,000.

Price current per kw. hr., gross, 16c. to 9c.
Disc., demand schedule.

Other lamps, 3,500 Mazdas.

Power circuits: No. motors, 60.

Power rates, 9c. to 3c. Disc., demand schedule.

Output of station kw. for yr., 457,875.

Generating power used, Steam; rated h. p., 800.

Cost of station boiler coal per ton, \$3.50.

Sheboygan Gas Light Co., Sheboygan.

RRs: C. & No. W.; S. L. P. & R. Co. (El.).
S. Bs.: Goodrich Trans. Ex.: Am.

Controlled by Wisconsin Securities Co.

Capital stock, \$150,000.

Annual dividend, 6 p. c.

Bonds, \$250,000; due 1931; int., 5 p. c.

President, C. C. Smith, Milwaukee.

Vice-pres., H. L. Rice, Milwaukee.

Sec'y and treas., Howard Greene.

Purchasing agent, T. F. Kaap.

Manager, A. F. Davey.

Superintendent, R. Grabowsky.

New bus. mgr., Chas. A. Pepper.

Process manufacture, Coal and Lowe.

Price coal per ton, delivered, \$6.13.

Price of oil per gal., delivered, 7c.

Calorific value, 600 B. t. u.

Annual production: Coal gas, 79,972,000 c. f.;
water gas, 6,351,000 c. f.

By-products made: Coke, 4,908,724 tons; tar,
85,307 gals.; ammonia, 9,659 lbs.

Total gas holders capacity, 287,000 c. f.

Holder pressure, max., 5.5 in.

Max. day's send out, 292,000 c. f.

Miles of mains, approx., 47.7.

Street main pressures, max., 5.5 in.; min., 3 in.

Annual sales, approx., 78,913,100 c. f.

Gas unaccounted for, 9.3 p. c.

By-products sold: Coke, 4,028,72 tons; tar,
82,318 gals.; ammonia, 7,695 lbs.

Pop. city, est., 28,000; dist. supplied, 28,000.

No. consumers, 4,687.

No. meters, reg., 4,142; prepay., 545.

Price gas: Light and Fuel, 1st 1,000 c. f.,
gross \$1.30, net, \$1.20; next 4,000 c. f.,
gross \$1.10, net \$1; all in excess of 5,000
c. f., gross 90c., net 85c.

Ranges in use, 2,140; water heaters, 589.

No. commercial gas arc lamps, 669.

Supplies Sheboygan.

Wisconsin Gas and Electric Co., South Milwaukee.

RRs: C. & N. W.; T. M. El. R. & L. Co. Elec.
Ex.: Am.

Controlled by Wisconsin Edison Co.

For capitalization and bonds, see Appendix.

President, J. D. Mortimer.

Vice-president, S. B. Way.

Sec. and treas., F. J. Boehm.

General manager, D. E. Callender.

New bus. mgr., M. W. Everett.

Supplied from Racine.

High pressure mains, 32.74 miles; press., 5
lbs. (includes transmission line from
Racine to So. Milwaukee).

Annual sales, approx., 57,312,900 c. f.

Population dist. supplied, 9,783.

No. consumers and meters, 886.

Price gas: Light and Fuel, first 5,000 c. f.,
\$1.35 gross; next 5,000 c. f., \$1.20; next
10,000 c. f., \$1.10; next 20,000 c. f., 90c.;
next 20,000 c. f., 70c.; all over 60,000
c. f., 60c. Disc., 10 p. c. of the first \$25
and 1 p. c. on amounts in excess of \$25.

Gas appliances in use: Ranges, 626; water
heaters, 76.

Supplies South Milwaukee and Cudahy.

Wisconsin Valley Electric Co., Stevens Point.

RRs: G. B. & Western; Wis. Cen. Ex.:
Nat.; Am.

Main office, Wausau, Wis.

President, C. C. Yawkey, Wausau, Wis.

Secretary and treas., M. C. Ewing, Wausau,
Wis.

Gen'l mgr., M. C. Ewing.

Pur. agent, A. Greve, Wausau, Wis.

Engineer, R. B. Carter, Wausau, Wis.

Superintendent, A. H. Sikes.

New bus. mgr., H. G. Quandt.

Process manufacture, Coal.

Price of coal per ton, delivered, \$8.65.

Candle-power, 20.

Calorific value, 650 B. t. u.

Annual production, 22,000,000 c. f.

By-products made: Coke, approx., 1,400 tons;
tar, 24,000 gals.

Gas holder capacity, 50,000 c. f.

Holder pressure, 5 in.

Max. day's send out, 75,000 c. f.

Miles of mains, approximate, 15.

Street main pressures, max., 6 in.; min., 3 in.

Annual sales, approx., 20,000,000 c. f.

Gas unaccounted for, 15 p. c.

By-products sold: Coke, 1,000 tons; tar,
24,000 gals.

Pop. city supplied, 8,692 (1910); now est.
12,000.

No. consumers, 1,500.

No. meters, reg., 1,300; prepay., 200.

Price gas: Light and Fuel, \$2 to \$1.45.

No. ranges, 1,000; heaters, 150; water heat-
ers, 125.

Supplies Stevens Point.

ELECTRICAL DEPARTMENT.

System: Arcs. series A. C.: incand., A. C.:
power, A. C., 3 phase.

Generating capacity: Power, 5,000 kw.

Voltage: Incand., 110; power, 110-220-2,200.

RELIABLE

"ANGLIRON"

RANGES

The heavy, unbreakable angle iron cooking top, main front and base, and improved construction involving elimination of parts liable to breakage or disarrangement insure **self-maintaining durability**. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

City lighting contract: Hours lighted, 4,000.
 No. public incand., 300. Price, \$64. \$52. \$46 and \$26.
 Price incand., Commercial, 10c. per kw. hr.; 50c. min. charge. Dis., 10 to 50 p. c.
 Option rate, sign lighting, etc., 10c. per kw. for 1st 30 hrs. use; 6c. next 60 hrs.; 3c. all over 90 hrs. use.
 Power circuit: No. motors, 150.
 Power current price: \$1 per h. p. or less and 50c. per mo. each additional h. p., plus meter charge 3c. per kw. hr., or optional rate. Wholesale power, 2c. per kw. hr.
 Output of station, kw. hrs. for year, 1,800,000.
 Power used, Water, rated 300 kw.

Stoughton Light and Fuel Co., Stoughton.

RR.: C., M. & St. P. Ex.: W. F.

Capital stock, \$85,000.
 Bonds, \$95,500; due 1936; int., 5 p. c.
 President, Andrew Fyfe.
 Secretary, Giles Dow.
 Treasurer, Giles Dow.
 Engineer, A. N. Thompson.
 Gen'l mgr. and pur. agent, A. N. Thompson.
 Supt. and new bus. mgr., A. N. Thompson.
 Process manufacture, Lowe.
 Price coke per ton, delivered, \$11.45.
 Price oil per gal., delivered, 8.95c.
 Candle-power, 20.
 Calorific value, 600 B. t. u.
 Annual production, 16,796,000 c. f.
 Total gas holders capacity, 40,000 c. f.
 Holder pressure, max., 3.6 in.
 Max. day's send out, 100,000 c. f.
 Miles of mains, approx., 15.
 Street main pressure, max., 3.5 in.; min., 2 in.
 Annual sales, approx., 16,764,000 c. f.
 Gas unaccounted for, 2 p. c.
 Pop. dist. supplied, 5,500; of city, 4,761 (1910).
 No. consumers, 984.
 No. meters, reg., 958; prepay., 26.
 Price gas: Light and Fuel, gross, \$1.50; net \$1.40.
 Ranges in use, 844; heaters, 127; water heaters, 109.
 No. commercial gas arc lamps, 84.
 Supplies Stoughton.

Superior Water, Light and Power Co., Superior.

RRs.: C. & No. W.; Dul., S. S. & At.; G. N.; No. Pac.; Minn.; St. P. & S. S. M.; Wis. Cen.; C. M. & St. P. S. Bs.; G. L. T. Corp.; Bridge to Duluth Minn. Ex.: Am.; Ad.; G. N.; W.; No.

(For capitalization, bonds, etc., see Appendix.)
 President, Thomas B. Scott.
 Vice-president, W. H. Winslow.
 Secretary, C. D. Se Cheverell.
 Treasurer, A. N. Anderberg.
 Purchasing agent, C. D. Se Cheverell.
 General manager, W. H. Winslow.
 Superintendent, W. C. Lounsbury.
 New bus. mgr., C. D. Se Cheverell.
 Purchase coke-oven gas from Zenith Furnace Co., Duluth, Minn.
 Candle-power, 16.5.
 Calorific value, 600 B. t. u.

Max. day's send out, 350,000 c. f.
 Total gas holders capacity, 280,000 c. f.
 Miles of mains, approx., 40.
 High pressure mains, 5 miles; pressure, 3 lbs.
 Street main pressures, max., 5.5 in.; min., 4 in.
 Annual sales, approx., 98,000,000 c. f.
 Gas unaccounted for, 4 p. c.
 Pop. dist. supplied, 30,000; of city, 40,380 (1910).
 No. consumers and meters, 4,100.
 Price gas: net, \$1 first 10 M.; 80c. net next 40 M.; 70c. net all over 50 M.
 Ranges in use, 3,000; heaters, 250; water heaters, 380.
 No. commercial gas arc lamps, 1,137.
 Supplies Superior.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant: Stock, \$300,000; bonds, \$576,000.
 System operated: Arc series A. C.; incand., A. C., 1 and 3-phase, 60 cycle; power, D. C., 550 volts; A. C., 60 cycles.
 Generating capacity: Lighting, 2,000, power, 200.
 Voltage: Incand., 110; power, A. C., 110-220; D. C., 550.
 City lighting contract: Hours lighted per year, 4,000.
 No. public incand., 33; 600 c. p. Price per year, \$72. Also 504; 250 c. p. Price per year, \$38.
 Commercial lighting: No. arcs, 23; No. incand., 82,323.
 Price current per kw. hr., 8c. net first 30 hrs.; 5c. second 60 hrs.; 3c. all over 90 hrs. use.
 Generating power used, Electricity; rated h. p., 2,800.
 Generators operated by 25 cycle induction motors receiving current from water power plant at Thompson, Minn.

Wisconsin Gas and Electric Co., Watertown.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am. W. F.

(Formerly Watertown Gas & Elec. Co.)
 Controlled by the North American Co.
 For capitalization and bonds, see Appendix.
 President, J. D. Mortimer.
 Vice-pres., S. B. Wayner.
 Sec. and treas., F. J. Boehm.
 Local mgr., A. C. Babson.
 Engineer, A. C. Babson.
 Superintendent, W. J. Jones.
 New bus. mgr., M. W. Everett.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.44.
 Calorific value, 600 B. t. u.
 Annual production, 34,656,000 c. f.
 By-products made: Coke, 2,300 tons; tar, 45,000 gals.; ammonia, 8,500 lbs.
 Max. day's send out, 120,000 c. f.
 Total gas holders capacity, 190,000 c. f.
 Holder pressure, 9 in.
 Miles of mains, approx., 22.
 Street main pres., max., 5 in.; min., 3 in.

Twenty years ago some of the largest gas companies experimented with the GOODMAN STOPPER. Today these same companies think it a necessity. SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Annual sales, approx., 28,500,000 c. f.
 Gas unaccounted for, 16 p. c.
 By-products sold: Coke, 1,500 tons; tar, 45,000 gals.; ammonia, 8,000 lbs.
 Pop. dist. supplied, 8,000; city, 8,829 (1910).
 No. consumers and meters, 1,624.
 Price of gas: Less than 1 M. c. f., \$1.50; over 1 M. to 5 M., \$1.35; next 5 M., \$1.10; next 5 M., \$1; all over 15 M., 90c. Disc., 10c., 10 days.
 Ranges, 1,225; heaters, 50; water heaters, 150.
 No. commercial gas arc lamps, 120.
 Supplies Watertown.

ELECTRICAL DEPARTMENT.

System operated; Arc, D. C.; incand., A. C., single phase, 7,200 alt.; power, A. C., 3 phase, 7,200 alt.
 Generating capacity: Lighting and power, 300 kw. Water power; over 1,200 kw., purchased.
 Voltage: Arcs, 75; incand., 120; power, 240.
 Miles of overhead wires, 146.
 City lighting contract: Hours lighted per year, arcs and incand., 4,000.
 No. public arcs, 166; 4 amp. mag. Price per year, \$60.
 No. public incand., 20; 80 c. p. Price per year, \$30.
 Price current per kw. hr., gross, 12c.; sliding scale to 2c. Disc. 5 p. c. on 1st \$25; 1 p. c. on all over.
 Power circuits: Motors, 1,100 kw.; price per kw. hr., 6c., max., sliding scale to 2c. Also demand schedules with lower rates possible. Disc., 5 p. c. on first \$25; 1 p. c. on all over.
 Output of station kw. hrs. for year, 25,000,000.
 Generating power used, Water; rated 300 kw. (Energy also purchased from Milwaukee Light, Heat & Traction Co.)

Waukesha Gas and Electric Co., Waukesha.

RRs.: C. & No. W.; C., M. & St. P.; Wis. Cen. Ex.: Am.; Nat.; W. F.

Operated by The American Gas Co.
 Capital stock, \$100,000.
 Bonds, \$485,000; due 1959; int., 5 p. c.
 President, A. J. Frame.
 Vice-president, M. W. Stroud.
 Secretary, C. W. Newberry.
 Treasurer, J. B. Townsend, 3d.
 Gen. mgr., S. P. Curtis, Philadelphia, Pa.
 Pur. agt., F. D. Wharton.
 Engineer, R. C. Cornish.
 Elec. engineer, H. M. Blake.
 Manager, G. W. Boteler.
 Process manufacture, Coal.
 Calorific value, 600 B. t. u.
 Annual production, 85,814,000 c. f.
 By-products made: Coke, 5,729 tons; tar, 102,803 gals.

Max. day's send out, 334,300 c. f.
 Total gas holder capacity, 300,000 c. f.
 Miles of mains, approx., 27.
 Street main pressure, max., 4 in.; min., 2.5 in.
 High pressure mains, 1 mile.
 Annual sales, approx., 76,290,000 c. f.
 Gas unaccounted for, 10.8 p. c.
 By-products sold: Coke, 5,176 tons; tar, 96,921 gals.
 Pop. dist. supplied, 10,000; of city, 8,740 (1910).
 No. consumers, 2,215.
 No. meters, reg., 1,637; prepay., 578.
 Price gas: Light and Fuel, net, 1st 10,000, \$1.35; next 15,000, \$1.15; next 25,000, \$1.05; next 50,000, 95c.; all over 100,000, 80c.; over 200,000 c. f., 70c. Min. charge for 3 ft. or 5 ft. meters, 40c.
 Ranges in use, 2,102; water heaters, 203.
 No. commercial gas arc lamps, 225.
 Supplies Waukesha.

ELECTRICAL DEPARTMENT.

System operated: Incand., A. C., 3 phase, 60 cycle; power, A. C., 3 phase, 60 cycle.
 Generating capacity: Lighting and power, 3,000 kw.
 Voltage: Arcs, 70; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Arc, 4,000. Incand., 4,000.
 No. public arcs, 138; 500 watt.
 No. public incand., 8, 25 c. p.; 83, 80 c. p.
 Series nitrogen, 200; 46 c. p.
 Commercial lighting: No. incand., 21,000 (incl. 77 nitrogen lamps).
 Price current per kw. hr., gross, 13c., sliding scale, to 7c. Disc., 1c. per kw. hr.
 Power circuits: No. motors, 412.
 Power, price per kw. hr., 3.5c.; disc., 1c. per kw. hr.; charge of 75c. per active h. p.
 Output of station, kw. hr. for year, 5,365,700.
 Generating power used, Steam; rated h. p., 1,150.

Wausau Gas Co., Wausau.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.; W. F.

Operated by Gas & Electric Improvement Co., Chicago.
 Capital stock, \$200,000.
 Bonds, \$162,000; due 1925; int., 5 p. c.; and \$60,000; due 1925; int., 6 p. c.
 President, E. C. Beach.
 Vice-Pres., Geo. F. Goodnow.
 Secretary, C. V. Clark.
 Treasurer, E. C. Beach.
 Manager and pur. agt., H. H. Wilson.
 New bus. mgr., H. H. Wilson.
 Superintendent, H. H. Wilson.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.
 Candle-power, 16; calorific value, 615 B. t. u.
 Max. day's send out, 115,000 c. f.
 Total gas holder capacity, 175,000 c. f.

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Miles of mains, approx., 27.
 Street main pressures, max., 4 in.; min., 2.5 in.
 High press. mains, miles, 2; pressure, 15 lbs.
 Annual sales, approx., 34,300,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city supplied, 16,560.
 No. consumers, 2,189.
 No. meters, reg., 1,914; prepay., 275.
 Price gas, 1st 5,000 c. f., gross, \$1.50; net, \$1.40; next 5,000 c. f., \$1.30-\$1.20; next 10,000 c. f., \$1.10-\$1; over 20,000 c. f., \$1-90c.
 Ranges in use, 1,783; heaters and water heaters, 149; other appliances, 1,364.
 No. commercial gas arc lamps, 498.
 Supplies Wausau.

Wauwatosa Gas Co., Wauwatosa.

RRs.: C. M. & St. P. Ex.: W. F.

Capital stock, auth., \$200,000; issued, \$110,000.
 President, Sheldon J. Glass.
 Vice-pres., R. B. Brown.
 Secretary and treas., Ewald Haase.
 General manager, R. B. Brown.
 Purchases gas from Milwaukee Gas Light Co.
 Miles of mains, approx., 21.
 Pop. of city, 3,346; of dist. supplied, 4,000.

No. consumers, 1,184.

No. meters, 1,188.

Price gas: Light and Fuel, max., 90c.; min., 50c. net; 1st 7 M., 90c. net; over 7 M. to 20 M., 80c.; over 20 M. to 30 M., 70c.; over 30 M. to 100 M., 60c.; all over 100 M., 50c.

Supplies Wauwatosa.

West Allis Gas Co., West Allis.

RRs.: C. & No. W.; C., M. & St. P. Ex.: Am.; W. F.

Capital stock, auth., \$120,000; issued, \$120,000.
 President, Sheldon J. Glass.
 Vice-pres., R. B. Brown.
 Secretary, Ewald Haase.
 Treasurer, Ewald Haase.
 General manager, R. B. Brown.
 Purchases gas from Milwaukee Gas Light Co.
 Miles of mains, approx., 22.
 Pop. of city, 6,645; of dist. supplied, 8,000.
 No. of consumers, 1,920.
 No. meters, 1,937.
 Price gas: Light and Fuel, max., 90c.; min., 50c. net; 1st 7 M., 90c.; over 7 M. to 20 M., 80c.; over 20 M. to 30 M., 70c.; over 30 M. to 100 M., 60c.; all over 100 M., 50c.
 Supplies West Allis.

WYOMING

Total population, 182,264.

Cheyenne Light, Fuel and Power Co., Cheyenne.

RRs.: C., B. & Q.; U. P.; Colo. & So. Ex.: W. F.; Ad.; Pac.

(Operated by the Western Light & Power Co.)
 Bonds, \$175,000; int., 5 p. c.
 President, C. W. Burdick.
 Vice-pres., H. U. Wallace.
 Secretary, Hiram Sapp.
 Manager, C. A. Semrad.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$5.50.
 Candle-power, 12; calorific value, 580 B. t. u.
 Max. day's send out, 65,000 c. f.
 Total gas holder capacity, 50,000 c. f.
 Miles of mains, approximate, 5.96.
 Street main pressures, max., 3 in.; min., 2.5 in.
 Annual sales, approx., 15,000,000 c. f.
 Gas unaccounted for, 12 p. c.
 Pop. dist. supplied, 12,000; of city, 11,320.
 Consumers and meters, 919.
 Price gas: Light, gross \$1.35; net \$1.25. Fuel, gross \$1.35; net, \$1.25. \$1 over 25,000 c. f. per month.

ELECTRICAL DEPARTMENT.

System operated: A. C. and D. C., 3-phase, 60 cycles.
 Generating capacity: Lighting and power, 1,200 kw.

Voltage: Arcs, 75; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Arc, 4,000.
 No. public arcs, 114; 4 amp; 550 watt. Price per year, \$60.
 Price current per kw. hr., gross, 11c. Disc., 1c. per kw. hr.
 Other lamps used, Tungsten, Gem, Metal.
 Power, price per kw. hr., 5c.
 Output of station, kw. hrs., total for year, 2,500,000.
 Generating power, Steam; rated 1,600 h. p.
 Cost of station boiler coal, per ton, \$3.20.

The Sheridan Gas and Fuel Co., Sheridan.

RRs.: C. B. & Q. Ex.: Ad.

(Controlled by Sweet, Causey, Foster & Co., Denver, Col.).
 Company in process of organization.
 Sec'y, pur. agt. and gen. mgr., F. W. Freese.
 Engineer, F. W. Freese.
 Process of manufacture, Coal.
 Candle-power, 16; calorific value, 575 B. t. u.
 High pressure mains, 9 miles; pressure, 3 lbs.
 Gas holder capacity, 30,000 c. f.
 City pop., 13,000; dist. supplied, 6,000.
 No. consumers and meters, 153.
 Price of gas to consumers, gross, \$1.70; net, \$1.60 to 80c.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

DOMINION OF CANADA

BRITISH COLUMBIA.

Nanaimo Gas and Power Co., Ltd., Nanaimo.

RRs.: Can.-Pac. S. Bs.: Sid. & Nan. Trans.;
Can.-Pac. Isl., Br. Serv. Ex.: Dom.

Capital stock, auth., \$60,000.
President. Joseph Hunter.
Sec'y and treas., W. W. Lewis.
Superintendent. H. Alexander.
Process manufacture, Coal.
Price coal per ton, delivered, \$3.10, \$4.60 and \$5.50.
Candle-power, 16; calorific value, 550 B. t. u.
Max. day's send out, 30,000 c. f.
Gas holder capacity, 45,000 c. f.
Miles of main, approx., 7.
Street main pressures, max., 4 in.; min., 2 in.
Pop. dist. supplied, 6,000; of city, 9,000.
No. consumers, 300.
No. meters, 300.
Price gas: Light, \$2.00; and Fuel, 1st 1,000 c. f., \$2.00; all over 1,000 c. f., \$1.75.
Meter rent, 25c.
No. commercial gas arc lamps, 50.
Supplies Nanaimo.

Corp. of the City of Nelson, Gas Dept., Nelson.

RRs.: G. N.; Can.-Pac. S. Bs.: Can.-Pac.;
B. C., L. & R. Serv.; Int. Nav. & Trad.
Co. Ex.: Dom.; G. N.

(Municipal plant.)
Bonds, \$50,000; due 1955; int., 5 p. c.
Chmn. gas com., I. A. Austin.
Mayor, McQuarrie.
Mgr. and pur. agent, H. P. Thomas.
Secretary and treas., W. E. Wasson.
Supt. and engineer, H. P. Thomas.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.25.
Candle-power, 20; calorific value, 500 B. t. u.
Annual production, 7,800,000 c. f.
By-products made: Coke, 385 tons; tar, 3,700 gals.
Gas holder capacity, 65,000 c. f.
Holder pressure, max., 2.5 in.
Max. day's send out, 30,000 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 4 in.; min., 2 in.
Annual sales, approx., 5,017,600 c. f.
Gas unaccounted for, 26 p. c.
By-products sold: Coke, 50 tons; tar, 3,500 gals.
Pop. of city, 7,000; of dist. supplied, 7,000.
No. consumers, 700.
No. meters, reg., 400; prepay., 300.
Price gas: 1st 3,000 c. f., \$1.90; next 5,000 c. f., \$1.75; all over 8,000 c. f., \$1.50. Disc., 10c., 15 days.
Ranges, 150; heaters, 24; water heaters, 53.

New Westminster Gas Co., New Westminster.

RRs.: G. N.; Can.-Pac. S. Bs.: Can.-Pac. B.
C. Coast Serv.; Lower F. R. Route; N. W.
& C. Steamer Route. Ex.: Dom.; G. N.

(Owner, James Cunningham.)
Treasurer, James Cunningham.
Process manufacture, Coal.
Price coal per ton, delivered, \$5.60.
Price coke per ton, delivered, \$5.50.
Candle-power, 19.20.
Max. day's send out, 60,000 c. f.
Total gas holders capacity, 60,000 c. f.
Miles of mains, approx., 10.
Street main pressures, max., 3.5 in.; min., 2 in.
Annual sales, approx., 12,000,000 c. f.
Gas unaccounted for, 6 p. c.
Pop. dist. supplied, 8,000; of city, 20,000.
No. consumers, 500.
No. meters, reg., 500; prepay., 100.
Price gas: Light and Fuel, 1st 5,000 c. f., \$2.50-\$2.25; 2d 5,000 c. f., \$2.25-\$2.02.
Ranges in use, 100; heaters, 200; water heaters, 50.
No. commercial gas arc lamps, 500.
Supplies New Westminster.
(No 1918 report.)

Vancouver Gas Co., Ltd., Vancouver.

RRs.: G. N.; Can.-Pac. S. Bs.: Can.-Pac. B.
C. Coast Serv.; B. C. & P. S. Route;
Western S. Nav.; Inland Nav.; S. Bs.
from Seattle, Wash.; Alaska S. S. Co.;
Pac. Coast Co.; Can.-Pac. Isl., Br. Serv.;
Union S. S. Co. of B. C.; No. Nav. Ex.:
Dom.; G. N.

(Controlled by British Columbia Elec. Ry.
Co., Ltd.)
Capital stock, \$500,000.
Bonds, \$300,000; due 1929; interest, 5 p. c.
President and gen'l mgr., George Kidd.
Secretary, J. T. Mennie.
Pur. agent, P. Lewie.
New bus. mgr., Chas. Bain.
Superintendent, John Keillor.
Process manufacture, Coal and Lowe.
Annual prod., coal gas, 126,040,000 c. f.; water
gas, 128,660,000 c. f.
Price coal per ton, delivered, \$3.
Price oil per gal., delivered, 5.8c.
Calorific value, 540 B. t. u.
By-products made: Coke, 5,473 tons; tar,
206,850 gals.
Total gas holder capacity, 2,650,000 c. f.
Holder pressure, 3.5 in.
Miles of mains, approx., 140.
Street main pressures, max., 4.5 in.; min., 3.5
lbs.
High pressure mains, miles, 2.5; pressure, 2.5
lbs.
Annual sales, approx., 222,200,000 c. f.
Gas unaccounted for, 12.8 p. c.

THERMOMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

We carry in stock calorimeter, prover and
condenser thermometers of the highest
grade.

By-products sold: Coke, 5,473 tons; tar, 206,850 gals.
 Pop. dist. supplied, 50,000; of city, 80,000.
 No. consumers, 13,760.
 No. meters, reg., 9,360; prepay., 4,400.
 Price of gas: 1st 1 M., \$1.50; next 4 M., \$1.35; next 15 M., \$1.30; over 20 M., \$1.25. Disc., 10c., 10 days. Special rates: 30 to 50 M., \$1.15; 50 to 75 M., \$1.10; 75 M. to 100 M., \$1.05.
 Ranges in use, 6,400; heaters, 1,100; water heaters, 2,000.

Victoria Gas Co., Ltd., Victoria.

RRs.: Can.-Pac.; Vic. & Sid. S. Bs. from Portland, Ore., and Seattle, Wash.: Int. S. S.; B. C. & P. S. Route; Can.-Pac. P. C. Serv.; Alaska S. S. Co.; Pac. Coast Co.; Can.-Pac. Isl. Br. Serv. Ex.: Dom.; G. N.; No.; W. F.

Controlled by British Columbia Electric Railway Co., Ltd.

Capital stock, auth., \$300,000; issued \$242,600.
 President, George Kidd.
 Local manager, A. T. Goward.
 Superintendent, F. H. Hewlings.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$3.25.
 Candle-power, 16. Calorific value, 540 B. t. u.
 Max. day's send out, 300,000 c. f.
 Total gas holder capacity, 264,000 c. f.
 Miles of mains, approximate, 45.
 Street main pressures, max., 4 in.; min., 3 in.
 Annual sales, approx., 48,000,000 c. f.
 Gas unaccounted for, 13.4 p. c.
 Pop. dist. supplied, 32,500; of city, 47,000 est'd.
 No. consumers and meters, 3,358.
 Price gas: Light, gross \$2; net \$1.75. Fuel, gross, \$2 1st 1,000 c. f.; thereafter, \$1.50 net 1st 1,000 c. f., \$1.75; thereafter, \$1.25.
 Ranges in use, 920.

MANITOBA.

Brandon Gas and Power Co., Ltd., Brandon.

RRs.: G. N.; Can.-Pac.; Can. No. Ex.: G. N.; Dom.; Can. No.

(For capitalization and bonds, see Appendix.)
 Secretary, C. S. Eaton.
 Treasurer, G. H. Harper.
 Manager, M. L. Kane.
 Pur. agent, M. L. Kane.
 New bus. mgr., M. L. Kane.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$7.63.
 Candle-power, 18.
 Calorific value, 600 B. t. u.
 Max. day's send out, 127,000 c. f.
 Gas holder capacity, 65,000 c. f.
 Miles of mains, approx., 19.5.
 Street main pressures, max., 6 in.; min., 3 in.
 Annual sales, approx., 33,000,000 c. f.
 Gas unaccounted for, 5 p. c.
 Pop. of city, 20,000.
 No. consumers and meters, 1,313.

Price gas: Light and Fuel, gross \$1.75; net \$1.70 to \$1.58.

Ranges in use, 1,146; heaters, 110; water heaters, 130.

No. commercial gas arc lamps in use, 342.

Winnipeg Electric Railway Co., Winnipeg.

RRs.: Can.-Pac.; W., S. & Lake W.; Can. No.; Gr. Trunk Pac. Ex.: Dom.; Can.; G. N.; C. N.

Capital stock, auth., \$10,000,000; issued, \$9,000,000.

Bonds, \$1,000,000; due 1927; int., 5 p. c.; \$4,000,000; due 1935; int., 5 p. c.

President, Sir Wm. MacKenzie.

Secretary, F. Morton Morse.

Treasurer, F. Morton Morse.

Manager and engineer, M. L. Kane.

Pur. agt., J. S. MacKenzie.

New bus. mgr., W. J. Osborne.

Process manufacture, Coal.

Price coal per ton, delivered, \$9.18.

Price of oil per gal., delivered, 12c.

Ann. prod. coal gas, 483,448,000 c. f.

By-products made: coke, 34,699 tons; tar, 443,394 gals.

Calorific value, 540 B. t. u.

Max. day's send out, 1,653,000 c. f.

Total gas holder capacity, 1,800,000 c. f.

Holder pressure, 6 in.

Miles of mains, approx., 135.

Street main pressures, max., 6 in.; min., 2.5 in.

Annual sales, approx., 445,993,700 c. f.

Gas unaccounted for, 7.74 p. c.

By-products sold: Breeze, 2,862 tons; coke, 14,176 tons; tar, 399,691 gals.

Pop. dist. supplied, 150,000; of city, 200,000.

No. meters, reg., 12,485; prepay, 6,795.

No. consumers, 19,280.

Price gas: Light, gross \$1.50; net \$1.35. Fuel, gross \$1.50; net \$1.35.

Ranges in use, 14,223; heaters, 2,261; water heaters, 1,723.

Supplies Winnipeg.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; 3 phase, 60 cycles; power, A. C. and D. C. Voltage: Incand., 110-220; power, 110-220-550.

Commercial lighting: No. arcs, 546; No. incand., 150,000.

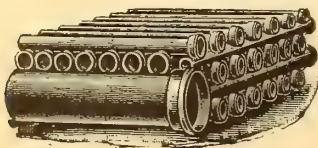
Price current per kw. hr., gross, 3 1-3c. Disc., 20 p. c. com.; 10 p. c. dom.

Power circuits: No. motors, 250; price per kw. hr., 3c. Disc., 10 p. c.

Output of station, kw. hrs total for year, 141,227,800.

Generating power used: Water and Steam; rated h. p., 40,000.

Cost of station boiler coal per ton, \$9.18.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO. PHILADELPHIA, PA.

NEW BRUNSWICK.

New Brunswick Power Co., St. John.

RRs.: N. B. So.; Inter-colonial; Can. Pac.
S. Bs.: E., S. S. Co.; S. Bs. bet. St. J. &
Fredericton. Chipman, Hampton and
Coles Isl.; Dom. At. Ry. Line; Gr. Manan
S. B.; Insular Co.; So. Sh. Line; Ferry
to Carleton, N. B. Ex.: Am.; Can.;
Dom.; Mar.

(Successor to the St. John Railway Co.)
For capitalization, bonds, offices, etc., see
Appendix.

Superintendent, C. B. Ward.
Process manufacture, Coal.
Price of coke per ton, delivered. \$8.25.
Candle-power, 17.
Calorific value, 575 B. t. u.
Annual production, 50,269,700 c. f.
Miles of mains, approx., 45.
Annual sales, approx., 45,000,000 c. f.
Pop. dist. supplied, 40,000; of city, 55,000.
No. consumers and meters, 1,831.
Price gas: Light, gross \$1.85; net \$1.75. Fuel,
gross \$1.10; net \$1.
Ranges in use, 1,380.
Supplies St. John.

ELECTRICAL DEPARTMENT.

Operated under same name as gas company
System lighting: A. C., 60 cycle, single phase,
7,200 alt.; power, D. C. and A. C., single
and 3 phase.
Generating capacity, Lighting and Power,
4,250 kw.; D. C. power, 500 kw.
Voltage: incand., 107; power, D. C., 250; A. C.,
110-220-440.
No. public arcs (2,000 c. p.), 378; lighted,
4,000 hours.
Price per year, \$75.
No. public incand., 94; 100 watt. Price per
year, \$25.
Commercial: No. arcs, 276; incand., 62,000.
Price per kw. hr., gross 15c.; disc., 10, 33 1-3
to 60 p. c.
Power circuits: No. motors, 371.
Price current per kw. hr., 15c. and 10c.
Power used, Steam.
Cost of station boiler coal, per ton, \$7.50.
(Furnished electric light to St. John, Fairville,
Lancaster and Randolph. Owns and op-
erates Carleton Electric Light and Power
Co.)

NOVA SCOTIA.

Nova Scotia Tramways & Power Co., Ltd., Halifax.

RRs.: Dom. At.; Hal. & So. W.; Inter-colon-
ial. S. Bs.: Plant Line; Hal. & Canso
Co.; Sherbrooke Packet; Pickford & Black;
So. Sh. Line; Coastal; Red Cross Line;
Ferry with Dartmouth, N. S. Ex.: Am.;
Can.; Dom.; H. & S. W.; Mar.

(Successor to Halifax Electric Tramway Co.,
Ltd.)
For capitalization, etc., see Appendix.
President, E. A. Robert.

Secy. and treas. H. R. Mallison.
Superintendent, W. H. Soper.
New bus. mgr., J. Charlton.
Process manufacture, Coal.
Candle-power, 17; cal. val., 539 B. t. u.
Price of coal per ton, delivered, \$6.50-\$6.85.
Annual production, 72,842,600 c. f.
Gas holder capacity, 300,000 c. f.; pressure,
6 in.
Max. day's send out, 267,000 c. f.
Miles of mains, 45.7; pressure, 3 and 2 in.
Annual sales, approx., 61,038,000 c. f.
Pop. dist. supplied, 35,000; city, 55,000.
No. consumers, 1,580; meters, 1,746.
Price gas: Light, gross, \$2; net, \$1.70. Fuel,
gross \$1.25; net \$1.
Ranges in use, 925; heaters, 230; water heat-
ers, 925.
No. commercial gas arc lamps, 60.
Supplies Halifax.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
System: Power, single and 3 phase.
Generating capacity, 6,200 kw.
Voltage: At arc, 75; incand., 110; power, 220
and 550.
City lighting contract; hours lighted, 4,000.
Public arcs, 476; 450 watt.
Public incand., 16; 60 watt.
Price incand., com'l, per kw., 10c.; disc., 10 to
35 p. c.
Power circuits: No. motors, 316.
Power price, 8c. per kw. hr.; disc., 25 to 55
p. c.
Output of station, kw. hrs., 9,654,413.
Power used, Steam; rated 8,308 h. p.
Cost of boiler coal per ton, \$6-\$6.25.

Dominion Iron and Steel Co., Ltd., Sydney.

RRs.: Canadian Gov't.; Syd. & Louisburg;
SSs.; Plant line; Black Dia.; Dobell's
Line; Brass D'Or; Pickford & Black. Ex.:
Can.

President, Mark Workman.
Vice-president, Wm. McMaster.
Sec'y and treas., C. S. Cameron.
General manager, D. H. McDougall.
Chief engineer, Geo. D. Macdougall.
Gen'l supt., R. F. Randolph, Jr.
Pur. agent, H. J. McCann.
No. of ovens, 500; Hoffman, 33 ft. long; 6 ft.
17 in. wide; 6 ft. high. 120 United Otto,
34 ft. long; 14 in. wide, 9 ft. high.
120 Koppers ovens under construction.
Coal charged per oven: Hoffman, 5.5 tons;
United Otto, 9.4 tons. Coke yield 66.7 p. c.
Time required for coking: Hoffman, 38 hours;
United Otto, 26. Blast furnace coke.
100 p. c. high volatile coal used.
Proportion of gas used for heating retorts,
60 p. c. Cal. val., 575 B. t. u.
By-products made per year: Gas, 1,625,751
M. c. f.; tar, 5,507,680 gals.; ammonia
sulphate, 11,625,600 lbs.; ammonia liquor,
48,460,000 gals.; pure benzol, 550,089
gals.; pure toluol, 224,652 gals.; xylol,
31,566 gals.; Solvent naphtha, 19,445
gals.; naphthalene, 146,635 lbs.; blast
furnace coke, 539,452 tons.

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

By-products sold: Tar, 5,375,615 gals.; pure benzol, 465,417 gals.; pure toluol, 224,651 gals.; xylol, 35,775 gals.; naphthalene, 141,155 lbs.; coke, 1,382 tons.

By-products used by company: Gas, 1,625,751 M. c. f.; tar, 12,126 gals.; ammonia liquor, 48,460,000 gals.; coke, 537,757 tons.

Surplus gas used for burning lime, heating mixers at steel plant, drying ladles and used around steel mills.

Tar sold to a distilling company.

Yarmouth Gas Works, Ltd., Yarmouth.

RRs.: Hal & So. W.; Dom. At. S. Bs.: So. Sh. Line; Dom. At. Ry. Lines; Cape Island; Cann & Sons' Lines; Insular Co. Ex.: Mar.; H. & S. W.

Owned by R. L. Pond, Jr., Boston, Mass.

General manager, E. V. Howe.

Process manufacture, Coal.

Price of coal per ton, delivered, \$5.15.

Candle-power, 18.

Gas holder capacity, 70,000 c. f.

Holder pressure, max., 2.5 in.

Street mains, approximate, 14 miles; pressures, max., 2.5 in.; min., 2.5 in.

Population of city, 6,500; of dist. supplied, 3,000.

No. consumers, 280.

Price gas: Light, gross, \$2; Fuel, gross, \$1.50.

ONTARIO.

Barrie Gas Co., Ltd., Barrie.

RRs.: Gr. Trunk. S. B.: Lake Simcoe. Ex.: Can.

Capital stock, \$38,000.

President, D. L. McCarthy.

Sec. and treas., Lucy Payne.

Purchasing agent, O. H. Lyon.

General manager, O. H. Lyon.

Engineer, S. Sherlock.

Process manufacture, Lowe (Springer).

Price coke per ton, delivered, \$12.

Price oil per gal., delivered, 10c.

Candle-power, 16.

Calorific value, 520 B. t. u.

Max. day's send out, 29,500 c. f.

Total gas holders capacity, 46,000 c. f.

Miles of mains, approx., 9.

Street main pressures, max., 3 in.

Annual sales, approx., 7,000,000 c. f.

Gas unaccounted for, 12 p. c.

Pop. dist. supplied, 8,000; of city, 8,000.

No. meters, reg., 600; prepay., 150.

No. consumers, 750.

Price gas: Light and Fuel, gross, \$1.77; net, \$1.50.

Ranges in use, 300; heaters, 70; water heaters, 15.

No. commercial gas arc lamps, 125.

Supplies Barrie.

Belleville Gas Dept., Belleville.

RRs.: G. T.; Can. No. S. Bs.: Des. Nav.; Lake O. & Bay of Q. Co.; O. & Q. Nav. Co.; Rich. & O. Nav. Co. Ex.: Can.; Dom.

(Municipal plant.)

Debentures, \$100,000.

Bonds, \$67,000; due serially; int., 4 and 4.5 p. c.

Chairman Gas Committee, A. Robinson.

General manager, Thomas A. Gardner.

Purchasing agent, Thos. Gardner.

Engineer and supt., Thos. Gardner.

Treasurer, David Luce.

Process manufacture, Coal and Lowe.

Price coal per ton, delivered, \$6.25.

Price oil per gal., 8.5c.

Calorific value, 520 B. t. u.

Annual prod., coal gas, 25,683,000 c. f.; oil gas, 2,512,000 c. f.

By-products made: Coke, approx., 800 tons; Tar, 20,000 gals.

Max. day's send out, 90,000 c. f.

Total gas holders capacity, 52,000 c. f.

Holder pressure, max., 3.2 in.

Miles of mains, approx., 7.5.

Street main pressures, max., 2.8 in.; min., 2.1 in.

Annual sales, approx., 22,800,000 c. f.

Gas unaccounted for, 18 p. c.

Pop city, est., 12,000; dist. supplied, 9,000.

No. meters, reg., 1,010; prepay., 411.

No. consumers, 1,544.

Price gas: Light, gross, \$1.50; net, \$1.25. Fuel, gross, \$1.50; net, \$1.25.

No. public lamps, 1-5 lt. Humphrey incand.

Price Public lamp, per year, \$58.

No. commercial gas arc lamps, approx., 200.

Supplies Belleville.

Public Utilities Commission, Brockville

RRs.: B. W. & No. W.; Gr. Trunk; Can. Pac.; Mer. Mont. Line; Steamers Persia and Ocean; O. & Q. Nav. Co.; Rich. & O. Nav. Co.; C.P. & Ogd. Route; Ogd. & Alex. Bay Route; Ferry to Morristown, N. Y. Ex.: Can.; Dom.

(Municipal plant.)

Controlled by Corporation of the Town of Brockville.

Deb., \$40,527; due ann. to 1920; 4 p. c.

Pur. agent, J. A. Johnston.

General manager, J. A. Johnston.

Superintendent, F. Stotts.

Process manufacture, Lowe (Merrifield-Westcott-Pearson).

Price coal per ton, delivered, \$8.40.

Price oil per gal., delivered, 12c.

Candle-power, 18.

Calorific value, 593 B. t. u.

Annual production, 40,000,000 c. f.

Max. day's send out, 100,000 c. f.

Total gas holder capacity, 85,000 c. f.

Holder pressure, max., 3 in.

Miles of mains, approx., 13.2.

Street main pressures, max., 2.5 in.; min., 2 in.

Annual sales, approx., 40,000,000 c. f.

Gas unaccounted for, 12 p. c.

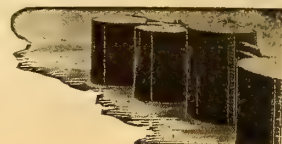
Pop. city supplied, 10,000.

USE SPECIFICATION PAINTS

We manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for
Review of Technical Paints.

Cheesman & Elliot, 100 William St., New York



No. consumers, 1,363.
 No. meters, reg., 1,358; prepay., 5.
 Price gas: Light and Fuel, net, \$1.25.
 No. ranges in use, 1,300; heaters, 387; water heaters, 411.
 No. commercial gas arc lamps, 63.
 Supplies Brockville.

ELECTRICAL DEPARTMENT.

Debentures, elec. dept., issued, \$155,000.
 System operated: Incand., A. C., 1 phase; power, A. C., 3 phase, 60 cycle.
 Generating capacity: Lighting, 1,000 kw.
 Voltage: Incand., 110; power, 110-220-550.
 Miles of overhead wires, 17.8; underground cables, 4.
 City lighting contract: Hours lighted per year: Incand., 3,800.
 No. public incand., 560; 100 watt. Price per year, \$14.
 Commercial lighting: No. incand., 25,000.
 Price current per kw. hr., net, 10c.
 Power circuits: No. motors, 129. Price per kw., 4.5c. first 50 hrs. use, 3c. next 50 hrs.; all over first 100 hrs. 2c. also \$1 per h. p. Disc, according to time used, 10 p. c. to 33 p. c.
 Output of station, kw. hrs. for year, 2,030,197.
 Generating power used, Steam; rated h. p., 1,000, and Water, rated 400 h. p.
 Cost of station boiler coal per ton, \$4.20.

Hydro-Electric Power Commission of Ontario (Central Ontario System), Cobourg.

RRs.: Gr. Trunk; Can. No.; Can. Pac.; Steamboats; Ont. car Ferry. Ex.; Can.; Dom.; C. N.

For Commissioners, etc., see Parent Companies.

Local mgr., J. E. Skidmore.
 Pur. agent, B. O. Salter, Toronto.
 New bus. mgr., J. E. Skidmore.
 Superintendent, A. W. Middleton.
 Process manufacture, Coal.
 Price gas coal per ton, delivered, \$8.20; coke, per ton, \$8.00.
 Calorific value, 600 B. t. u.
 Annual production, 8,665,115 c. f.
 Max. day's send out, 45,000 c. f.
 Gas holder capacity, 18,000 c. f.
 Holder pressure, 3 in.
 Miles of mains, approx., 8.5.
 Street main pressures, max., 2.5 in.; min., 2 in.
 Annual sales, approx., 7,497,500 c. f.
 Gas unaccounted for, 18 p. c.
 Pop. dist. supplied, 5,000.
 No. consumers, 461.
 No. meters, reg., 150; prepay., 350.
 Price gas: Light and Fuel, \$1.50.
 Ranges in use, 225.
 No. commercial gas arc lamps, 5.
 Supplies Cobourg.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 Sub-station capacity: Lighting and power, 600 kw.
 Voltage: Incand., 110; power, 220, 440 and 550.
 City lighting contract: Hours lighted per year, 4,000.
 No. public incand., 17 500-watt ornamental.
 Price per year, \$47.50; 312-100 watt, regular, at \$13.
 Price current per kw. hr., gross, 10c., less 20 p. c. or differential.
 Power circuits: No. motors, 65.
 Power supplied by Commission from 44,000 v. transmission lines.

Stormont Electric Light and Power Co., Ltd., Cornwall.

RRs.: N. Y. C.; G. T.; C. P. R. S. Bs.: Mer. & Mont. Line; Strs. Persia and Ocean; Fort C. & Cornwall Line; O. & Q. Nav. Co.; Rich. & O. Nav. Co. Ex.: Am.; Can.

(Operators of the Cornwall Gas Works.)
 President, S. H. Ewing.
 Secretary and treas., E. A. Macnutt.
 Manager, C. U. Peeling.
 Pur. agt., C. U. Peeling.
 Process manufacture, Lowe.
 Calorific value, 520 B. t. u.
 Miles of mains, approx., 5.
 Street main pressures, max., 3 in.
 Annual sales, approx., 7,000,000 c. f.
 Pop. dist. supplied, 3,500.
 Price gas: Light and Fuel, \$1.125, net.

ELECTRICAL DEPARTMENT.

(Business conducted under name of Stormont Electric Light and Power Co.)

Voltage: incand., 110; power, 220 and 550.
 No. public incand., 310; lighted all and every night.
 Price incand., Public, per year, 70 watt, \$10.
 Price incand., Com'l, per kw. hr., gross, 10c.
 Disc., 30 p. c.
 Power used, Water and Current from St. Lawrence Power Co., Mille Roches.

Deseronto Gas Works, Deseronto.

RRs.: Bay of Q.; C. N. S. Bs.; Des. Nav.; Lake O. & Bay of Q.; O. & Q. Nav. Co.; Rich. & O. Nav. Co. Ex.: Can.; Dom.

(Municipal plant.)

Bonds, \$16,478; due 1937; int., 4.5 p. c.
 Chairman Gas Committee, Thomas J. Naylor.
 Town treas., Henry R. Bedford.
 Pur. agent, Thomas J. Naylor.
 Process manufacture, Lowe (Goode).
 Price coal per ton, delivered, \$8.60.
 Price oil per gal., delivered, 12.75c.
 Candle-power, 20.
 Max. day's send out, 22,000 c. f.
 Gas holder capacity, 20,000 c. f.
 Miles of mains, approximate, 5.5.
 Street main pressures, max., 2 in.
 Annual sales, approx., 2,000,000 c. f.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Pop. dist. supplied, 3,000.
 Consumers and meters, 128.
 Price gas: Light and Fuel, gross \$1.50.
 Supplies Deseronto.

Board of Light and Heat Commissioners, Guelph.

RRs.: Gr. Trunk; Can.-Pac. Ex.: Can.; Dom.

(Municipal plant.)

Debentures, \$120,000; 30 years; 4 and 4.5 p. c.

Chairman, George Sleeman.

Secretary and pur. agent, John J. Heeg.

Treasurer, (Miss) L. A. Yule.

Pur. agent, J. J. Heeg.

Superintendent gas, H. S. Williams.

Engineer, H. S. Williams.

Supt. elec., J. J. Heeg.

Process manufacture, Lowe and Coal.

Price coal per ton, delivered, \$4.75.

Price oil per gallon, delivered, 9c.

Calorific value, 575 B. t. u.

Annual prod., coal gas, 67,000,000 c. f.; water gas, 16,000,000 c. f.

By-products made: Coke, 3,000 tons; Tar, 86,000 gals.; Ammonia, 210,000 lbs.

Total gas holders capacity, 180,000 c. f.

Holder pressure, max., 6.25 in.

Max. day's send out, 300,000 c. f.

Miles of mains, approx., 30.

Street main pres., max., 5 in.; min., 1.5 in.

Annual sales, approx., 68,000,000 c. f.

Gas unaccounted for, 13 p. c.

By-products sold: Coke, 3,000 tons; Tar, 8,600 gals.; Ammonia, 210,000 lbs.

Pop. dist. supplied, 17,000; of city, 17,000.

No. consumers, 3,000.

No. meters, reg., 2,500; prepay., 500.

Price gas: Light and Fuel, \$1.30, under 16,500 c. f., \$1.30; under 65,000 c. f., \$1.25; 65,000 c. f. and over, \$1.20.

No. gas ranges in use, 1,000; water heaters, 25.

No. commercial gas arc lamps, 35.

Supplies Guelph.

ELECTRICAL DEPARTMENT.

System operated: Incand., 25 and 60 cycle; power, 25 cycle, 3 phase, A. C.

Generating capacity: Lighting, 1,500 kw.; power, 3,000 kw.

Voltage: incand., 110-220; power, 550.

City lighting contract: Lamps lighted all night, every night.

No. public lamps, 1,189-100 watt Tungsten.

Price per year, \$8.50.

Commercial lighting: No. incand., 25,000 com., 12,000 dom.

Price current per kw. hr., avg., 4.5c.; disc., 20 p. c. Domestic, 4c. to 10c.

Other lamps used, 4-8-16-32 c. p. carbon; 10 to 1,000 watt Tungstens.

Power circuits: No. motors, 160; price per kw. about 1c. Disc., 10 p. c.

Output of station, kw. hrs. for year, 5,000,000.

Generating power used, Hydro-electric, rated about 5,000 h. p.

Hydro-Electric Power Com. of Ont. transmit power from Niagara Falls at 110,000 volts.

The Steel Company of Canada, Ltd., Hamilton.

RRs.: (See United Gas & Fuel Co., Ltd.)

Capital stock, pref. auth., \$10,000,000; issued, \$6,496,300; com., auth., \$15,000,000; issued, \$11,500,000.

Annual dividend, preferred, 7 p. c.

Bonds, \$8,177,300; due —; int., 6 p. c.

Notes, \$845,000; due 1920; int., —.

President, Robert Hobson.

Vice-Pres., Cyrus A. Birge.

General manager, F. H. Whitton.

Asst. gen'l mgr., Ross H. McMaster.

Sec'y and treas., H. H. Champ.

Asst. treas., H. S. Alexander.

Asst. sec'y., Corbett F. Whitton.

80 Wilputte coke-ovens under construction.

United Gas and Fuel Co., Ltd., Hamilton.

RRs.: Gr. Trunk; Can. Pac.; H. G. & B. (El.); T., H. & B. S. Bs.: Bet. Hamilton and Toronto, and bet. Montreal and Toronto; Rich. & O. Nav. Co. Ex.: Am.; Can.; Dom.

Successor to Hamilton Gas Light Co.

Capital stock, \$1,000,000.

Bonds, \$942,600; due 1918; int., 6 p. c.

President, P. V. Byrnes.

Secretary, F. A. Brevillier.

Treasurer and pur. agt., P. V. Byrnes.

General mgr., P. V. Byrnes.

New bus. mgr., John T. Byrnes.

Engineer, P. V. Byrnes.

Superintendent, Jas. McRae.

Process manufacture: Coal and Lowe.

Price of coal per ton, delivered, \$6.

Price of oil, per gal., 12c.

Candle-power, 18; cal. val., 600 B. t. u.

Annual production, coal-gas, 80,214,800 c. f.; water gas, 120,000,000 c. f.

By-products made: Coke, 4,202.18 tons; tar, 73,108 gals.

Max. day's send out, 2,285,000 c. f. (mixed with natural).

Total gas holders capacity, 350,000 c. f.

Holder pressure, 5 in.

Miles of mains, approximate, 62.5.

Street main pres., max., 5 in.; min., 2 in.

Annual sales, approx., 200,000,000 c. f.

Gas unaccounted for, 17 p. c.

By-products sold: Coke, 2,480.67 tons; tar, 65,000 gals.

Pop. dist. supplied, 114,000; of city, same.

Consumers and meters, 1,000.

Price gas: Light and Fuel, gross, 95c.; net, 90c.

No. ranges, 16,800; heaters, 22,000; water heaters, 5,460.

Supplies Hamilton.

See also Natural Gas Dept.

HUNT COAL AND COKE VALVES—simplex, duplex, Seaton or "S," Briggs, etc., especially designed for controlling coal and coke, movement in gas works are described in detail in Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Light, Heat, Power and Water Dept., Kingston.

RRs.: Bay of Quinte; Kings. & Penn.; Gr. Trunk. S. Bs.: Rideau Lakes Nav.; Mer. & Mont. Line; strs. between Montreal and Toronto; O. & Q. Nav. Co.; Lake O. & Bay of Q. Co.; St. L. Riv. Co.; Rich. & O. Nav. Co.; Lake O. Nav. Co. Ex.: Am.; Can.; Dom.

(Municipal plant.)

Bonds, \$271,025; 30 years; interest, 4, 4.5 and 5 p. c.

Mayor, J. W. Hughes.
Chairman Lighting Com., G. Y. Chown.
Treasurer, O. V. Bartels.
General manager, C. C. Folger.
Purchasing agent, C. C. Folger.
Engineer, John Evans.
Electrician, W. C. Rogers.
Process manufacture, Oil.
Price coal per ton, delivered, \$9.
Price oil per gal., delivered, 11.8c.
Candle-power, 21.
Calorific value, 550 B. t. u.
Annual production, 79,038,000 c. f.
Max. day's send out, 290,000 c. f.
Total gas holders capacity, 150,000 c. f.
Holder pressure, 3 in.
Miles of mains, approx., 25.
Street main pres.: max., 3 in.; min., 2 in.
Annual sales, approx., 68,763,000 c. f.
Gas unaccounted for, 13 p. c.
Pop. city supplied, 20,000.
No. meters, reg., 3,000; prepay., 1,000.
No. consumers, 3,100.
Price gas: Light and Fuel, net \$1.50.
Supplies Kingston.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C. and D. C.; power, A. C., three phase, 60 cycles.
Generating capacity: Lighting, 1,700 kw.
Voltage: At arc, 80; incand., 110; power, 110-220 and 550.
City lighting contract: Hours lighted, 3,000.
No. public arcs, 227; 470 watt. Price per year, \$60.
No. public incand., 41; 100 watt. Price per year, \$20.
Commercial lighting: Price current per kw. 5c. and 3c. per 100 ft. floor area.
Power circuits: No. motors, 100; price per kw. hr., 3c., 2c. and 1c. per kw.
Output of station, kw. for year, 3,259,320.
Generating power used. Hydro-elec.; rated h. p., 900.
Cost of station boiler coal, per ton, \$8.60.
The Department also furnishes power to operate street railway at 1.2c per kw. hr.

Kitchener Light Commissioners, Kitchener.

RRs.: Gr. Trunk; Galt, P. & H. and P. & B. (El.). Ex.: Can.; Dom.

(Municipal plant.)

Debentures outstanding, \$214,243.96: int., 5 p. c., 5.5 p. c. and 6 p. c.
Chairman, Geo. Lippert.
Secretary and treas., G. H. Clarke.

General manager, V. S. McIntyre.
Superintendent and pur. agt., V. S. McIntyre.
Process of manufacture, Lowe (Oil) and Coal.
Price coal per ton, delivered, \$7.62.
Price oil per gal., delivered, 11.5c.
Calorific value, 531 B. t. u.
Annual prod., coal gas, 52,551,000 c. f.; oil gas, 19,199,000 c. f.
By-products made: Coke 2,046 tons; tar, 54,837 gals.
Gas holder capacity, 460,000 c. f.
Max. days send out, 275,000 c. f.
Miles of mains, approx., 38.
Street main pressure, max., 4.5 in.; min., 3.5 in.
Annual sales, approx., 61,134,600 c. f.
Gas unaccounted for, 15 p. c.
By-products sold: Coke, 1,461 tons; tar, 54,837 gals.
Pop. city supplied, 19,695.
No. consumers, 3,320.
No. meters, reg., 2,985; prepay., 335.
Price gas: Light and Fuel, gross, \$1.25; net, \$1.15.
No. commercial gas arc lamps, 24.
Supplies Kitchener.

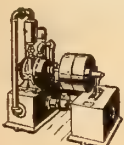
ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C. 25 cycles. Power, 25 and 60 cycles.
Generating capacity: Lighting, 750 kw.; power, 3,000 kw.
Voltage: Arcs, series; incand., 110-220-250; power, 550, 2,200, 13,500.
City lighting contract: All night schedule.
No. public incand., 1,622; 100 watt. Price per year, \$9 per lamp. Also 9-500 watt at \$33 per year, and 4-250 watt at \$17.35 per year.
Price current per kw. hr., gross, 4c., 2c. and 0.4c. Disc., 10 p. c.
Domestic rates, 3c. per 100 sq. ft. area charge plus 2c. and 1c. per kw. hr. less 10 p. c.
Power circuits: No. motors, 400. Price per kw. hr.: 1st 50 hrs., 1.83c; 2d 50 hrs., 1.233c.; balance, 0.156c. Disc. class "A," 10 at 10 p. c.; class "B," 10, 10 and 10 p. c.; "C," 10, 10 and 10 p. c.; class "D," 33 1/3 and 10 and 10 p. c.
Generating power used, Hydro-electric, rated 2,300 h. p. average load.
(Power purchased from Hydro-Electric Power Co. at 13,200 v., 25 cycle on highest 20 minute mo. peak.)

City Gas Co. of London, London.

RRs.: Can.-Pac.; Mich. Cen.; Pere Marq.; Gr. Trunk; So. W. Trac. (El.); Lon. & Pt. Stanley (El.). Ex.: Am.; Can.; Dom. W. F.

President, Sir Geo. Gibbons, K. C.
Vice-pres., S. Cummings, M. D.
Secretary and treasurer, R. W. Kidner.
Asst. sec'y, J. W. Cahill.
Managing director, Jas. C. Duffield.
New bus. mgr., J. M. H. Young.
Pur. agent and supt., J. M. H. Young.
Proc. manuf., Coal and Lowe (Duffield pat.).
Price of coke per ton, delivered, \$9 and \$9.50.



ELIMINATE GAS WASTE by inefficient combustion. Insist on your consumers getting the maximum of heat units they pay for. THE NEEDHAM HIGH PRESSURE GAS SYSTEM will produce the desired results.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Candle-power, 16; calorific value, 530 B. t. u.
 Annual production: Coal gas, 125,000,000 c. f.;
 water gas, 180,000,000 c. f.
 Max. day's send out, 1,106,000 c. f.
 Gas holder capacity, 600,000 c. f.
 Miles of mains, approx., 85.
 Street main pressures, max., 4 in.; min., 2 in.
 Annual sales, approx., 260,000,000 c. f.
 Gas unaccounted for, 16 p. c.
 Pop. dist. supplied, 60,000; of city, the same.
 Consumers and meters, 10,400.
 Price gas: Light and Fuel, gross, \$1.20; net,
 90c.
 Ranges in use, 7,100; heaters, 1,500; water
 heaters, 1,400.
 No. commercial gas arc lamps, 2,500.
 Supplies London, Ontario.

Hydro-Electric Power Commission of Ontario, Nap- anee.

RRs.: C. N. R.: Gr. Trunk. Ex.: Can.; Dom.

For Commissioners, etc., see Parent Compa-
 nies.
 Local mgr., Chas. A. Walters.
 Process manufacture, Lowe and Coal; 100 p. c.
 coal gas.
 Price of coke per ton, del'd, \$8; coal per
 ton, \$8.30.
 Candle-power, 19.
 Gas holder capacity, 16,000 c. f.
 Max day's send out, 25,000 c. f.
 Miles of mains, approx., 5.
 Street main pressure, max., 3 in.
 Annual sales, approx., 4,200,000 c. f.
 Gas unaccounted for, 16 p. c.
 Pop. city supplied, 3,000.
 Consumers and meters, 346.
 Price gas: Light and Fuel, net, \$1.50.
 Ranges in use, 200; heaters, 50; water heat-
 ers, 60.
 No. commercial gas arc lamps, 10.
 Supplies Napanee.

Niagara Falls Gas Co., Ltd., Niagara Falls.

(See Niagara Falls, N. Y.)

Hydro-Electric Power Commission of Ontario, Oshawa.

RRs.: Gr. Trunk; C. P. P. and C. N. R. Ex.:
 Can.; Dom.; Can. No.

(Formerly City Gas Co. of Oshawa.)
 Head office, Toronto, Ontario.
 Chairman, Col. Sir Adam Beck, K. B.
 Commissioners: Sir Adam Beck, Hon. I. B.
 Lucas, Col. W. K. McNaught.
 Secretary, W. W. Pope.
 Chief engineer, Frederick A. Gaby.
 Process manufacture, Lowe.
 Price of coal per ton, delivered, \$8.56.
 Price oil per gal., delivered, 10.53c.
 Candle-power, 16.
 Calorific value, 550 B. t. u.
 Gas holder capacity, 60,000 c. f.
 Holder pressure, 3.5 in.
 Miles of mains, approx., 12; street main pres-
 sures, max., 3 in.; min., 2 in.
 Max. day's send out, 110,000 c. f.
 Annual sales, approx., 24,000,000 c. f.
 Gas unaccounted for, 9 p. c.

Pop. of city, 9,000; dist. supplied, the same.
 No. consumers, 1,310.
 No. meters, reg., 789; prepay., 544.
 Price gas: Domestic, \$1.40; indus., \$1.25.
 Gas appliances in use: Ranges, 1,000; heaters,
 125; water heaters, 65.
 Supplies Oshawa and Cedardale.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Power, single phase and 3 phase.
 Transformer capacity, 2,100 kw.
 Voltage: Incand., 110. Power, 220, single ph.
 550, 3 ph.
 City lighting: No. public incand., 450, 100 c. p.;
 price per year, \$12.
 Residence: 3c. per 100 sq. ft. min. on 1,000
 sq. ft., max. on 3,000 sq. ft. 3c. per kw. hr.
 up to 3 kw. hrs. for each 100 sq. ft. and
 1.5c. all over.
 Commercial: 6c., 3c. and 0.6c.; min. bill, 50c.;
 disc., 10 p. c.
 Generating power used: Water, rated 30,000
 h. p.

Ottawa Gas Co., Ottawa.

RRs.: N. Y. & O.; Can.-Pac.; Gr. Trunk S.
 Bs.: O. Riv. Nav. Co.; Rideau Lakes
 Nav.; O. Forwarding Co.; Perth Line.
 Ex.: Am.; Dom.; Can.

Operated by Ottawa Light, Heat & Power Co.,
 Ltd.

(For capitalization, bonds, etc., see Appendix.)

President, T. Ahearn.

Vice-president, James Manuel.

Secretary and treasurer, D. R. Street.

Purchasing agent, P. M. Grimes.

General manager, T. Ahearn.

Gen. supt., A. A. Dion.

Engineer, F. Elcock.

New-business manager, W. H. McIntyre.

Process manufacture, Coal.

Annual production, 345,000,000 c. f.

By-products made and sold: Coke, 9,500 tons;
 tar, 357,000 gals.; ammonia, 130,000 lbs.

Price coal per ton, delivered, \$6.34.

Calorific value, 535 B.t.u.

Total gas holders capacity, 1,500,000 c. f.

Holder pressure, 9 in.

Max. day's send out, 1,000,000 c. f.

Miles of mains, approx., 126.

Street main pres., max., 5.5 in.; min., 3 in.

Annual sales, approx., 310,500,000 c. f.

Gas unaccounted for, 10 p. c.

Pop. dist. supplied, 75,000; of city, 100,000.

No. meters, reg., 9,500; prepay., 5,000.

No. consumers, 14,500.

Price gas: Light and Fuel, reg., \$1.25 gross,
 for 1st 40,000 c. f.; \$1.20 for next 25,000;
 \$1.15 next 35,000; \$1.10 next 100,000; and
 \$1.05 all in excess; serv. charge, 18c. (10
 lt. meter); min., 60c. Prepay., set. 204
 c. f. for 25c.

Ranges, 11,000; other appliances, 3,200.

Supplies the City of Ottawa and suburbs.

GAS EXHAUSTERS

Efficiency



GAS BOOSTERS

*For Industrial
 Appliances*

Public Utilities Commission. Gas Dept., Owen Sound.

RRs.: Can.-Pac.; Gr. Trunk. S. Bs.: Can.-Pac., Upper Lake Serv.; No. Nav. Lines; Geo. Bay & L. S. Line; U. S. & Dom. Co.; Alg. Nav. Co. Ex.: Can.; Dom.

(Municipal plant.)

Bonds outstanding, \$109,000; due 1923, 1924, 1926, 1931; int., 4 and 4.5 p. c.
Chairman Pub. Utilities Com., John Legate.
Treasurer, A. F. Armstrong.
Secretary, John Parker.
Pur. agt. and gen. mgr., J. R. McLinden.
Process manufacture, Coal and Oil.
Price coke per ton, delivered, \$3.90.
Price of oil per gallon, 9.5c.
Candle-power, 16. Calorific value, 565 B.t.u.
Annual production, coal gas, 17,040,500 c. f.; oil-gas, 2,300,000 c. f.
By-products made: Coke, 670 tons; tar, 14,000 gallons.
Max. day's send out, 70,000 c. f.
Tctal gas holders capacity, 60,000 c. f.
Holder pressure, max., 4 in.
Miles of mains, approx., 33.
Street main pressures, max., 4 in.; min., 3.5 in.
Annual sales, approx., 16,000,000 c. f.
Gas unaccounted for, 11 p. c.
By-products sold: Coke, 670 tons; tar, 12,000 gallons.
Pop. city supplied, 12,566.
No. meters, reg., 1,000; prepay., 400.
No. of consumers, 1,400.
Price gas: Light and Fuel, gross, \$1.25; net, \$1.
No. gas ranges in use, 600; heaters, 42; water heaters, 27.
No. commercial gas arc lamps, 17.
Supplies Owen Sound.

ELECTRICAL DEPARTMENT.

System operated: Arc, incand. and power, A.C. 3 phase, 60 cycle.
Generating capacity: Lighting and power, 2,500 kw.
Voltage: 2,200; incand., 110; power, 550.
City lighting contract: No. hours each lamp is lighted per year, 3,000 (all night schedule).
No. public incand, 451; 53—400 c. p.; 249—60 c. p.; 149—100 c. p. Price per year, total, \$7,000.
Commercial lighting. No. incand., 28,500.
Price current per kw. hr., gross, 4.5c. to 2.25c. Disc., 10 and 10 p. c.
Domestic rates, 3c. per sq. ft., 4.5 to 2.25c. per kw. hr.
Power circuits: No. motors, 135. Price per kw. hr., 4.5c., 2.33c. and 0.3c. Disc., 10 and 10 p. c.
Output of station, kw. for year, 2,172,627.
Generating power used: Steam and water; rated h. p., 3,000.
Cost of station boiler coal per ton, \$4.25.
Hydro power installed, 1916, transmission from Eugene Falls, 30 miles distant.

Hydro-Electric Power Commission of Ontario, Peterborough.

RRs.: Gr. Trunk; Can.-Pac. Trent Valley Canal. Ex.: Dom.; Can.

(Controlled by Hydro-Electric Power Com'n.)
For Commissioners, etc., see Parent Companies.

Local mgr., W. G. Ferguson.
Process manufacture, Lowe.
Price of coal per ton, delivered, \$9.30.
Price of oil per gal., 14.03c.
Candle-power, 16.
Calorific value, 550 B. t. u.
Annual production, 40,577,100 c. f.
Max. day's send out, 220,000 c. f.
Total gas holders capacity, 150,000 c. f.
Holder pressure, 7 in.
Miles of mains, approximate, 28.
Street main pressures, max., 3 in.; min., 2.5 in.
Annual sales, approx., 33,586,500 c. f.
Gas unaccounted for, 17.2 p. c.
Pop. dist. supplied, 20,000; of city, 25,000.
No. meters, reg., 300; prepay., 2,300.
No. consumers, 2,429.
Price gas: Light and Fuel, gross, \$1.60; net, \$1.40.
No. gas ranges, 2,310; heaters, 25; water heaters, 300.
No. commercial gas arc lamps, 50.
Supplies Peterborough.

Port Hope Gas Co., Port Hope.

RRs.: G. Trunk. S. Br.: Lake O. & Bay of Q. Co.; Rich. & Ont. Nav. Co. Ex.: Can.

Capital stock, \$34,860 com.; int., 4.5 p. c.
President, J. W. Clemesha.
Treasurer, R. Gray.
Superintendent, R. Gray.
Process manufacture, Coal.
Price coal per ton, delivered, \$4.15.
Candle-power, 18.
Total gas holders capacity, 30,000 c. f.
Max. day's send out, 17,000 c. f.
Miles of mains, approx., 9.
Street main pressures, max., 1.5 in.; min., 1 in.
Annual sales, approx., 5,000,000 c. f.
Gas unaccounted for, 4.13 p. c.
Pop. city supplied, 5,000.
No. meters, reg., 359.
No. consumers, 359.
Price gas: Light, gross \$2.50; net \$2. Fuel, gross \$1.50; net \$1.25.
Ranges, 150; heaters, 10; water heaters, 10.
(No 1918 report.)

City Gas Plant, St. Catharines.

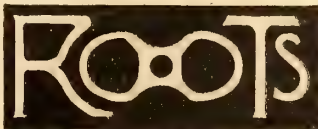
(See Natural Gas Dept. Artificial plant in reserve, for emergency only.)

City of St. Thomas Light, Heat and Power Dept., St Thomas.

RRs.: Mich. Cen.; Pere Marq.; Gr. Trunk; Wabash; Can.-Pac.; So. W. Trac. (El.).
Ex.: Am.; Can.; Dom.; Pac.

(Municipal plant.)

Bonds (debenture), \$160,000; int., 4.5 and 5 p. c.
Chairman, W. R. Jackson.

WASH OIL PUMPS*Durability*

P.H. & F.M. ROOTS CO.
Connersville
Indiana
New York
Chicago

Secretary, C. R. Southern.
 Treasurer, E. H. Caughell.
 Pur. agent and mgr., E. H. Caughell.
 New bus. mgr., E. H. Caughell.
 Process manufacture, Coal and Lowe (Duffield).
 Price coal per ton, delivered, \$7.75; coke per ton, \$7.
 Price oil per gal., delivered, 6c.
 Annual production, coal gas, 87,500,000 c. f.
 Candle-power, 17. Calorific value, 600 B.t.u.
 By-products made: Coke, 4,500 tons; tar, 110,000 gals.; ammonia liquor, 20,000 gals.
 Max. day's send out, 360,000 c. f.
 Total gas holders capacity, 265,000 c. f.
 Miles of mains, approx., 32.
 Street main pressures, max., 3.5 in.; min., 2 in.
 High pressure mains, 1 mile.
 Annual sales, approx., 76,000,000 c. f.
 Gas unaccounted for, 13.1 p. c.
 Pop. dist. supplied, 18,000; of city, the same.
 No. consumers, 3,310.
 No. meters, reg., 3,274; prepay., 36.
 Price gas: Light and Fuel, gross, \$1.30; net \$1.20.
 Ranges in use, 1,600; water heaters, 20.
 Supplies St. Thomas.

ELECTRICAL DEPARTMENT.

Department operated under name of Hydro-Electric Commission of St. Thomas.
 Chairman, W. K. Sanderson.
 Bonds apportioned to electric plant, \$120,000.
 System operated: Hydro electric service, 25 cycle; arcs, D. C.; incand., A. C.; power, A. C.
 Transformer capacity, total, 3,000 kw.
 Voltage: Arcs, series; incand., 110; power, 550.
 City lighting contract: Hours lighted per year: Arc, all night, every night.
 No. public arcs, 20; 272 watt. Price per year, \$55.
 No. public incand.: 990-100 watt tungsten, price per year, \$9.50; 113-500 watt tungsten, at \$37.50 per annum.
 Commercial lighting: No. incand., 15,000 (estimated).
 Price current per kw. hr.: Commercial, gross, 4c. to 0.5c. Disc., 10 p. c.
 Domestic rates, 3c. per 100 sq. ft. floor space and 2c. to 1c. per kw. hr. Disc., 10 p. c.
 Power circuits: No. motors, 150. Price average, 2c. Disc., 10 p. c. Service charge of \$1 per month per h. p. connected.
 Output of station, kw. hrs. for year, 5,000,000.
 Power purchased from Hydro-Electric Power Commission of Ontario; generated at Niagara Falls.

Algoma Steel Corporation, Ltd., Sault Ste. Marie.

RRs.: Alg. Cen. & H. B.; Can. Pac. Ex.: Can., Dom.
 Controlled by the Lake Superior Corp.
 Capital stock, pref., auth. \$15,000; issued, \$10,000,000; com., \$15,000.
 Bonds, \$21,491,900; due 1944-1962; int., 5 p. c.
 President, W. C. Franz.
 Vice-pres., Jas. Hawson.
 Secretary, Alex. Taylor.
 Treasurer, E. W. Shell.

Chief Engineer, Frank Smallwood.
 Pur. agent, L. L. Jacobs.
 110 Koppers ovens; length, 39 ft.; width, 17½ in.; height, 9 ft. 10½ in.
 25 Wilputte type ovens under construction.
 Coal charge per oven, 13.5 net tons. Coke yield, 73 p. c.
 Time required for coking, 19¼ hours.
 Coke used for blast furnaces. 40 p. c. of gas used for heating retorts. Surplus gas used in mills for soaking pits and under boilers.
 Calorific value, 525 B.t.u.
 By-products made: Gas, 6,600,000,000; tar, 3,600,000 gals.; ammonia sulphate, 12,000,000 lbs.; coke, 450,000 short tons.

Stratford Gas Co., Stratford.

RR.: Gr. Trunk. Ex.: Can.
 Capital stock, \$105,400.
 President, W. C. Kennedy.
 Secretary and treasurer, J. P. King.
 Superintendent, T. A. G. Watson.
 Purchasing agent, J. P. King.
 Process manufacture, Coal.
 Candle-power, 17.
 Miles of mains, approx., 15.
 Annual sales, approx., 27,000,000 c. f.
 Pop. dist. supplied, 14,000.
 No. consumers and meters, 1,170.
 Price gas: Gross, \$1.50; net, \$1.20 to \$1.
 (No 1918 report.)

Consumers Gas Co., Toronto.

RRs.: Gr. Trunk; Can. No.; T. & Y. Radial (El.); Can.-Pac. S. Bs.: Niag., St. C. & T. Nav.; Lake Ont. Nav.; Strs. bet. Hamilton and Toronto, and bet. Montreal and Toronto; Mer. & Mont. Line; Tor. Nav.; Rich. & O. Nav. Co.; Niag. Nav. Ex.: Can.; Dom.
 Capital stock, auth. \$6,000,000; issued, \$5,360,700. Annual dividend, 10 p. c.
 President, A. W. Austin.
 Vice-president, Wellington Francis, K. C.
 General manager, Arthur Hewitt.
 Secretary, John J. Armstrong.
 Pur. agent, E. G. Jackman.
 Superintendent, C. A. Jefferis.
 Supt. new-business dept., N. E. Gerry.
 Supt. Indus. fuel dept., H. E. G. Watson.
 Process manufacture, Lowe (Merrifield-Westcott-Pearson) and Coal.
 Price of coal per ton, delivered, \$4.67.
 Price of oil per gal., 6.45c.
 Annual production: Coal gas, 2,124,686,000 c. f.; water gas, 2,078,806,000 c. f.
 Max. day's send out, 13,755,000 c. f.
 Total gas holders capacity, 12,000,000 c. f.
 Miles of mains, approx., 585.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 4,000,483,100 c. f.
 Gas unaccounted for, 4.81 p. c.
 Pop. dist. supplied, 500,000; of city, 450,000.
 Consumers and meters, 108,719.
 Price gas: Light and Fuel, gross \$1; net 80c.
 No. gas ranges in use, 46,000; water heaters, 22,000.
 No. commercial gas arc lamps, 5,500.
 Supplies Toronto and suburbs.

WE ARE SPECIALISTS in the construction of plants to remove gasoline from Natural Gas by either the Compression or Absorption Method.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Waterloo Water and Light Commission, Waterloo.

RR.: Gr. Trunk. Ex.: Can.

(Municipal plant.)

Chairman Gas Com., A. Bauer.
 Secretary and treasurer, C. W. Schiedel.
 Pur. agent and mgr., C. W. Schiedel.
 Superintendent, R. O. Dobbin.
 Engineer, J. Robinson.
 New bus. mgr., C. W. Schiedel.
 Process mfr., Lowe.
 Price of oil per gal., 11.75c.
 Candle-power, 18; cal. val., 550 B. t. u.
 Annual production, 11,901,725 c. f.
 Gas holder capacity, 55,000 c. f.
 Holder pressure, max., 4 in.
 Max. day's send out, 50,000 c. f.
 Miles of mains, 14.6.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, 10,116,467 c. f.
 Gas unaccounted for, 15 p. c.
 By-products sold: Tar, 6,666 gals.
 Pop. of city supplied, 5,016.
 No. of consumers, 785.
 No. meters, reg., 763; prepay., 32.
 Price of gas, gross, \$1.50; net, \$1.40.
 No. gas ranges in use, 750; heaters, 70; water heaters, 100.

ELECTRICAL DEPARTMENT.

System operated: Incand. and power, A. C., 3 phase, 25 cycle.
 Generating capacity: Lighting and power, 1,415 h. p.
 Voltage: Incand., 110; power, 550.
 City lighting contract: No. public incand., 684; 60-150 watt. Price per year, \$8.75.
 Commercial lighting: Price, 5c., 2.5c. and ½c. Discount, 10 p. c.
 Rates for dom. use, 3c. per 100 sq. ft. floor area and 2c. to 1c. per kw. hr.
 Power circuits: No. motors, 57.
 Power, price per kw. hr., 2.5c., 1.7c. and 0.2c. Disc., 10 p. c. \$1 per h. p.
 Generating power: Water; rated h. p. 1,415.
 Current supplied by Hydro-Electric Power Com. from Niagara Falls.

QUEBEC.**Montreal Light, Heat and Power Co., Montreal.**

RRs.: N. Y. C. & H. R.; Can.-Pac.; Can. No.; Que., Mont. & So.; Inter-colonial. S. Bs.: Mer. Mont. Line; Strs. bet. Montreal and Toronto; O. & Q. Nav. Co.; Que. Co.; Ot. Forwarding Co.; Ot. Riv. Nav.; Dobells Line; Black D. S. S.; St. L. S. S.; Rich. & O. Nav.; St. L. Can. Nav. Ex.: Can.; Nat.; Dom.; Am.; C. N.

(Controlled by The Civic Investment & Industrial Co.)

(For capitalization, bonds, etc., see Appendix.)

President, Sir Herbert S. Holt.
 Vice-president, John S. Norris, Esq.
 Secretary and treasurer, C. S. Bagg.
 Asst. sec. and asst. treas., G. R. Whatley.
 Purchasing agent, C. S. Bagg.
 General manager, J. S. Norris.
 New bus. mgr., W. B. Johnson.

Engineer gas mfr. and dis., H. E. Mann.
 Indus. fuel engineers, C. D. Slimpin and W. B. Johnson.

Process manufacture, Coal and Lowe.
 Calorific value, 600 B. t. u.
 Gas holder capacity, 11,000,000 c. f.
 Miles of mains, approx., 439.
 Street main pressures, max., 5 in.; min., 3 in.
 High pressure mains, miles, 29.19; pressure, 1 to 5 lbs.
 Pop. dist. supplied, 650,000; of city, 700,000.
 No. consumers, 106,894.
 No. meters, reg., 104,228; prepay., 8,542.
 Price gas: Light and Fuel: First 7,000 c. f., 85c.; next 13,000 c. f., 75c.; all over 20,000 c. f., 70c.
 Ranges in use, 80,000; water heaters, 5,000.
 No. commercial gas arc lamps, 2,000.
 Supplies Montreal, Westmount, Maisonneuve, Verdun, Lachine, Montreal West and Outremont.

ELECTRICAL DEPARTMENT.

System: Arcs, D. C.; incand., A. C.; power, A. C. and D. C.
 Generating capacity, 140,100 kw.
 Voltage: Arcs, 70; incand., 110; power, 500 D. C.; 2,200-550-110 A. C.
 City lighting contract: Hours lighted per year, arc and incand., 4,000.
 No. public lamps, 5,870; 4.0 and 6.6 magnetite arcs; 80 and 40 watt Tungstens.
 Commercial lighting: No. arcs, 2,331; No. incand., 1,466,584.
 Other lamps, magnetite and tungsten.
 Price per kw. hr., gross, 6c. Discount, 16 2/3 p. c.
 Generating power: Water and Steam; rated 186,800 h. p.

Quebec Railway, Light, Heat and Power Co., Quebec.

RRs.: Que. & Lake St. J.; Inter-colonial; Gr. Trunk; Can. Pac.; Can. No.; Que. Ry.; Lt. & P. Co.; Que. Cen. S. Bs.: O. & Q. Nav. Co.; No. Sh. S. S.; Que. Co.; St. L. Can. Nav.; Rich. & O. Nav. Co. Ferries to Levis & Point Levi, Que. Ex.: Can.; Dom.; Am.; C. N.

Operating Quebec Gas Co. and Frontenac Gas Co.

(For capitalization and bonds, see Parent companies.)

President, Sir R. Forget.
 Secretary, A. Lemoine.
 Treasurer, R. A. Wilson.
 Pur. agt., H. G. Bossé.
 General manager, W. J. Lynch.
 Superintendent, R. A. Wallace.
 New business supt., R. A. Wallace.
 Process of manufacture, Lowe (U. G. I. Co.)
 Price of coal per ton, delivered, \$10.50; oil per gal., 12c.
 Calorific value, 571 B. t. u.
 Annual production, 165,155,000 c. f.
 Gas holder capacity, 621,000 c. f.
 Holder pressure, 8 in.
 Max. day's send out, 612,200 c. f.
 Miles of mains, approx., 49.58.
 Street main pressures, max., 4 in.; min., 2.5 in.
 Annual sales, approx., 148,335,000 c. f.

**Tycos Temperature Instruments**

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies ®

Rochester, N. Y.



Gas unaccounted for, 10.78 p. c.
 Pop. of city, 100,000; of dist. supplied, 100,000.
 No. of consumers, 6,163.
 No. meters, reg., 4,337.; prepay., 2,000.
 Price gas: Light and Fuel, gross, \$1.50; net, \$1.
 Supplies Quebec.

ELECTRICAL DEPARTMENT.

System, A. C., 2 phase, 60 cycles.
 Generating capacity: Lighting and power, 7,500 kw.
 Voltage: Incand., 104; power, 550.
 Miles of over-head wires, 165; under-ground cables, 3 miles.
 Commercial lighting: No. arcs, 250; No. incand., 163,268—16 c. p. equiv.
 Price current per kw. hr., gross, 10c. Disc., 30 to 60 p. c.
 Power circuits: Motors, 7,193 h. p.
 Price per kw. hr., 3c. to 0.5c. and fixed charge of \$1 per h. p.
 Output of station, kw. hrs. for year 14,756,511.
 Generating power used, Water; rated h. p., 12,000.
 Power also purchased from The Laurentian Power Co.

La Cie de Gaz, Electricite et Pouvoir, St. Hyacinthe.
 RRs.: Gr. Trunk; Can.-Pac.; Inter-colonial;
 Que., Mont. & So. Ex.: Can.; Dom.

Controlled by Southern Canada Power Co., Ltd., Montreal, Que.
 Capital stock, \$115,000 issued.
 Bonds, \$24,000; due serially: interest, 5 p. c.
 President, H. T. Chalifoux.
 Secretary, L. C. Haskell.
 Treasurer, L. C. Haskell.
 Purchasing agent, L. C. Haskell.
 Superintendent, G. Pominville.
 Process manufacture, Lowe (Granger).
 Supplies St. Joseph and La Providence.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 7,200 alt., 60 cycle.
 Generating capacity: Lighting and power, 400 kw.
 Voltage: Incand., 104; power, 550.
 Output of station, kw. for year, 700,000.
 Generating power used, Steam; rated h. p., 300; Water, 600.
 Balance of power purchased from Southern Canada Power Co., Ltd.

City Gas and Electric Dept., Sherbrooke.

RRs.: Bos. & Me.; Que. Cen.; Gr. Trunk; Can. Pac. Ex.: Can.; Dom.; Am.

(Municipal plant.)

Bonds, \$50,000; due 1923-33; int., 5 p. c.
 Chairman, W. Brault.
 Gen'l mgr. and engineer, C. J. Desbaillets.
 Secretary, B. A. Dugal.
 Treasurer, E. C. Gateen.
 Superintendent, J. R. McGregor.
 Pur agent, H. C. King.
 Process manufacture, Lowe.
 Price coal per ton, delivered, \$11 to \$14.
 Price oil per gal., delivered, 14c.
 Calorific value, 600 B. t. u.

Annual prod., 40,000,000 c. f.
 Gas holder capacity, 230,000 c. f.
 Holder pressure, 7 in.
 Max. day's send out, 115,000 c. f.
 Miles of mains, approx., 25.
 Street main pressure, max., 6 in.; min., 3 in.
 Annual sales, approx., 40,000,000 c. f.
 Gas unaccounted for, 10 p. c.
 Pop. city supplied, 25,000.
 No. consumers, 1,300.
 No. meters, reg., 1,200; prepay., 100.
 Price gas: Light and Fuel, net, \$1.50.
 No. ranges in use, 1,300; heaters, 150; water-heaters, 300.
 Supplies Sherbrooke.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting, 1,200 kw.; power, 2,800 kw.
 Voltage: Incand., 110; power, 440.
 City lighting contract: Hours lighted, all night and every night, 4,200 hrs.
 No. public incand., 1,450; 50-75 watt; 1400-100 watt. Price per year, \$10,000 (for all.)
 Commercial lighting: No. incand., 50,000.
 Price current per kw. hr., gross, 6c., commercial. Disc. 10c., 10 days.
 Power circuits: No. motors, 250.
 Price current per kw. hr., 1c.
 Other uses, electric furnaces.
 Output of station, kw. for year, 15,000,000.
 Generating power used, Water; rated h. p., 5,000.

Gas Dept. Corporation of Sorel, Sorel.

RRs.: Que., Mont. & So.; Rich. & O. Nav. Co.; St. L. Can. Nav. Ex.: Can.; Dom.

(Municipal plant.)

Chairman lighting com., Narc. Robillard.
 Secretary, A. O. Cartier (City Clerk).
 Treasurer, J. A. G. Paulet (City Treasurer).
 Gen'l mgr. and pur. agent, L. J. W. Messier.
 Superintendent, G. U. Gregoire.
 Process manufacture, Coal.
 Price coal per ton, delivered, \$13.
 Candle-power, 17.
 Annual production, 6,300,000 c. f.
 By-products made: Coke, 200 tons; tar, 6,110 gallons.
 Gas holder capacity, 20,000 c. f.
 Holder pressure, 3 in.
 Max. day's send out, 25,000 c. f.
 Miles of mains, approx., 5; pressure, 3 in. max., 2.5 in. min.
 High pressure mains, 2.5 miles; pressure, 3 lbs.
 Annual sales, approx., 4,600,000 c. f.
 Gas unaccounted for, 28 p. c.
 By-products sold: Coke, 120 tons; tar, 6,110 gallons.
 Pop. of city supplied, 9,229.
 No. consumers, 400.
 No. meters, reg., 250; prepay., 150.
 Price gas: Light and Fuel, gross, \$2.50; net, \$2.
 Ranges in use, 400; heaters, 25; water heaters, 50.
 Supplies Sorel.



Williams' "Vulcan" Chain Pipe Vise

Portable—Broadly Adjustable—Attachable Anywhere

J. H. WILLIAMS, 74 Richards St., Brooklyn, N. Y.

MEXICO

Compania de Gas de Guadalajara, Guadalajara, Jalisco.

Controlled by The W. F. Boardman Co.
(Company non-operating.)

Mexican National Gas Co., Mexico, Federal District.

General office, Security Bldg., Los Angeles, Cal.

Capital stock, pref. auth., \$500,000; issued, \$255,100; common, auth., \$2,000,000; issued, \$1,334,900.

Bonds, \$595,100; due 1960; int., 6 p. c.

President, E. L. Doheny.

Secretary, O. D. Bennett.

Treasurer, Norman Bridge.

General manager, Neil D. McPhail.

Process manufacture, Oil.

Miles of mains, approx., 75.

Gas holder capacity, 600,000 c. f.

Pop. of city, 450,000.

Plant not in operation.

Monterey Railway, Light and Power Co., Monterrey, Nuevo Leon.

President, Sir Wm. Mackenzie.

General manager, Lewis Lukes, Toronto, Canada.

Process manufacture: Coal.

Price coal per ton, delivered, \$18 (Mex.).

Candle-power, 17; calorific value, 600 B. t. u.

Annual production, 5,872,010 c. f.

Gas holder capacity, 100,000 c. f.

Holder pressure, 6 in.

Miles of mains, approx., 11.5.

High pressure mains, miles, 12; pressure, 5 lbs.

Street main pressures, max., 5 in.; min., 3.5 in.

Max. day's send out, 36,700 c. f.

Annual sales, approx., 5,367,915 c. f.

Gas unaccounted for, 8 p. c.

Pop. of city, 81,000; of dist. supplied, 50,000.

No. consumers, 162; meters, 175.

Price of gas: 10c. and 8c. Mex. per cubic metre.

Gas appliances in use: Ranges, 149; heaters, 60; water heaters, 52.

No. commercial gas arc lamps in use, 12.

Supplies Monterrey.

ELECTRICAL DEPARTMENT

System operated: incand. and power, A. C., 3 phase, 60 cycle.

Generating capacity: Lighting and power, 2,500 kw.

Voltage: Incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, incand., 3,600.

No. public incand., 1,527; 50 watt. Price per year, \$29.79.

Commercial lighting: No. incand., 13,464; 50 watt equiv.

Price current per kw. hr., gross, 20c. Mex., and a flat rate of from 0.5c. to 1.5c. per c. p.

Power circuits: No. motors, 205.

Power price, 2.5c. to 9.3c. Mex.

Output of station, kw. hrs. per year, 336,242.

Generating power used, Steam; rated 4,000 h. p.

Arizona Gas and Electric Co., Nogales.

(See report under Nogales, Ariz.)

United Gas and Electric Improvement Co., Merida, Yucatan.

Capital stock, \$125,000.

President, H. H. Barnes, 66 Broadway, New York.

Secretary, Herbert Richmond.

Treasurer, H. H. Barnes, 66 Broadway, New York.

Process manufacture, Lowe.

Price coal per ton, delivered, \$16 gold.

Price oil per gallon, delivered, 17c. gold.

Candle-power, 18.

Max. day's send out, 35,000 c. f.

Gas holder capacity, 40,000 c. f.

Miles of mains, approx., 15.

Street main pressure, max., 2.5 in.

Annual sales, approx., 8,000,000 c. f.

Gas unaccounted for, 2.5 p. c.

Pop. dist. supplied, 65,000.

No. meters in service, 600.

Price gas: Light and Fuel, net \$4.

No. public lamps, 100 Welsbachs; hours lighted, 3,000.

Price per year, \$50.

Price includes repairs, care, lighting and extinguishing.

No. ranges, 50; water heaters, 25.

Supplies Merida, Yucatan.

(No 1918 report.)

NEWFOUNDLAND

St. John's Gas Light Co., St. John's.

Capital stock auth., \$250,000; issued, \$160,000.

Annual dividend, 6 p. c.

President, Hon. E. R. Bowring.

Secretary and treasurer, W. H. Rennie.

Gen'l mgr. and pur. agent, W. H. Rennie.

Engineer, Fred M. Ruggles.

Superintendent, Fred M. Ruggles.

New bus. mgr., W. H. Rennie.

Process manufacture, Coal and Lowe (Merrifield-Westcott-Pearson).

Annual prod., coal gas, 46,000,000 c. f.; water gas, 18,000,000 c. f.

Max. day's send out, 300,000 c. f.

Gas holder capacity, 200,000 c. f.

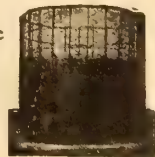
Candle-power, 16.

Calorific value, 570 B. t. u.

Miles of mains, approx., 21.

Coal Gas Plants, Water and Gas Works Appliances, Hydraulic Machinery, Pumping Engines and Purifiers

R. D. WOOD & CO., PHILA., PA.



Street main pressures, max., 5 in.; min., 2 in.
 Annual sales, approx., 57,763,000 c. f.
 Gas unaccounted for, 8 p. c.
 Pop. dist. supplied, 32,000; of city, the same.
 No. consumers, 1,100.
 No. meters, reg., 900; prepay., 350.
 Price gas: Light, gross \$2; net \$1.50 to \$2.
 Fuel \$1.
 No. public Welsbach lamps, 35.

No. hours lamp is lighted per year, 2,500.
 Contract includes repairs, care, lighting and extinguishing.
 No. ranges, 200; heaters, 325; water heaters, 75.
 No. commercial gas arc lamps, 525.
 Supplies St. Johns.
 (No 1918 report.)

PANAMA

Population, 31,048.

Colon Gas Co., Colon.

Controlled by J. C. Reed & Co., Philadelphia, Pa.
 General office, 200 Morris Bldg., Philadelphia.
 Capital stock, \$250,000.
 Bonds, \$400,000; due 1935; int., 6 p. c.
 President, Jos. J. de Kinder.
 Vice-pres., Heverin S. Reed.
 Secretary, Earl Godwin.
 Treasurer, Ralph T. Moyer.
 Purchasing agents, J. C. Reed & Co.
 Gen'l mgr. and engineer, S. P. Vecker.
 Process, Oil Gas (MacGillivray & Beals).
 Population of city, 35,000.

Panama Gas Co., Panama.

Controlled by J. C. Reed & Co., Philadelphia, Pa.
 Capital stock, \$500,000.
 Bonds, \$700,000; due 1935; int., 6 p. c.
 President, Joseph J. de Kinder.
 Vice-president, Heverin S. Reed.
 Secretary, Earl Godwin.
 Treasurer, Ralph T. Moyer.
 Purchasing agents, J. C. Reed & Co.
 Gen'l mgr. and engineer, S. P. Vecker.
 Process, Oil Gas (MacGillivray & Beals).
 Population of city, 70,000.

PHILIPPINE ISLANDS

Population, 8,879,999.

Manila Gas Corporation, Manila.

Controlled by Schweizerische Gasgesellschaft, Zuerich.
 Capital stock, \$750,000.
 Bonds, \$750,000; due 1964; int., 6 p. c.
 President, Horace L. Higgins.
 Secretary, W. D. Clifford.
 Treasurer, W. Neumark.
 General manager, E. Odrich.
 Process manufacture, Coal and Lowe.
 Price of coal per ton, delivered, \$15.
 Price of oil per bbl., \$25.
 Candle-power, 15.
 Calorific value, 562 B. t. u.
 Annual production, 140,000,000 c. f.
 Max. day's send out, 520,000 c. f.

Gas holder capacity, 275,000 c. f.
 Holder pressure, max., 8 in.
 Miles of mains, approx., 60.
 Street main pressures, max., 3 in.; min., 2.25 in.
 Annual sales, approx., 125,000,000 c. f.
 Pop. of city, 260,000; dist. supplied 150,000.
 No. consumers, 5,000.
 No. meters, reg., 4,000; prepay., 1,000.
 Price gas: Light and Fuel, \$1.14. (Rate increased to \$2.10.)
 No. public gas lamps, 100 (Paco district.)
 No. ranges, 1,200; hot plates, 4,100; heaters, 600; water heaters, 250.
 No. commercial gas arc lamps, 5,500.
 No. gas engines, 19; total h. p., 155.
 Supplies Manila.

SOUTH AMERICA

ARGENTINA.

The Bahia Blanca Gas Co., Ltd., Bahia Blanca.

London Office, 1 East India Avenue, E. C.
 Capital stock, auth., £300,000; issued, £220,000.
 Chairman Board of Directors, J. C. Im Thurn.
 Secretary, W. Upton.
 Local manager, A. M. Hunter.
 Process manufacture, Coal.
 High pressure system of gas lighting; 67,500 candle-power developed.
 Annual sales, approximate, 46,206,000 c. f.
 Gas appliances in use: Ranges, 587.
 No. commercial gas arc lamps in use, 308.
 Supplies, Bahia Blanca.

Primitiva Gas Company of Buenos Aires, Ltd., Buenos Aires.

London office, 10-11 Austin Friars.
 Capital stock, auth., pref., £2,500,000; issued, £2,499,800. Com., auth. £1,500,000; issued £1,450,345.
 President, A. E. Bowen.
 Secretary, J. M. Macmorran.
 Treasurer, Robert Grant.
 General manager and engineer (in Buenos Aires), Wm. Angus.
 Process manufacture, Coal and Lowe (Merrifield-Westcott-Pearson).
 Street mains, approximate, 1,100 miles.
 No. consumers, 200,097.
 Supplies Buenos Aires.

RELIABLE

"ANGLIRON"

RANGES

The adoption, in their construction, of all of the specifications of the National Commercial Gas Association, contributes toward all around efficiency. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Sa. Barracas Gas and Coke Co., Buenos Aires.

London office, 1 East India Avenue.

Compania de Gas de la Plata, La Plata Ensada.

Capital stock, \$1,200,000.*

President, Dr. Alberto Hueyo.

Secretary and supt., Segundo Pozzo.

Treasurer, Luis Maffiorettili.

Process manufacture, Peat-Coal.

Candle power, 14.

Population supplied, 80,000.

No. meters in service, 5,000.

Miles of main, approx., 63.

Price of gas. Light and Fuel, gross 26c. per 1,000 c. f.; net, 22c.

No. public Graetzin lamps, 864; hours lighted per year, 4,080.

Price open-flames per month, \$8 and \$12.

Consumption per burner hour, 5c. f. and 11c. f.

Contract includes repairs, care light and extinguishing.

Annual sales, approx., 56,800,000 c. f.

Sold for fuel, 30,000,000 c. f.

No. gas stoves in service, 700.

Supplies La Plata-Ensenada.

*National coin of Argentina, \$1 = 44c. gold.

Compania de Gas de Mendoza, Mendoza.**La Empresa del Gas del Rosario, Rosario.**

(Company has ceased operations.)

BRAZIL.**Bahia Tramway, Light and Power Co., Bahia.**

(Municipal plant.)

Director, Dr. Thyrso Simoes de Paiva.

Process of manufacture, Coal.

Pop. of city supplied, 314,000.

Consumers, approx., 1,000.

No. public lamps, approx., 12,000.

Ceara Gas Co., Ltd., Ceara.

London office, 9 Queen Street Place, E. C.

Cia de Gaz Paraense, Ltd., Para.

Controlled by Pará Gas Co., Ltd., 9 Cloak Lane, London, E. C., Eng.; J. G. White & Co., Ltd., operating managers.

Total capital stock of the Pará Gas Co., Ltd., held by Pará Elec. Rys. & Ltg. Co., Ltd.

Capital stock, £49,000.

Bonds, £24,900; int., 5 p. c.

Chmn., C. W. Hough, London, E. C.

Secretary, E. A. Borel, London, E. C.

Engineers and pur. agents, J. G. White & Co., Ltd., London.

Manager, Walter Bims, Pará.

Process manufacture, Coal.

Price of coal per ton, delivered, \$10.65.

Annual production, 30,000,000 c. f.

Candle-power, 15.

Calorific value, 545 B. t. u.

Gas holder capacity, 160,000 c. f.

Holder pressure, max., 2.5 in.

Max. day's send out, 120,000 c. f.

Pop. city, 150,000; dist. supplied (est.), 75,000.

Street mains, approximate, 26 miles; pressures, max., 2.5 in.; min., 1.5 in.

No. consumers, 699.

No. meters, reg., 620; prepay., 79.

Price gas: Light and Fuel, gross, 350 réis; net, 320 réis.

No. gas ranges in use, 129; heaters and water heaters, 246.

Supplies Pará.

Saccao de Iluminacao a Gaz, Pelotas.

(Municipal plant.)

Director, Emilio Lear.

Pop. district supplied, 30,000.

Mains, 45 kilometros.

Price of gas to consumers: Light, 400 réis; 350 réis.

No. public lamps, 800.

Pernambuco Gas Co., Ltd., Pernambuco.

(Controlled by Pernambuco Tramway & Power Co.)

City Gas Works, Porto Alegre.

Director, Dr. J. D. d'Oliveira.

Process manufacture, Coal.

Miles of mains, approx., 50 km.

Candle-power, 33.

No. meters, 1,083.

Price of gas: Light, 600 reis, net; Fuel, 580 reis.

No. public lamps, 1,300, including 900 Welsbach incandescent.

No. hours lamps are lighted per year, 3,650.

Annual sales, approx., 1,500,000,000 c. f.; 500,000 c. f. sold for fuel.

No. gas stoves in use, approx., 600.

Usino de Gaz, Nictheroy, Rio de Janeiro.**Societe Anonyme du Gaz de Rio de Janeiro, Rio de Janeiro.**

Controlled by Rio de Janeiro Tramway, Light & Power Co., Ltd., which is controlled by Brazilian Traction, Light & Power Co., Ltd., Toronto, Ont., Can.)

Capital stock, auth., \$50,000,000; issued, \$45,000,000.

Annual dividend, 5 p. c.

Bonds, \$25,000,000 1st mtge 5s; due 1935; and \$25,627,866; due 1958; int., 5 p. c.

President, Alexander Mackenzie.

Vice-presidents, Z. A. Lash, E. R. Wood, R. M. Horne-Payne, F. A. Huntress and Miller Lash, R. C. Brown.

Secretary, J. M. Smith.

Pur. agt., Pearson Engineering Corp., New York City.

Gen'l mgr., C. A. Sylvester, Rio de Janeiro, Brazil.

(Report below is for year 1916.)

Process manufacture, Coal-gas.

Annual production, 1,157,112,200 c. f.

By-products made: Coke, 61,020 tons; tar, 960,730 gals.

Price delivered, coal per ton, \$12.10 to \$13.18.

Candle-power, 14.

Calorific value, 600 B. t. u.

Gas holder capacity, 5,120,000 c. f.; pressure (max.), 12.48 in.

Street mains, total, 504.6 miles; pressures, max., 2.56 in.; min., 2.56 in.

High pressure mains, 16.94 miles. Pressure, 9 lbs.

Max. day send out, 3,541,593 c. f.

Annual sales, approx., 921,827,436 c. f.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH



SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Gas unaccounted for, 20.4 p. c.
 By-products sold: Coke, 52,500 tons; tar, 1,177,275 gals.
 Population of city, 940,000; dist supplied, 940,000.
 No. consumers, 20,437.
 No. meters., reg., 23,267.
 Price gas: Light and Fuel, gross, \$2.21-\$2.28. Discounts (for fuel), 3,531 c. f. and over 20 p. c.; 14,124 c. f. and over, 22.5 p. c.; 24,717 c. f. and over, 25 p. c.; 35,310 c. f. and over, 30 p. c.; 105,930 c. f. and over, 35 p. c.
 No. public incand lamps, 22,065. Price per year, \$29-\$30.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 3,940.
 Gas appliances in use: Ranges, 16,722; water heaters, 4,584.
 Supplies Rio de Janeiro.

ELECTRICAL DEPARTMENT.

Operated under the same name as Gas Co.
 System operated: Incand., 3 phase, 60 cycle; power, 3 phase, 60 cycle.
 Voltage: Incand., 120; power, 220-240.
 City lighting contract: Hours lighted per year: Arc and incand., 3,940.
 No. public arcs, 8,759; 7.5 amp. Price per year, \$115.30 to \$118.50.
 No. public incand., 937; 16-100 c. p. Price, various.
 Commercial lighting: No. arcs, 2,101; No. incand., 836,269 (includes dom. nearly all Tungsten).
 Price current per kw. hr., 11.1c. to 11.4c.
 Output of station, kw. for year, 34,305,025.
 Current purchased from Rio de Janeiro Tramway Light & Power Co.

Service de Illuminacao a Gaz e a Electricidade, Rio de Janeiro.

Compania Illuminacao a Gaz do Maranhao, Sao Luiz de Maranhao.

(No coal; out of commission.)

San Paulo Gas Co., Ltd., San Paulo.

London office, Caxton House, Westminster, S. W.
 Capital stock, pref., £150,000; common, £250,000.
 Annual div., pref. 6 p. c., com. 6.5 p. c.
 Bonds, £125,000; due 1928; interest, 5 p. c.
 President, H. Schulman.
 Secretary, G. H. Rogers.
 Manager, N. Biddell.
 Process manufacture, Coal and Lowe (Humphrey and Glasgow).
 Price of coal per ton, delivered, \$9-\$10.
 Candle-power, 14.
 Gas holder capacity, 1,500,000 c. f.
 Street mains, approximate, 370 kilometres.
 Annual sales, approximate, 700,000,000 c. f.
 Population of city, 400,000.
 No. consumers and meters, 20,300.
 Price gas: Light, net, \$2; Fuel, net, \$1.60.
 No. public lamps, 9,160.

Contract includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,000.
 Supplies San Paulo.

City of Santos Improvement Co., Ltd., Santos.

London office, 174 Gresham House.
 Capital stock, pref., £200,000; common, £800,000.
 Annual dividend, pref., 6 p. c.
 Secretary, E. H. Sulman.
 Manager, Bernard Browne.
 Process manufacture, Coal.
 Candle-power, 18.
 Population dist. supplied, 80,000.
 No. meters, 1,500.
 Price gas: Light, gross, 360 réis.
 No. public lamps, 1,317.

CHILI.

Consumidor de Gas de Chillan, Chillan.

Compania de Gas de Concepcion, Concepcion.

Headquarters at Valparaiso.
 Agents of the company in London, Henry Bath & Son.
 Capital stock, \$400,000.
 President, Ricardo H. de Ferari.
 Vice-pres., Roberto Pretot.
 Secretary, Jorje A. Halle.
 Manager, Enrique Miller.
 Candle-power, 50-60.
 Street mains, approx., 65,173 metros.
 Annual sales, approx., 1,354,185 met. cubicos.
 Sold for fuel, 370,000 c. f.
 Population, 70,000.
 Price gas: Light, gross, 40c. metro cubico; Fuel, gross, 32c. metro cubico.
 No. public Welsbach lamps, 345.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 4,015.
 No. gas stoves in use, 50.
 Supplies Concepcion.

Fabrica de Gas de Copiapo, Copiapo.

Controlled by Geo. C. Kenrick & Co., Valparaiso.
 Purchasing agents, Geo. C. Kenrick & Co.
 Manager, Percival B. Clark.
 Superintendent, Percival B. Clark.
 Engineer, Percival B. Clark.
 Process manufacture, Coal.
 Annual production, 6,000,000 c. f.
 Candle-power, 14.
 Gas holder capacity, 25,000 c. f. Pressure, max., 2.3 in.
 Street mains, approx., 4 miles. Pressures, max., 2.3 in.; min., 1.5 in.
 Max. day's send out, 20,000 c. f.
 Annual sales, approx., 4,700,000 c. f.
 Gas unaccounted for, 13.52 p. c.
 Population of city, approx., 10,000.
 No. consumers and meters, 240.
 Price gas: Light, 12 pesos; fuel, 10 pesos.
 Gas appliances in use: Ranges, 70; heaters, 20; water heaters, 18.

MacAuliffe & Co., Coquimbo.

The GOODMAN STOPPER made its first friend in 1897 and has been gaining friends ever since.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Fabrica de Gas de Lota, Lota.

Owner, Juan Contreras.
 Capital stock, \$30,000.
 Miles of mains, 5.
 Price of gas, net, \$5.
 No. of public lamps, 100.
 Price of public lamps, per year, \$84. Price includes repairs, care, lighting and extinguishing.
 No. hours each lamp is lighted per year, 1,725.
 Annual sales, approx., 12,000 metros.
 Supplies Lota.

Compania de Alumbrado, Iquique.

Capital stock, auth., \$3,000,000; issued, \$2,000,000.
 President, Alfredo F. Syers-Jones.
 Vice-president, Estevan Carcasson.
 Manager, Luis Addvis.
 Superintendent, John Anderson.
 Process manufacture, Coal.
 Street mains, approx., 10,000 metros.
 Pop. district supplied, 40,000.
 Supplies Iquique.

ELECTRICAL DEPARTMENT.

No. public arcs, 220. Price per year, \$540.
 No. public incand., 60. Price per year, \$192.
 Price current per kw. hr., \$1.30.

Compania de Gas de la Serena, Serena.

Capital stock, \$80,000.
 President, Guillermo Lyon.
 Sec., treas. and supt., Arturo V. Poso.
 Process manufacture, Coal.
 Population dist. supplied, 17,000.
 Miles of mains, approx., 5; meters, 2.
 Price of gas: Light, gross, \$10; net, \$8. Fuel, gross, \$8; net, \$6.
 Annual sales, approx., 10,000,000 c. f.
 Sold for fuel, 2,000,000 c. f.
 Supplies La Serena.

Compania de Consumidores de Gas de Santiago, Santiago.

Capital stock, issued, \$9,000,000.
 President, José Luis Coe.
 Vice-pres., Galvarino Gallardo.
 Secretary, Enrique T. Annitt.
 Manager, Pedro Errazuriz Tagle.
 Process manufacture, Oil.
 Street mains, approximate, 150 kilometres; pressure, 1.25 in.
 Annual sales, approximate, 18,293,583 cu. metres.
 Population district supplied, 500,000.
 Price gas: Light, gross, 38c.; net, 26c. Fuel, gross, 26c.; net, 23c.
 No. public lamps, 5,000.
 Contract includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 3,960.
 Supplies Santiago and suburbs.

Empresa de Gas, Tacna.**Compania de Consumidores de Gas de Talca, Talca.**

Capital, \$400,000.
 President, Pedro L. Silva.
 Vice-pres., Miguel A. Fernandez.
 Manager, Florencio Gana.

Talcahuano Gas Co., Talcahuano.**Compania de Gas de Valparaiso, Valparaiso.**

Capital stock issued, \$4,000,000.
 President, Ricardo H. de Ferari.
 Secretary and mgr., Alberto Riofrio.
 Superintendent, Federico Gibson.
 Process manufacture, Coal.
 Candle-power, 15.
 Street mains, approximate, 50 miles.
 Annual sales, approx., 10,000,000 met. cubs.
 Population dist. supplied, 200,000.
 Price gas: Light, gross, 45c. metro cubico; net, 36c. Fuel, net, 28c. metro cubico.
 Annual sales, approx., 10,000,000 metro cubicos.
 Supplies Valparaiso and Vina del Mar.

DUTCH GUIANA.**Paramaribo Gas Co., Paramaribo.****ECUADOR.****Compania de Alumbrado de Guayaquil, Guayaquil.**

Capital stock, pref., \$300,000.
 President, Carlos G. Rendon.
 Treasurer, Miguel Cucalon.
 General manager, Francis Staggs.
 Chief engineer, Juan Hill.
 Process manufacture, Oil Gas.
 Candle power 22.
 Population of city, 4,000.
 Miles of mains, 16.
 No. public lamps, 1,500, lighted 4,015 hours per year.
 Consumption, 6 c. f. per meter hour.
 Contract does not include repairs, care, lighting and extinguishing.
 Annual sales, approx., 90,000 p. cubs, including 50,000 p. cubs sold for fuel.
 No. gas stoves in use, 530.
 Lowest pressure for gas stove, 18 millimetres.
 Population of city, 80,000.
 Price gas: Light, gross, 20 sucres per cu. meter. Fuel, gross, 10 sucres per cu. meter.
 Supplies Guayaquil.

Quito Gas Co., Quito.**PERU.****Compania del Gas, Callao.****Compania de Gas de Chillan, Chillan.****Empresa del Gas de Lima, Lima.****URUGUAY.****Montevideo Gas Co., Montevideo.**

General office, 321 Dashwood House, New Broad St., London, E. C., England.
 Capital, £541,920 (\$2,633,731); 5 p. c. per cent.
 First mort. debenture stock, £28,680.
 Annual dividend, 3 p. c.
 President, Charles Hunt, M. Inst. C. E.
 Secretary, Henry Kearns.

"U" Tube Gauges of all sizes and ranges of pressure for every gas works service. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

WEST INDIES

CUBA.

Havana Electric Railway, Light and Power Co., Havana.

Capital stock, pref. \$21,000,000; com., \$15,000,000.

Annual div., pref., 6 p. c.; com., 6 p. c.

Bonds, 6 p. c., \$3,998,000; 5 p. c., \$15,023,077.77.

(For details of financial data, see Appendix.)

President and gen'l mgr., Frank Steinhart.

Secretary and treas., Herman Kraemer.

Pur. agent, A. McDonald.

Chief engineer (gas), W. E. Mockett.

Process manufacture, Lowe.

Annual production, 574,000,000 c. f.

Candle-power, 20.

Calorific value, 615 B. t. u.

Gas holder capacity, 2,550,000 c. f.

Holder pressure, max., 6 in.

Max. day's send out, 1,937,000 c. f.

Miles of mains, approx., 174.

Street main pressures, max., 6 in.; min., 2 in.

Annual sales, approx., 467,000,000 c. f.

Gas unaccounted for, 17 p. c.

By-products sold: Tar, 87,000 gals.

Pop. city, est. 328,000; of dist. supplied, 260,000.

No. consumers, 11,957.

No. meters, reg., 11,957.

Price gas: Light and Fuel, gross, \$2.39; over 1,000 c. f., basis, \$1.43 Spanish gold.

No. public lamps, 5,750, including 1,842 incan.

Price per year, \$30. Price includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 4,089.5.

Ranges in use, est. 10,700; water heaters, 1,829.

No. commercial gas arc lamps, 40.

Supplies Havana.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)

System, A. C., 60 cycles, and D. C.

Generating capacity, total, 37,500 kw.

Voltage, 110-220-2,200.

City lighting contract: Hours lighted 3,650.

No. public arcs, 344; 660-1100 watt.

No. public incand., 1,933. 500-400-300-100-60 watt.

System of public lighting undergoing reorganizations and rates being readjusted, (1918).

Commercial arcs, 104.

Price incand., per kw. hr., 16.04c. Disc. to 50 p. c. Domestic, 7.72c. to 15.45c. (Re-adjustment of prices in 1918.)

Power circuits: Motors, 3,500 h. p.

Output of station, kw. for year, 53,500,000.

Power used: Steam; rated 55,000 h. p.

Cost boiler coal per ton, \$9.35 (1917).

JAMAICA.**Kingston Gas Works, Kingston.**

(Furnishes gas for city lamps and certain power plants.)

PORTO RICO.

Population, 1,223,981.

City of Ponce Gas Co., Ponce.

S.S.: N. Y. & Porto Rico S. S. Co., Red D and Bull Insular Line.

New York City office, 30 Broad street.

Capital stock, pref., \$150,000; common, \$100,000.

Annual dividend, pref., 7 p. c.

Bonds, \$550,000; due, 1953; int., 6 p. c.

President, R. E. Robinson.

Secretary and treas., H. B. Pogson.

General manager, John R. Hare.

Process, Lowe.

Miles of mains, 12.

Population of city, 35,207.

Price of gas, \$1.60 gross; \$1.45 net.

Supplies Ponce.

Porto Rico Gas Co., San Juan.

S. S.: N. Y. & Porto Rico S. S. Co., Red D, and Bull Insular Line.

(For capitalization and bonds, see Appendix.)

New York office, 30 Broad St.

President, R. E. Robinson.

Sec. and treas., H. B. Pogson.

General manager, G. H. Joy.

Superintendent, A. S. Robinson, Jr.

Process manufacture, Coal.

Candle-power, 16.

Gas holder capacity, 500,000 c. f.

Miles of street mains, 30; high pressure mains, 5 miles.

Street main pressure, 3 in.

Pop. of city, 47,716; dist. supplied, 55,000.

Price gas: Light and Fuel, \$3 gross; sliding scale to \$1.20 net.

Supplies San Juan. Rio Piedras.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street

PHILADELPHIA, PA.

NATURAL GAS COMPANIES

ALABAMA

Dixie Gas Co., Birmingham.

Office, 1901-5 Jefferson County Bank Bldg.
Capital stock, \$578,000.
President, W. F. Aldrich.
Secretary and treas., J. T. Robertson.
General mgr., R. N. McDonough.
3,000 acres leased five miles from Birmingham, in Jefferson County, Ala.
Natural gas franchise in city of Birmingham.

Fayette Light and Fuel Co., Fayette.

Capital stock, \$10,000.
President, W. H. Hassinger.
Manager and pur. agt., E. H. Taylor.
Annual production, 20,000,000 c. f.
Gas purchased, 40,000 c. f., daily average.
Wells drawn from, 3.
Miles pipe line, 2.
No. domestic consumers, 297.
Price gas, gross, domestic, 40c. per 1,000 c. f.
Value of gas supplied, for year, \$6,686.57.
Supplies Fayette.

Huntsville Consolidated Gas Co., Huntsville.

Capital stock, \$500,000.
Bonds, \$215,000; due 1944; int. 5 p. c.
President, T. W. Pratt.
Manager and pur. agent, E. C. Dillon.
Superintendent, H. G. Crunk.
Wells drawn from, 1.
Miles of pipe line, 3.
Annual prod., 500,000 c. f.
No. dom. consumers, 90; factories, 3.
Price gas, gross; domestic \$1.40; industrial, \$1.25.
Supplies Village of West Huntsville, Ala.
(Manufacture gas also; see Manufactured Gas Dept.)

Pennsylvania Oil and Gas Co., Jasper.

Capital stock, \$200,000.
President, P. M. Shannon.
Manager, P. M. Shannon.
Wells drawn from, 3. Miles of pipe line, 1.
Value of gas supplied, for year, \$1,000.
Supplies Jasper in part.

ARKANSAS

Citizens Service Co., Alma.

(Controlled by Peoples Service Co., Muskogee, Okla.)

Clear Creek Oil & Gas Co., Fort Smith.

Office, 400 Garrison Ave.
Capital stock, \$50,000.
President, J. F. McGehee.
Secy., treas. and mgr., R. S. Robertson.
Supt. and pur. agent, F. S. Hill.
Wells drawn from, 8.
Miles pipe line, 26.5.
Annual prod., 100,000 cu. ft.
No. dom. consumers, 50; factories, 15.
Price gas gross, dom., 25c.; industrial, 4c. to 10c.
Value gas supplied for year, \$50,000.
Supplies factories at Fort Smith and Van Buren, Ark.; domestic at South Ft. Smith.

Fort Smith Light and Traction Co., Fort Smith.

(Controlled by Standard Gas & Electric Co., both companies being under management of H. M. Byllesby & Co., Chicago.)
(For capitalization, see Appendix.)
President, A. S. Huey.
Vice-pres. and genl. mgr., D. C. Green.
Secretary, John Brizzolara.
Treasurer, R. E. Ballard.
Superintendent, A. C. Bibens.
Pop. dist. supplied, 40,000.
No. consumers, 6,426.
Wells drawn from, 74.

Gas purchased, 1,785,985,200 c. f.

Miles pipe line, low pres., 75.24; high pres., 9.3.

Price gas, all purposes, max., 25c. per 1,000 c. f. dom.; down to 6c.

No. ranges, 5,621; heaters, 5,160; water heaters, 406.

No. commercial gas arc lamps, 601.

Supplies Fort Smith and Van Buren.

This company buys gas from the Southwestern General Gas Co., which company delivers it to the reducing stations at the city limits of Ft. Smith and Van Buren.

ELECTRICAL DEPARTMENT.

System operated: Arc, A. C., 2 phase, 60 cycles; incand. A. C.; power, A. C. and D. C.

Generating capacity: 3,450 kw.

Voltage: primary, 2,200; incand., 115; power, A. C., 110 and 220; D. C., 600.

City lighting contract: Hours lighted per year: Arc, all night and every night.

No. public arcs, 243; 6.6 amp. Price per year, \$55.

No. commercial incand., 80,005.

Price per kw. hr., 8.1c. to 4c.

Other lamps, 2 G. E., 12 amp., 17 hr. flaming arcs.

Power circuits: Motors, 494; 3,688.75 h. p.

PHOTOMETERS

Among the standard bar photometers which we manufacture are the Sugg-Letheby, the Improved Type B and the Portable Type.

American Meter Company

561 W. 47th St., New York, N. Y.

Power house motor gen., 500 kw.; Van Buren sub-station, 150 kw.
Other uses, 1,482 fan motors; 1,379 flat irons; 3,722 consumers.
Price per kw. hr., 5c. to 1.99c.
Output of station, kw. per year, 7,077,238.
Generating power used: Steam; rated h. p., 4,600.
Gas used for fuel.

Mansfield Gas Co., Fort Smith.

Office, 9 No. 7th St.
Distributing centre, Mansfield, Ark.
Capital stock, \$100,000.
President, Harry E. Kelley.
Secretary, R. C. Johnston.
Treasurer, John Vaile.
Manager Harry E. Kelley.
Superintendent, Latt Caldwell.
Purchasing agent, Latt Caldwell.
Acres leased, 4,000; owned, 260, south of Mansfield.
Wells drawn from, 5.
Miles pipe line, 12.
Well pressures, 200 to 285 lbs.
Annual production, 19,721,000 c. f.
Pop. dist. supplied, 3,000.
No. domestic consumers, 298; factories, 4.
Price gas, gross, domestic, 49c. to 37c. per 1000 c. f.; industrial, 17c.
Value of gas supplied, for year, \$8,459.65.
Supplies Mansfield and Huntington.

The McDonough Oil & Gas Co., Fort Smith.

Office, 17 North 6th St.
Capital stock, auth., \$50,000; issued, \$36,100.
President and mgr., James B. McDonough.
Secretary, Roy M. Johnston.
Purchasing agts., Jas. B. McDonough or Roy M. Johnston.
Not supplying gas 1917-18.

Southwestern General Gas Co., Fort Smith.

(Controlled by Standard Gas & Electric Co., both companies being under management of H. M. Byllesby & Co., Chicago.)
Capital stock, com., \$1,001,000; pref., \$25,000.
Bonds, \$465,000; due 1931; int., 6 p. c.
President, W. S. Van Sickle.
Secretary, John Brizzolara.
Treasurer, R. E. Ballard.
Mgr. and pur. agent, W. S. Van Sickle.
Field, Sebastian County, near Ft. Smith, Ark.
Wells drawn from, 73.
Well pressures, 20 lbs.
Price of gas, 35c. to 6c. per 1,000 c. f.
Annual sales, approx., 1,775,000,000 c. f.
Supplies Ft. Smith Light and Traction Co.

Twin City Pipe Line Co., Fort Smith.

Capital stock, pref., \$60,000; com., \$90,000.
Bonds, \$30,000; due serially; int., 6 p. c.
President and mgr., W. R. Martin.
Secretary, M. C. Mahan.
Treasurer, W. J. Echols.
Superintendent, Jos. Smith.
Purchasing agent, W. R. Martin.
Acres owned, 100; leased, 8,000.
Kibbler Gas Field, Crawford Co., Ark.
Wells drawn from, 10; pressures, 160 lbs.
Miles pipe line, 18.

Gas produced, 6,500,000 c. f. per day; purchased, 1,000,000 per day.
Pop. dist. supplied, 40,000.
No. dom. consumers, 85; factories, 27.
Price gas gross, dom., 5c. to 15c. per 1,000 c. f.; industrial, 4c. to 15c.
Value gas supplied for year, \$80,000.
Supplies Kibbler, Van Buren and Ft. Smith.
This company is a transporting company and acquires its gas from the Wild Cat Oil & Gas Co., Ft. Smith, Ark.

Van Buren Oil & Gas Co., Fort Smith.

(Company out of business.)

Wildcat Oil & Gas Co., Fort Smith.

Office, Merchants Nat. Bank Bldg.
Capital stock, \$250,000.
President and mgr., W. R. Martin.
Wells drawn from, 12.
Daily production, 40,000,000 c. f.
Price gas, gross, 2.5c. and 3.5c. at the wells.
Value gas supplied for year, \$45,000.
Sells its entire production at the wells to the Twin City Pipe Line Co.

Consumers Gas Co., Hot Springs.

(Successor to Hot Springs Gas Co.)
(All stocks and bonds owned by Central Arkansas Ry. and Light Corp.)
President, E. N. Sanderson.
Manager, Stephen E. Dillon.
Gen. supt., C. H. Nichols.
Buys gas from Arkansas Natural Gas Co.
Distributing mains, 29 miles.
No. domestic consumers, 2,550.
Annual sales, approx., 970,000,000 c. f.
Supplies Hot Springs.

Natural Gas Supply Co., Little Rock.

Capital stock, \$2,500,000.
President and mgr., C. H. Duttlinger.
Vice-pres. and treas., E. C. Campbell.
Secretary, John F. Evans.
Pur. agent, C. H. Duttlinger.
Price gas, gross, dom., 30c. per 1,000 c. ft.; industrial, 12c.

Arkansas Natural Gas Co., Little Rock.

(See detailed report in Appendix.)
General office, Benedum-Trees Bldg., Pittsburgh, Pa.
President, J. C. Trees.
Vice-president, Geo. H. Flinn.
Vice-pres. and mgr., J. R. Munce.
Sec'y and treas., Wm. J. Diehl.
Asst. secy., E. A. Nisbet.
Auditor, E. J. Cole.
General manager, J. R. Munce.
Purchasing agent, S. B. Kelly.
177,611.07 acres leased in Louisiana and Arkansas.
Oil wells drawn from, 5.
Gas wells drawn from, 23.
Annual production, 8,266,983,500 c. f. (including gas purchased.)
No. domestic consumers, 18,137; manufacturing supplied, 260.
Price of gas, domestic, 40c. and 43c.; industrial, 12.5c. to 20c.
Value gas supplied, for year, \$1,649,670.97 gross; (company's share, \$1,360,495.52.)

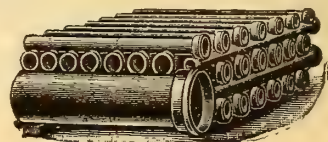
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



Supplies Little Rock, Arkadelphia, Emmett, Perla, Pine Bluff, Prescott, Malvern, Garland City, Hot Springs, Gurdon, Benton, Boughton, Fouke, Doddridge, Bierne, Gum Springs, Donaldson, Gifford, Bauxite, Bryant, Haskells and Marbleville, Ark., and Vivian, Ida., and Lewis and Oil City, La., through local companies who distribute the gas and account to above company for a certain percentage of receipts.

Little Rock Gas and Fuel Co., Little Rock.

General office, Chicago.
Capital stock, pref., \$428,026; com., \$1,000,000.
Bonds, 1st and ref. mtge., \$1,230,000, due 1937; deb., \$287,000, due 1922; int., 6 p. c.
President, J. C. Markley.
Pur. agent and gen. manager, W. F. Booth.
Superintendent, B. J. Gifford.
Gas purchased from Arkansas Natural Gas Co. Pipe Line Co.

Amt. gas purchased, 3,972,667,700 c. f.
Miles of pipe line, 149.
Pop. city, Argenta, 11,138; Little Rock, 45,941; dist. supplied, 75,000.
No. dom. consumers, 9,885; manufactories, 34.
Price gas, domestic and industrial, 40c to 13c.
Value of gas supplied for oear, \$832,577.
Supplies Little Rock and Argenta.

Choctaw Brick and Gas Co., Mansfield.

Capital stock, \$50,000.
Annual dividend, 15 p. c.
President, W. O. Caldwell.
Secretary and treas., H. B. Sauls.
Manager and pur. agent, T. P. Edwards.
Superintendent, T. P. Edwards.
30 acres owned, 600 acres leased in Scott and Sebastian county.
Wells drawn from, 6. Miles pipe line, 7.
(All gas consumed in the brick factory.)

Mansfield Gas Co., Mansfield.

(See report under Ft. Smith.)

CALIFORNIA

Southern Counties Gas Co., Anaheim.

Principal office, Los Angeles.
(For capitalization and officers see "Appendix.")
General manager, F. R. Bain.
Supt. of operation, F. S. Wade.
District agent, S. W. Todd.
Natural gas: Supplied from nearby oil wells.
Calorific value, 1,150 B. t. u.
Miles of mains, approx., 24.
Street main pressures, max., 10 in.; min. 6 in.
Annual sales, approx., 38,552,000 c. f.
Gas unaccounted for, 17 p. c.
Pop. supplied, 4,000; of town, 2,628 (1910).
No. consumers and meters, 912.
Price gas for all purposes, 75c.; sliding scale to 15c.
Supplies Anaheim.

Empire Gas and Fuel Co., Bakersfield.

(Subsidiary of Cities Service Co.)
Capital stock, \$100,000.
President and gen. mgr., R. A. Broomfield.
Secretary and treas., E. C. Reed.

San Joaquin Light & Power Corp., Bakersfield.

(For capitalization, see Appendix.)
President, W. G. Kerckhoff.
Secretary, L. M. Farnham.
Treasurer, A. E. Peat.
Manager, A. G. Wishon.
Pur. agent, J. H. Newlin.
Purchase gas from California Natural Gas Co.
Miles of mains, 78.51.
Gas purchased, 454,350,000 c. f.
Pop. dist. supplied, 17,500.
No. consumers, 4,594.
Supplies Bakersfield.

ELECTRICAL DEPARTMENT.

System operated: A. C., 3 phase, 60 cycles.
Generating capacity (entire system) 65,000 h. p.
Voltage: Arcs, in series; incand., 110; power, 110-220.

City lighting contract: Hours lighted per year: Moonlight schedule.
No. public arcs, 288; (2,000 c. p.) Price per year, \$50.
Power supplied from general system.

Valley Natural Gas Co., Bakersfield.

(Successors to California Natural Gas Co.)
Capital stock, pref. auth., \$1,500,000; issued, \$191,700; com. auth., \$1,500,000; issued, \$66,300; annual dividend, pref., 8 p. c.
Bonds, \$290,000; due, 1924; int., 6 p. c.
President, Charles Donlon.
Secretary, C. C. Spicer.
Treasurer, Fred. H. Hall.
Manager and pur. agent, J. F. McMahon.
Superintendent, E. W. Abbott.
Gas field, Kern Co., Cal.
Wells drawn from, 18.
Miles pipe line, 164.
Well pressures, 100 lbs.
Annual prod., 7,200,000,000 c. f.
Pop. dist. supplied, 30,000.
No. dom. consumers, 212; industrial, 82.
Price gas gross, dom., 50c. per 1,000 c. f.; industrial, 9.5c.
Value gas supplied for year, \$525,640.
Supply purchased from oil fields.
Sells at wholesale to towns of Bakersfield, Taft, Maricopa and Fellows. Industrial gas sold in oil fields.

Coalinga Gas and Power Co., Coalinga.

Office, 130 West E. Street.
Capital stock, \$46,738.66.
Annual dividend, 4 p. c.
President, R. C. Baker.
Secretary, S. H. Hain.
Manager and pur. agent, G. W. Satchell.
Purchases gas from Traders Oil Co.
Amt. gas purchased, 7,507,900 c. f.
Amt. gas manufactured, 3,723,200 c. f.
Miles of mains, 7.
Pop. dist. supplied, approx., 4,500.
No. domestic consumers, 638.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Price of gas, gross, dom., \$2 per 1,000 c. f.;
net, \$1.75; over 5,000 c. f. gross \$1.75;
net, \$1.50.

Value of gas supplied for year, \$14,383.62.
Supplies Coalinga.

Southern Counties Gas Co., Fullerton.

Principal office, Los Angeles.
(For capitalization and officers see "Appendix.")

General manager, F. R. Bain.
Supt. of operation, F. S. Wade.
District agent, S. W. Todd.
Natural gas supplied from nearby oil wells.
Calorific value, 1,150 B. t. u.
Miles of mains, approx., 19.
Street main pressures, max., 10 min., 4 in.
High pressure mains, 4 mi.; pressure, 110-40 lbs.
Annual sales, approx., 17,426,000 c. f.
Gas unaccounted for, 17 p. c.
Population of city, 1,725; dist. supplied, 3,500.
No. consumers and meters, 655.
Price gas all purposes, 75c. to 15c.
Supplies Fullerton.

Southern Counties Gas Co., Garden Grove.

(For capitalizations and officers, see "Parent Cos." and Appendix.)

Dist. agent, Corwin Butterworth.
Natural gas from Fullerton field.
Miles of distribution mains, approx., 2.
Street main pressures, max., 3 in.; min., 2 in.
Extension mains, miles, 3.5.
Annual sales, approx., 1,705,000 c. f.
Pop. of dist. supplied, 500 (estimated).
No. consumers and meters, 60.
Price gas for all purposes, \$1 to 15c.
Supplies Garden Grove.

Huntington Beach Municipal Gas Dept., Huntington Beach.

(Municipal plant.)
Bonds, \$18,000; due serially; int., 5 p. c.
President of Board, Will Tarbox.
Manager and pur. agent, Geo. W. Spencer.
City Clerk, Chas. R. Nutt.
Gas purchased from Southern Counties Gas Co. of California.
Gas purchased, 3,000,000 c. f.
Pop. dist. supplied, estimated, 2,500.
No. domestic consumers, 450; factories, 4.
Price gas gross, dom., \$1.25 per 1,000 graduated; industrial, special.
Supplies Huntington Beach and vicinity.

Southern Counties Gas Co., Long Beach.

(See report in Artificial gas dept.)

Los Angeles Gas and Electric Corp., Los Angeles.

(Co. supplies mixed Artificial and Natural gas; see Artificial Dept.)

Economic Gas Co., Los Angeles.

Gen. office, 620 Merchants Exchange Bldg., San Francisco, Cal.
For capitalization and bonds, see Appendix.
President, C. W. Conlisk.
Secretary, F. Reis, Jr.
Treasurer, C. W. Conlisk.
Manager, J. W. Wrenn.
Pur. agent, R. G. Putney.

Superintendent, E. S. Bryant.
Indus. fuel engineer, E. I. Alderman.
Miles pipe line, 52.

Gas purchased.
No. domestic consumers, 5,500; indus., 500.
Price gas gross, dom., 64.5c. to 25c.
Value of gas supplied for year, \$229,356.74.
Supplies part of Los Angeles.

Midway Gas Co., Los Angeles.

Office, Garland Building.
Capital stock, com., \$2,326,400; pref., \$692,350.
Bonds, \$1,953,000; due 1929; int. 6 p. c.
President, Ferdinand Reis, Jr.
Vice-president, A. C. Balch.
Manager, A. B. Macbeth.
Wells drawn from, 8.
Miles of mains, 125.44.
Gas piped from Taft field, approx. 24,000,000 c. f. per day, and from Fullerton field, 10,000,000 c. f.
A transmission company; operation leased to Southern California Gas Co., Los Angeles.

Southern California Gas, Los Angeles.

(See report in Artificial gas dept.)

Southern Counties Gas Co., Monrovia.

(See report in Artificial gas dept.)

Newport Beach Gas Plant, Newport Beach.

(Municipal plant.)
Office, City Hall.
Bonds, \$30,000; due, \$1,000 annually; int. 5 p. c.
Manager and pur. agent, F. L. Rinehart.
Gas purchased from the Southern Counties Gas Co., Santa Ana, Cal. (Fullerton field.)
Miles pipe line, 10.
Pop. dist. supplied, 1,000 (winter); 5,000 (summer).
No. domestic consumers, approx., 550.
Price gas gross, dom., 5,000 c. f. or under, \$1, 5,000 to 10,000 c. f., 90c.; 10,001 to 25,000 c. f., 80c.; over 25,000 c. f., 60c.; min. rate, 50c.
Value of gas supplied for year, \$6,500.
Supplies Newport Beach and suburbs.

Southern Counties Gas Co. of California, Orange

Principal office, Los Angeles.
(For capitalization and officers, see "Appendix.")
General manager, F. R. Bain.
Supt. of operation, F. S. Wade.
District agent, Corwin Butterworth.
Natural gas supplied by Fullerton wells.
Calorific value, 1,150 B. t. u.
Miles of mains, approx., 15.
Street main pressures, max., 10 in.; min. 3 in.
Annual sales, approx., 10,767,000 c. f.
Gas unaccounted for, 17 p. c.
Population supplied, 4,400; of Orange, 2,920.
No. customers and meters, 801.
Price gas all purposes, 75c to 15c.
Supplies Orange.

Ventura County Power Co., Oxnard.

(Property of this company purchased by Southern California Edison Co.)

Southern California Edison Co., Oxnard.

(See report in Artificial gas department.)



HOLDER PAINTS:—

Our line includes No. 31 Williamsport Red.
The standard holder paint of many of the largest companies. No. 1908 Green on holder frames makes a pleasing contrast.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Southern Counties Gas Co., Placentia.

(For capitalization and officers, see Appendix.)
 Dist. agent, S. W. Todd.
 Natural gas from Fullerton wells.
 Calorific value, 1,150 B. t. u.
 Miles of mains, approx., 3.8.
 Street main pressures, max., 6 in. from individual regulators.
 Annual sales, approx., 9,171,000 c. f.
 Pop. of city, 400 (estimated 1914); of dis. supplied 700.
 No. consumers and meters, 95.
 Price gas: Light and Fuel, \$1 to 15c.
 Supplies Placentia.

Southern Counties Gas Co., Pomona.

(See report in Artificial gas dept.)

Western Fuel Gas and Power Co., Redondo Beach.

Capital stock, \$30,000.
 President and treas., M. H. Spires.
 Secretary, Ralph E. Matteson.
 Manager and pur. agent, R. E. Matteson.
 Gas purchased from Southern California Gas Co.
 Amount purchased, 60,000,000 cu. ft.
 Gas holder capacity, 65,000 c. ft.
 Miles of mains, approx., 37.5.
 Street main pressures, max., 10 in.; min. 6 in.
 Pop. of city, 2,935 (1910); of dist. supplied, 8,000.
 No. consumers, 2,400.
 Price gas: Light and Fuel, \$1.25; industrial, sliding scale.
 Value of gas supplied for year, \$36,000.
 Supplies Redondo Beach, Hermosa Beach, Manhattan Beach.

Sacramento Gas Co., Sacramento.

(Supplies artificial and natural, mixed; see Artificial gas dept.)

Midland Counties Public Service Corporation, San Luis Obispo.

(Company now supplies natural gas. See report in Artificial Department.)

Southern Counties Gas Co., San Pedro.

(See report in Artificial gas dept.)

Southern Counties Gas Co. of California, Santa Ana.

Principal office, Los Angeles.
 (For capitalization and officers see "Appendix.")
 General manager, F. R. Bain.
 Supt. of operation, F. S. Wade.
 District agent, Corwin Butterworth.
 Natural gas from Fullerton field.
 Calorific value, 1,150 B. t. u.
 Gas holder capacity, 95,000 c. f.
 Miles of mains, approx., 41.4.
 Street main pressures, max., 12 in.; min. 6 in.
 Max. day's send out, 484,000 c. f.
 Annual sales, approx., 67,250,000 c. f.
 Gas unaccounted for 17 p. c.
 Population supplied, 14,500 (est.); of Santa Ana, 8,429 (1910).
 No. consumers and meters, 2,889.
 Price gas all purposes, 75c. to 15c.
 Supplies Santa Ana and Newport.

Pinal Dome Oil Co., Santa Maria.

(Property sold to Union Oil Co. of Cal. Pinal Dome Oil Co. retiring from business.)

Santa Maria Gas and Power Co., Santa Maria.

Capital stock, \$100,000.
 Bonds, \$135,000; due, 1927; interest, 6 p. c.
 President, J. F. Goodwin.
 Secretary and manager, R. E. Easton.
 Superintendent, L. F. Chandler.
 Purchasing agent, L. F. Chandler.
 Gas purchased from oil companies at wells.
 Wells drawn from, approx., 100.
 Pop. dist. supplied, est., 11,000.
 No. domestic consumers, 2,500.
 No. manufactories supplied, 12.
 Miles pipe line, 60.
 Prices of gas, domestic, gross, \$1.00; industrial, 15c. to 25c.
 Value of gas supplied for year, \$62,500.
 Supplies Santa Maria, Betteravia, Guadalupe, Nipomo, Arroyo Grande and San Luis Obispo.

Southern Counties Gas Co., Santa Monica.

(Natural gas supplied in 1917; no report.)

Central Natural Gas Co., Stockton.

Office, 229 N. San Joaquin St.
 Capital stock, auth., \$50,000; issued, \$19,900.
 Annual dividend, 6 p. c.
 President and manager, N. E. Carpenter.
 Secretary, Hoyle Greenwood.
 Wells drawn from, 2.
 Miles pipe line, 2.
 No. domestic consumers, 275.
 Price gas, gross, domestic, \$1 per 1,000 c. f.; to other gas companies, 9 to 20c. per 1,000 c. f.
 Value of gas supplied, for year, approx., \$6,550.
 Supplies part of Stockton, and sells surplus to another gas company.

Western States Gas and Electric Co., Stockton.

(See Artificial Gas Dept.)

Rochester Oil Co., Suisun.

Capital stock, \$39,279.
 President, J. R. Chadbourne.
 Secretary, Geo. C. Trainor.
 Manager, J. R. Chadbourne.
 Supt. and pur. agent, J. B. Hopkins.
 Wells drawn from, 1.
 Miles pipe line, 9.
 Annual production, 4,296,800 c. f.
 No. domestic consumers, 157.
 Price gas, gross, domestic, \$1 per 1,000 c. f. to \$1.50; over 20,000 c. f., 75c.
 Value gas supplied for year, \$4,601.55.
 Supplies Suisun City, Fairfield and Cement.

Joseph McDonald Gas Office, Taft.

Proprietor, Joseph McDonald.
 Purchasing agent, Ira A. Miller.
 Purchase gas from California Natural Gas Co.
 Gas purchased, 32,976,000 c. f.



THE SCIENTIFIC SAFETY GARAGE HEATER

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Pop. dist. supplied, 3,000.
 No. dom. consumers, 594; industrial, 1.
 Price gas, gross, domestic, sliding scale 80c. to 30c. per 1,000 c. f.; 25c. to 16c.
 Value of gas supplied, for year, \$17,056.
 Cities supplied South Taft and Fellows.

West Side Gas Co., Taft.

Capital stock, \$150,000.
 Bonds, \$50,000; due 1922; int., 6 per cent.
 President and mgr. Joseph McDonald.
 Pur. agent, Ira A. Miller.
 Gas purchased from California Natural Gas Co.
 Gas purchased, 101,445,000 c. f.
 Pop. dist. supplied, 6,000.
 No. dom. consumers, 1,160; industrial, 4.
 Price gas, 75c. to 35c. per 1,000 c. f.; indust., 25c. to 16c.
 Value of gas supplied for year, \$42,371.
 Supplies Taft and Maricopa.

Southern Counties Gas Co., Tustin.

(For capitalization and officers. see Appendix.)
 Principal office, Los Angeles.
 Natural gas from Fullerton field.
 Miles of mains, 4.
 Population, 700.
 No. consumers, 86.
 Price of gas, 75c. to 15c.

Southern Counties Gas Co., Whittier.

(See report in Artificial gas dept.)

COLORADO

Empire Gas and Fuel Co., Denver.

Executive office, Bartlesville, Okla.
 President, J. C. McDowell.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 General manager, A. J. Diescher.

ILLINOIS

Ambraw Gas Co., Bridgeport.

Capital stock, \$40,000.
 President, E. M. Kerlin.
 Pur. agent, E. M. Kerlin.
 Wells drawn from, 16.
 Miles pipe line, 20.
 Price gas, gross, domestic, 25c. per 1,000 c. f.; industrial, 10c.
 No. dom. consumers, 350; manufactories, 5.
 Value of gas supplied, for year, \$60,000.
 Supplies Flat Rock, Burds and Pinkstaff.

St. Clair County Gas and Electric Co., Edwardsville.

(See report in Artificial gas dept.)

Bond County Gas Co., Greenville.

General office, 311 W. Main St.
 Capital stock, \$100,000.
 Annual div., 10 p. c.
 President, Roy B. Jones.
 Vice-president, T. J. Parish.
 Manager and pur. agent, F. T. Rowland.
 Secretary and treas., F. T. Rowland.
 Superintendent, W. Bircher.
 Population, 6,000.
 Acres leased, 828 in Bond County, Ill.
 Wells drawn from, 6.
 Miles pipe line, 50.
 Annual production, 86,709,000 c. f.
 Pop. dist. supplied, 6,000.
 No. domestic consumers, 900.
 Price gas, gross, 27c. per 1,000 c. f.
 Value of gas supplied, for year, \$21,726.
 Supplies Greenville and adjoining territory.

Oblong Gas Co., Oblong.

General office, 2017 Farmers Bank Bldg., Pittsburg, Pa.
 Capital stock, \$100,000.
 President, G. W. Crawford.
 Manager, R. A. Crawford.
 Pur. agent, J. M. Simpson.
 Wells drawn from, 18. Miles of pipe line, 32.
 Annual production, 93,000,000 c. f.
 No. dom. consumers, 920; manufactories, 6.
 Price gas, gross, dom. and ind., 28.5 per 1,000 c. f.
 Value of gas supplied, for year, \$25,000.
 Supplies Palestine, Duncanville, Oil Center, New Hebron, Stoy and Oblong.

Crawford County Pipe Line Co., Robinson.

General office, 111 No. Market St., Chicago, Ill.
 (This company is no longer supplying gas, but is using its pipe line to transport crude petroleum to refinery at Robinson, Ill.)
 Miles of pipe line, 75.

Wabash Gas Co., Robinson.

Office, Napoleon, O.
 President, Thos. Flynn.
 Secretary and treas., J. A. Sloan.
 General manager, J. A. Sloan.
 Superintendent, J. F. Mehegan.
 Pop. dist. supplied, 5,000.
 No. dom. consumers, 850; industrial, 50.
 Price of gas, dom. and indus., 50c. per 1,000 c. f.
 Gas purchased.
 Artificial plant will be built.
 Price to be \$1.10 per 1,000 c. ft.

INDIANA

Wheeler Gas and Oil Co., Albany.

(Reported out of business.)

Central Indiana Gas Co., Anderson.

(See report under Muncie Ind.)
 Company proposes installing a water-gas plant here.

Arcadia Home Gas Co., Arcadia.

(Successor to Citizens Gas Co.)
 Capital stock, \$10,000.
 President, Byron P. Hollett.
 Manager and pur. agent, Byron P. Hollett.
 Secretary and treas., E. A. Hollett.
 Wells drawn from, 6. Miles of pipe line, 20.

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Price gas, gross, 35c. per 1,000 c. f.
No. domestic consumers, 180.
Value of gas supplied, for year, \$3,800.
Supplies Arcadia.

Arlington Natural Gas Co., Arlington.

General office, Morristown, Ind.
Owners, James W. Buckingham and James H. Snider.
Managers and pur. agents, Buckingham and Snider.
Wells drawn from, 5. Miles of pipe line, 5.
Number domestic consumers, 65.
Price gas, gross, domestic, 40c. per 1,000 c. f.
Value of gas supplied for year, \$1,000.
Supplies part of Arlington.

Farmers' Natural Gas and Oil Co., Arlington.

Capital stock, \$10,000.
President, A. W. Trilby.
Manager, Willard Tibby.
Pur. agents, A. M. Gordon and H. S. Brit.
Wells drawn from, 7. Miles pipe line, 8.5.
No. domestic consumers, 45.
Value of gas supplied, for year, \$500.
(Co-operative company.)

Batesville Gas Co., Batesville.

President, Mrs. A. C. Hooven.
Manager and pur. agent, Fred Brummer.
Wells drawn from, 9. Miles pipe line, 10.
Annual production, 1,500,000 c. f.
No. dom. consumers, 195; manufactories, 8.
Price gas, gross, domestic, 25c per 1,000 c. f.
Value of gas supplied, for year, \$1,500.
(No report, 1918.)

Cambridge Natural Gas Co., Cambridge City.

Capital stock, \$60,000.
President, A. B. Ayres.
Vice-pres., S. McGilliard.
Secretary and treas., F. M. Milikan.
Manager, A. B. Ayres.
Pur. agent, A. B. Ayres.
Population, 1,754.
Wells drawn from, 38.
Miles of pipe line, 50.
Annual production, 51,000,000 c. f.
No. domestic consumers, 1,000.
Price gas, gross, domestic, 50c. per 1,000 c. f.
Value gas supplied, for year, \$20,000.
Supplies Cambridge City, Milton, Dublin.
Straughns, Mt. Auburn, Mays and Raleigh.

Carmel Natural Gas and Improvement Co., Carmel.
(Out of business.)

Carthage Natural Gas Co., Carthage.

Capital stock, \$9,100.
President, Allen W. Newsom.
Manager, H. E. Stager.
Wells drawn from, 12. Miles pipe line, 15.
No. domestic consumers, 150.
Price of gas, gross, domestic, 40c. per 1,000 c. f.
Value of gas supplied, for year, \$2,500.
Supplies Carthage.

New Citizens Natural Gas Co., Cowan.

Capital stock, \$112.
President, A. M. Bowers.
Secretary and treas., D. S. Koons.

Wells drawn from, 3. Miles pipe line, 1.
No. domestic consumers, 24.
Value of gas supplied for year, \$700.
Supplies Cowan.
(Supplies only members of company.)

Big 4 Fuel and Light Co. of Daleville, Daleville.

Capital stock, \$4,000.
President, John P. Kandell.
Manager, F. M. Boyer.
Pur. agent, R. M. Shoemaker.
Wells drawn from, 4.
Miles pipe line, 2.
No. domestic consumers, 10.
Price of gas, domestic, \$2.50 per mo.
Value of gas supplied, for year, \$400.
Supplies Daleville and Cowan.

Baur Gas Co., Eaton.

(Incorporated with Baur Window Glass Co.)
Capital stock, \$75,000.
President, Albert E. Baur.
Manager and pur. agent, Albert E. Baur.
Wells drawn from, 25.
Miles pipe line, about 10.
Price gas, gross, industrial, 10c. per 1,000 c. f.
Supplies Baur Window Glass Co. factory;
has discontinued supplying town of Eaton.

Citizens Gas and Oil Co., Farmland.

Capital stock, \$1,650.
President, W. H. Snyder.
Manager, W. H. Snyder.
Secretary, and pur. agent, Eli Hiatt.
Wells drawn from, 5.
Miles pipe line, 5.
Price gas, gross, domestic, \$1.50 per month
No. domestic consumers, 52.
Value gas supplied for year, \$800.
Supplies Company's stockholders.

Fortville Gas Co., Fortville.

(Successors to Fortville Natural Gas and Oil Co. and Winslow Gas Co.)
Capital stock, auth., \$25,000; issued, \$15,000.
President, A. B. Ayres.
Manager, A. B. Ayres.
Purchasing agent, A. B. Ayres.
Wells drawn from, 8.
Miles pipe line, 25.
No. domestic consumers, 250.
Price gas, gross, domestic, 35c. per 1,000 c. f.; industrial, 20c. to 25c.
Value gas supplied, for year, \$4,000.
Supplies Oakville and Fortville.

The Vernon Natural Gas and Oil Co., Fortville.

Capital stock, \$5,050.
President, A. J. Whetsel.
Pur. agent, Chas. E. Jeffords.
Wells drawn from, 10.
Miles of pipe line, 14.
Annual prod., 29,000,000 c. f.
Pop. dist. supplied, 1,500.
No. domestic consumers, 320.
Price gas, gross, dom., per 1,000 c. f., 30c. for 1st 25,000 c. f.; next 25,000 c. f. 25 c.; all over 50,000 c. f., 20 c.
Value of gas supplied for year, \$8,946.01.
Supplies Fortville.



Tycos Temperature Instruments
INDICATING—CONTROLLING—RECORDING
Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester, N. Y.



Fountaintown Natural Gas Co., Fountaintown.

President and sec'y, Emma Snider.
 Manager and pur. agent, J. H. Snider.
 Wells drawn from, 2.
 Miles pipe line, 2.
 Annual production, 2,000,000 c. f.
 No. domestic consumers, 26; factories, 1.
 Price gas, gross, domestic and industrial, 25c.
 per 1,000 c. f., per month.
 Value of gas supplied, for year, \$800.
 Supplies Fountaintown.

Urmston Gas Co., Frankton.

(Gas plant has been dismantled.)

Freeport Gas Co., Freeport.

Rural delivery, Morristown.
 Capital stock, auth., \$4,000.
 Notes, \$450; due 1917; int. 6 p. c.
 President, C. M. Robinson.
 Vice-president, Chas. Wickliff.
 Treasurer, J. W. Boren.
 Secretary and manager, H. M. Chadwick.
 Wells drawn from, 7. Miles of pipe line, 7.5.
 No. domestic consumers, 48.
 Price of gas, gross, dom., 20c. per 1,000 c. f.
 Value of gas supplied, for year, \$768.75.
 Supplies Freeport and vicinity.

Interstate Public Service Co., Greenfield.

General office, 508 Board of Trade, Indianapolis.

(Controlled by Middle West Utilities Co.)

For capitalization and officers, see Parent Companies.

Manager, W. T. Gilroy.
 Pur. agent, C. H. Dallow, Indianapolis.
 Annual production, 25,650,000 c. f.
 Gas purchased, 19,064,000 c. f.
 Wells drawn from, 23. Miles of pipe line, 25.
 Pop. dist. supplied, 4,550.
 No. dom. consumers, 988; manufactories, 2.
 Price of gas, gross, dom. and ind., 50c. per
 1,000 c. f.
 Value of gas supplied for year, \$21,679.
 Supplies Greenfield.

Maxwell Gas Co., Greenfield.

President, R. Boyd.
 Sec. and treas., C. S. Townsend.
 Pur. agt. and mgr., C. S. Townsend.
 Wells drawn from, 4. Miles pipe line, 6.
 No. domestic consumers, 50.
 Price gas, gross, domestic, 40c. per 1,000 c. f.
 Supplies Maxwell.

Citizens Gas Supply Co., Greensburg.

Capital stock, \$10,000.
 President, Harry Emmert.
 Manager and pur. agent, Hal T. Kitchin.
 Purchase gas from Sand Creek Gas & Oil Co.
 Price gas, gross, 15c. per 1,000 c. f.
 Supplies part of Greensburg.

Fourth Ward Gas Co., Greensburg.

(Not incorporated.)
 Manager and pur. agent, Alonzo Rader.
 Wells drawn from, 7. Miles pipe line, 1.
 No. domestic consumers, 7.
 Price gas, gross, domestic, per 1,000 c. f., 15c.
 Value of gas supplied, for year, \$900.
 (Supplies only owners—7.)

Greensburg Gas and Electric Co., Greensburg.

General office, 210 E. Nash St.
 Capital stock, \$65,000.
 President, W. W. Woodfill.
 Manager, H. T. Woodfill.
 Sec'y, treas., and pur. agt., Web Woodfill.
 Population, 5,034.
 Wells drawn from, 32.
 Miles pipe line, about 20.
 No. domestic consumers, 800.
 Price gas, gross, domestic, per 1,000 c. f., 15c.
 Value of gas supplied for year, \$20,000.
 Supplies Greensburg.

Greensburg Natural Gas, Oil and Water Co., Greensburg.

Capital stock, \$8,000.
 Annual dividend, $7\frac{3}{4}$ p. c.
 President, W. B. Ansted.
 Secretary and pur. agent, Charles Zoller.
 Manager, Charles Zoller.
 3200 acres leased in Decatur County, Ind.
 Wells drawn from, 40.
 Well pressures, 160 lbs. and 210 lbs.
 Miles pipe line, 44.
 Annual prod., 65,000,000 c. f.
 Pop. dist. supplied, 8,000.
 No. domestic consumers, 300.
 Manufactories supplied, 2.
 Price gas, gross, per 1,000 c. f., 20c.
 Value of gas supplied, for year, \$12,000.
 Supplies part of Greensburg and Adams.

Muddy Fork Gas Co., Greensburg.

(Successors to Hamilton Gas Co.)
 Capital stock, \$16,000.
 President, Hubert Eich.
 Assistant sec'y and treas., J. H. Christian, Sr.
 Manager, J. H. Christian, Sr.
 Wells drawn from, 35. Miles pipe line, 15.
 No. domestic consumers, 350.
 Price gas, gross, domestic and industrial, 15c.
 per 1,000 c. f.
 Value of gas supplied for year, \$10,000.
 Supplies Greensburg.

Reed & Burns, Greensburg.

Manager, J. B. Reed.
 Wells drawn from, 5. Miles pipe line, 2.
 No. domestic consumers, 34.
 Price gas, gross, domestic, 1,000 c. f., 15c.
 Supplies part of Greensburg.

Sand Creek Gas and Oil Co., Greensburg.

Office, 114 West Main St.
 Capital stock, \$15,000.
 President, Harry Emmert.
 Manager and sec'y, Hal T. Kitchin.
 Wells drawn from, 25.
 Miles pipe line, 16.
 No. domestic consumers, 15; gas sold also to
 Citizens Gas Supply Co.
 Price gas, gross, domestic, 15c. per 1,000 c. f.

Blue River Natural Gas Co., Gwynneville.

Capital stock, \$10,000.
 President, Harry Fletcher.
 Manager, Philip Six.
 Purchasing agent, Philip Six.
 Wells drawn from, 4.
 Miles pipe line, 10.
 No. domestic consumers, 36.

**WILLIAMS' "VULCAN" CHAIN PIPE VISE**

3 sizes. Capacities $\frac{1}{8}$ " to 8". Stocked by Dealers.

THE RIGHT TOOL FOR SERVICE CARS

J. H. WILLIAMS & CO., 74 Richards Street, Brooklyn, N. Y.

Price gas, gross, domestic, approx., \$25 per year assessment.
Value of gas supplied, for year, \$720.
(Co-operative farmers' company.)

Gwynneville Natural Gas Co., Gwynneville.

Capital stock, \$1,500.
President, Mrs. Ann Pollitt.
Pur. agt. and mgr., Edward Evans.
Wells drawn from, 8. Miles of pipe line, 5.
Well pressures, 50 lbs. to sq. in.
Annual production, 10,000,000 c. f.
Field located in Hanover Township, Shelby Co.
Pop. dist. supplied, 800.
No. domestic consumers, 102.
Price gas, gross, domestic and industrial, 20c. per 1,000 c. f.
Value gas supplied, for year, \$2,000.
Supplies part of Gwynneville and outlying farms.

Hagerstown Natural Gas Co., Hagerstown.

Capital stock, \$20,000.
Dividend paid, annual rate, 3 p. c.
President, Hugh Allen.
Treasurer, Horace Hoover.
Manager, and pur. agent Horace Hoover.
Secretary, J. M. Hartley.
1,000 acres leased in Wayne Co. Ind.
Wells drawn from, 9. Miles pipe line, 2.
Well pressures, 70 to 130 lbs.
Annual production, gas 5,400,000 c. f.
Pop dist. supplied, 1,500.
No. domestic consumers, 150.
Price gas, gross, per 1,000 c. f., domestic, 50c.
Also special rates as follows: \$2.25 per mo. for first stove; \$1.25 for second stove; \$1 for third stove flat rate for 7 mos. of year; remaining 5 mos., \$1.25. Dwelling lights, 15c.; store lights, 25c. per mo.
Value of gas supplied, for year, \$2,700.
Supplies Hagerstown.

Teetor Hartley Motor Co., Hagerstown.

Capital stock, \$10,000.
President, J. H. Teetor.
Manager, C. N. Teetor.
Purchasing agent, A. E. Smith.
4 acres owned, vicinity of Hagerstown.
Wells drawn from, 4. Miles pipe line, 3.
Daily production, 10,000 c. f.
All gas consumed in Teetor Hartley Motor Co. factory.

Homer Gas Co., Homer.

Capital stock, \$4,000.
Annual dividend, 10 p. c.
President, (vacant.)
Secretary and mgr., E. A. Jarrett.
Wells drawn from, 5. Miles of pipe line, 2.
Pop. dist. supplied, 200.
No. domestic consumers, 22.
Price of gas, \$25.50 per year, two fires.
Value of gas supplied, for year, \$375.
Supplies Homer.

Honey Creek Natural Gas Co., Honey Creek.

Capital stock, \$4,000.
President, J. Huffman.
Manager and pur. agent, U. S. Abshire.
Wells drawn from, 4. Miles pipe line, 7.

No. domestic consumers, 40; manufactories supplied, 1.

Price gas, gross, domestic, per month, \$2.40; industrial, 30c. per 1,000 c. f.

Value of gas supplied for year, \$1,000.

Supplies Honey Creek and vicinity.

Hortonville Gas Exploring Co., Hortonville.

Capital stock, \$1,500.
President, Cove Horney.
Manager and pur. agt., H. P. Rogers.
Wells drawn from, 3. Miles pipe line, 2.
No. domestic consumers, 30.
Price gas, domestic, \$3 per stove per mo.
Value of gas supplied, for year, \$500.
Supplies Hortonville.

Moore and Blanton Gas Co., Hortonville.

Capital stock, auth., \$3,000.
Annual dividend, 24 p. c.
President, Sam. Moore.
Treasurer and pur. agent, Wm. Cutts.
Secretary and manager, Wm. A. Moore.
Wells drawn from, 1.
Miles pipe line, 9.
No. domestic consumers, 31.
Price of gas, about \$17 per year.
Value of gas supplied for year, \$500.
Supplies stockholders only.

Walker & Hinshaw Natural Gas Co., Hortonville.

Manager, C. M. Walker.
Wells drawn from, 1.
Miles pipe line, 1.
No. domestic consumers, 7.
Price gas, gross, domestic, \$1.50 per mo.
Value of gas supplied, for year, \$300.

Citizens Natural Gas Co., Knightstown.

Capital stock, \$2,000.
President, William Call.
Manager, B. M. Parker.
Secretary and pur. agent, B. M. Parker.
Wells drawn from, 4. Miles pipe line, 7.
Annual production, 2,500,000 c. f.
No. domestic consumers, 40.
Price gas, gross, domestic, 25c. per 1,000 c. f.
Value of gas supplied for year, \$625.
Mutual company.

Consumers Gas Co., Knightstown.

Capital stock, \$3,500.
President, Dr. J. B. Cress.
Pur. agents, Board of Directors.
Secretary and treas., E. G. McGraw.
Wells drawn from, 4. Miles pipe line, 6.
No. domestic consumers, 57.
Price gas, gross; domestic, 50c. per 1,000 c. f.
Value of gas supplied for year, \$900.
(Co-operative concern, supplying its stockholders only.)

Knightstown Natural Gas Co., Knightstown.

Capital stock, \$50,000.
President, L. P. Newby.
Pur. agt. and mgr., T. B. Deem.
Wells drawn from, 40. Miles pipe line, 35.
No. domestic consumers, 600; factories, 7.
Price gas, gross, domestic and industrial, 50c. per 1,000 c. f.
Value of gas supplied, for year, \$14,000.
Supplies Knightstown and Raysville.

We erected the first five million foot or larger holder on the Atlantic Coast, on the Pacific Coast and in the Gulf States.

R. D. WOOD & CO., PHILA., PA.



Snow and Pritchard, Knightstown.

Capital stock, \$5,000.
 President, Samuel Pritchard.
 Manager and pur. agt., Samuel Pritchard.
 Wells drawn from, 37. Miles of pipe line, 28.
 No. domestic consumers, 600.
 Price of gas, gross, domestic, 20c.
 Value of gas supplied, for year, \$9,000.
 Supplies Carthage, Charlottesville; few outside parties, and Indiana Soldiers' and Sailors' Orphans Home, Knighttown.

The Indiana Natural Gas and Oil Co., Kokomo.

Office, 226 So. Main St.
 Treasurer's office, People's Gas Bldg, Chicago, Ill.
 Capital stock, \$2,000,000.
 Bonds, \$6,000,000; due 1936; int. 5 p. c.
 President, P. Brennen.
 Secretary, E. C. Neyhart.
 Treasurer, E. J. E. Ward.
 Miles of pipe line, 445.

Kokomo Gas and Fuel Co., Kokomo.

Capital stock, \$306,000.
 Bonds, \$148, 000; due, 1957; int., 5 p. c.
 President, A. B. Smith.
 Secretary, O. C. Johnson.
 Treasurer, M. J. Foley.
 Miles of gas pipe line, 84.
 Price of gas, gross, 60c.; net, 55c. per 1000 c. f.

Letts Gas and Oil Co., Letts.

Capital stock, \$10,000.
 President, U. McCorkle.
 Secretary, and manager, K. L. Adams.
 Treasurer, Harry Boyd.
 Pur. agent, Letts Hardware Co.
 Wells drawn from, 5.
 Miles of pipe line, 4.
 Annual production, 500,000 c. f.
 Pop. dist. supplied, 300.
 No. domestic consumers, 80.
 Price gas, gross, domestic, 35c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,200.
 Supplies Letts.

Consumers Gas, Oil and Water Co., Lewisville.

Capital stock, \$9,990.
 President, J. F. Camplin.
 Manager and pur. agent, J. A. Bartlett.
 Treasurer, A. R. McIlvaine.
 Superintendent, J. A. Bartlett.
 Acres leased, 500, in Henry County.
 Wells drawn from, 5. Miles of pipe line, 7.
 Well pressures, approx. 50 lbs.
 Pop. dist. supplied, 500.
 No. domestic consumers, 40; factories, 3.
 Price gas, per stove, per mo., \$2.50; indus., 25c. per 1,000 c. f.
 Value gas supplied, for year, \$500.
 Supplies Lewisville and vicinity.

Manilla Natural Gas Co., Manilla.

Capital stock, \$10,000.
 President, Thomas K. Mull.
 Secretary, Mrs. Sarah E. Mull.
 Purchasing agent, Thomas K. Mull.
 Manager, Thomas K. Mull.
 Superintendent, J. E. Creed.
 Acres leased, 400; in east part of Shelby Co. and west part of Rush Co., Ind.

Wells drawn from, 6. Miles pipe line 20.
 Well pressures, 25 to 160 lbs.
 Annual production, 4,000,000 c. f.
 Pop. dist. supplied, 500.
 No. domestic consumers, 110.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,200.
 Supplies Manilla.

Hardman Natural Gas Co., Markleville.

Capital stock, com., \$1,800; pref., \$1,000.
 President, F. M. Williams.
 Manager, W. M. Justice.
 Purchasing agent, J. Slaughter.
 Wells drawn from, 1.
 Miles pipe line, 3.6.
 No. domestic consumers, 16.
 Price gas, gross, domestic, per year, \$25.
 Value of gas supplied, for year, \$450.

Markleville Citizens Gas and Oil Co., Markleville.

Capital stock, \$1,000.
 President, L. A. McCullough.
 Manager, John H. Younkin.
 Secretary and treas., John H. Younkin.
 Purchasing agent, John H. Younkin.
 Wells drawn from, 2.
 Miles pipe line, 1.
 No. domestic consumers, 5.
 Price gas, gross, domestic, \$35 per year.
 Value of gas supplied for year, \$175.
 Supplies part of Markleville.

Markleville Natural Gas Co., Markleville.

Capital stock, \$4,000.
 President, Allen Boram.
 Manager, W. H. Hardy.
 Purchasing agent, W. H. Hardy.
 Wells drawn from, 1.
 Miles pipe line, 3.
 Price gas, gross, domestic, \$30 per year.
 No. domestic consumers, 5.
 Value of gas supplied for year, \$150.

Middletown Gas Co., Middletown.

Capital stock, \$12,500.
 Annual div., 6 p. c.
 President, C. R. Heath.
 Sec'y and treas., C. A. Simpson.
 Gen'l mgr. and pur. agent, C. A. Simpson.
 Pur. agent, C. A. Simpson.
 Wells drawn from 4; Henry County, Ind.
 Miles of pipe line, 17.
 Pop. dist. supplied, 1500.
 Gas purchased, 7,616,000 c. f.; from Central Indiana Gas Co. and West Va. Gas Co.
 No. domestic consumers, 250.
 Price of gas, gross, dom., \$1 for first 2,000 c. f. 50c. all thereafter; \$1 min.
 Supplies Middletown.

Citizens' Gas Co., Milroy.

Capital stock, \$2,300.
 President, N. M. Brown.
 Manager and pur. agent, W. S. Mercer.
 Wells drawn from, 7.
 Miles pipe line, 3.
 No. domestic consumers, 70.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value gas supplied, for year, \$1,000.
 Supplies Milroy and vicinity.

RELIABLE**"ANGLIRON"****RANGES**

Set your expectations just as high as you like, order a sample line of "RELIABLE 'ANGLIRON'" ranges, examine and test them and you will find your ideal of what a gas range really should be. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Economic Gas Co., Milroy.

Capital stock, auth., \$1,500.
 President, Edgar Thomas.
 Manager, Edgar Thomas.
 Wells drawn from, 1.
 Miles of pipe line, 1.
 Annual production, 1,622,000 c. f.
 No. dom. consumers, 8.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value of gas supplied, for year, \$324.40.

Enterprise Milling Co., Milroy.

Manager and pur. agent, Thos. E. Bottorff.
 Wells drawn from, 3.
 Miles pipe line, 2.
 Annual production, 3,000,000 c. f.
 Price gas, gross, 20c. per 1,000 c. f.
 Value of gas supplied for year, \$600.
 All gas used in mill.

King & Davis Co., Milroy.

(No report.)

New Era Gas Co., Milroy.

President, S. T. Overleese.
 Secretary, C. C. Richey.
 Manager and pur. agent, T. F. Power.
 Wells drawn from, 4.
 Miles of mains, 2.5.
 Annual production, 100,000 c. f.
 No. domestic consumers, 10.
 Price of gas, gross, domestic, 20c. per 1,000 c. f.
 Value of gas supplied, for year, \$200.
 (Mutual company.)

Peoples Gas Co., Milroy.

Capital stock, \$8,000.
 President, William T. Lampton.
 Pur. agent, Wm. J. Brown.
 Manager, Wm. Wolfgang.
 Wells drawn from, 5. Miles pipe line, 6.
 No. domestic customers, 70; factories, 1.
 Price gas, gross, domestic, 15c per 1,000 c. f.;
 industrial, 3c.
 Value of gas supplied for year, \$2,000.
 Mutual company; sells excess gas to consumers in Milroy.

Modoc Gas and Oil Co., Modoc.

Capital stock, \$10,000.
 Annual dividend, 12 p. c.
 President, S. C. Mendenhall.
 Manager and pur. agt., A. A. Conarroee.
 Wells drawn from, 1. Miles pipe line, 7.
 No. domestic consumers, 109; factories, 1.
 Price of gas, gross, dom., 30c. per 1,000 c. f.
 Value gas supplied, for year, \$2,500.
 Supplies Modoc.

Citizens Natural Gas and Oil Co. Morristown.

Capital stock, auth., \$10,000; issued, \$6,250.
 President, Ira Thayer.
 Secretary, W. R. Bentley.
 Manager, W. R. Bentley.
 Pur. agent, W. R. Bentley.
 Wells drawn from, 15. Miles pipe line, 15.
 Annual prod., 23,679,500 c. f.
 No. domestic consumers, 175.
 Price gas, gross, per 1,000 c. f., 15c.
 Value gas supplied for year, \$3,401.93.
 Supplies Morristown and vicinity.

North Side Gas Co., Morristown.

President, W. A. Bodine.
 Mgrs. and pur. agts., W. A. Bodine, O. O. Frazier and James Buckingham.
 Wells drawn from, 1.
 Miles pipe line, 2.
 No. domestic consumers, 7.
 Value of gas supplied for year, \$100.
 (Private company; no gas sold. There are 7 consumers, each entitled to 2 stoves and 6 lights.)

Central Indiana Gas Co., Muncie.

Capital stock, pref., \$500,000; com., \$5,000,000.
 Bonds, 1st mtge., \$2,482,000; due 1931; int. 5 p. c.
 Deb. bonds, \$475,000; int., 6 p. c.
 President and manager, J. H. Maxon.
 Purchasing agent, J. H. Maxon.
 Secretary, Geo. W. Cromer.
 Treasurer, R. A. Zeigler.
 Indus. fuel engineers: Muncie, F. B. Tracy; Anderson, R. A. Zeigler; Marion, A. T. Barton.
 Gas purchased from Logan Natural Gas Co.
 Miles pipe line, 411.
 Annual rates 3,232,000,000 c. f.
 No. domestic consumers, 16,015.
 No. manufactories supplied, 300.
 Price gas, natural domestic, 70c. net; industrial 30c. net; artificial, dom. 90c.; indus., 35c.
 Supplies Muncie, Marion, Anderson, Elwood, Hartford City, Alexandria, Fairmount, Summitville, Jonesboro, Gas City.
 (See Artificial Gas Department.)

Citizens Natural Gas Co., New Castle.

Capital stock, \$25,000.
 President, E. H. Peed.
 Manager and pur. agt., A. E. Wilkinson.
 Wells drawn from, 6.
 Miles pipe line, 25.
 No. domestic consumers, 55.
 Price of gas, gross, 35c per 1,000 c. f.
 Value of gas supplied, \$600.
 Mutual company; supply stockholders only.

Interstate Public Service Co., New Castle.

General office, Board of Trade, Indianapolis, Ind.
 (For capitalization and officers, see Parent Co's.)
 Manager, W. T. Gilroy.
 Pur. agent, C. H. Dallow.
 Wells drawn from, 17.
 Miles of mains, 25.78.
 Annual production, 13,090,000 c. f.
 Gas purchased, 253,705,000 c. f.
 Pop. dist. supplied, 23,334.
 No. dom. consumers, 2,334; manufactories, 6.
 Price of gas: 1st 5,000 c. f., 40c.; next 95,000, 35c.; all over 100,000, 30c.
 Value gas supplied, for year, \$96,444.
 Supplies New Castle.

Indiana Gas Light Co., Noblesville.

Operated by Union Utilities Co.
 (See Artificial gas dept.)

The largest gas companies in America regard the GOODMAN STOPPER as an indispensable part of their equipment.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Oakland City Light, Fuel & Power Co., Oakland City.

Capital stock, \$25,000.
 President, G. L. Miller.
 Manager, Carl H. Wessel.
 Purchasing agent, Carl H. Wessel.
 Wells drawn from, 1.
 No. dom. consumers, 275; manufactories, 3.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value of gas supplied (6 mos.), \$2,033.85.
 Supplies Oakland City.
 (No report, 1918.)

Oaklandon Gas & Oil Co., Oaklandon.

Capital stock, \$3,000.
 President, J. M. Tingle.
 Wells drawn from 2. Miles of pipe line, 2.5.
 Annual prod., 1,600,000 c. f.
 No. dom. consumers, 35.
 Price gas, gross, dom., 35c. per 1,000 c. f.
 per mo.
 Value gas supplied, for year, \$560.
 Supplies Oaklandon.

Ogden Natural Gas Co., Ogden.

General office, Knightstown, Ind.
 Capital stock, \$1,000.
 President, Geo. Watts.
 Pur. agent and treas., John Marks.
 Manager, John Marks.
 Secretary, W. B. Parker.
 Wells drawn from, 1. Miles pipe line, 1.
 No. domestic consumers, 20.
 Price gas, gross, domestic, 50c. per 1,000 c. f.
 Value gas supplied for year, \$200.
 Supplies Ogden.

Pendleton Natural Gas Co., Pendleton.

Capital stock, pref., \$2,880; com., \$19,000.
 Annual div., pref., 6 p. c.
 President and mgr., J. J. Rogers.
 Sec. and treas., R. F. Thomas.
 Purchasing agent, R. F. Thomas.
 Wells drawn from, 15. Miles pipe line, 20.
 Annual production, 10,000,000 c. f.
 Gas purchased, 9,000,000 c. f.
 No. domestic consumers, 250.
 No. manufactories supplied, 2.
 Price gas, gross, 50c. per 1,000 c. f.
 Value of gas supplied for year, \$3,600.
 Supplies Pendleton and Huntsville.

Carroll-Winget Gas and Oil Co., Pennville.

(Successors to O'Donnell Gas and Oil Co.)
 B. P. Carroll and C. C. Winget, Co-partners.
 Wells drawn from, 16.
 Miles pipe line, 8.
 No. domestic consumers, 200.
 Price gas, gross; 25c. per 1,000 c. f.
 Value gas supplied for year, \$4,000.
 Supplies Pennville.

Raleigh Gas, Oil and Water Co., Raleigh.

May's R. R. No. 25.
 Capital stock, \$2,400.
 President, Dr. C. L. Snullen.
 Manager, B. F. Martin.
 Purchasing agent, B. F. Martin.
 Wells drawn from, 3.
 Miles pipe line, 7.5.
 No. domestic consumers, 20.
 Value of gas supplied for year, \$1,200.
 Supplies stockholders only.

Redkey Citizens Natural Gas, Light, Fuel and Petroleum Oil Co., Redkey.

(Company has gone out of business.)

Consolidated Gas & Oil Co., Redkey.

(See report under Ridgeville, Ind.)

Richmond Light, Heat and Power Co., Richmond.

Controlled by United Gas and Electric Corp., New York City.
 (For capitalization and bonds, see Appendix.)
 President, Wilfred Jessup.
 Vice-president, S. J. Dill.
 Secretary and treasurer, Chas. W. Wolke.
 Manager, N. H. Johnson.
 Pur. agt., United G. & E. Eng. Corp.
 Superintendent, J. Armstrong.
 New bus. mgr., F. L. Funk.
 Miles of pipe line, 66.45.
 Gas purchased, 425,594,000 c. f.
 Gas purchased from Logan Natural Gas Co.
 No. domestic consumers, 6,247.
 Price of gas, 70c. to 30c. net.
 Value of gas supplied for year, \$142,370.60.

Consolidated Gas & Oil Co., Ridgeville.

(Successor to Ridgeville Gas Light & Fuel Co. and Redkey Citizens Natural Gas, Fuel and Petroleum Oil Co.)
 Capital stock, \$100,000.
 Gen'l manager, E. J. Condon.
 Superintendent, A. M. Reubarger.
 Supplies Ridgeville; Dunkirk and Redkey to be added.

Citizens Gas and Oil Co., Royerton.

Capital stock, \$900.
 Annual dividend, 15 p. c.
 President, Henry Windsor.
 Manager, Geo. Kennedy.
 Wells drawn from, 1.
 Miles pipe line, 2.
 No. domestic consumers, 8.
 Price gas, gross, domestic, \$2 per month.
 Value of gas supplied, for year, \$800.
 (Stockholders only supplied.)

Central Fuel Co., Rushville.

Capital stock, \$110,000.
 Div. paid, 2 p. c. annually.
 President, Wm. J. Henley.
 Manager and pur. agt., Wm. M. Frazee.
 Wells drawn from, 32.
 Miles pipe line, 25.
 No. domestic consumers, 220.
 Price gas, gross, domestic, per 1,000 c. f., 30c.
 Value of gas supplied, for year, \$6,000.
 Supplies part of Rushville.

Peoples Natural Gas Co., Rushville.

Capital stock, \$19,800.
 Annual dividend, 15 p. c.
 President, F. G. Hackleman.
 Vice-president, A. L. Riggs.
 Secretary, George W. Osborne.
 Supt. and pur. agt., James Keating.
 Wells drawn from, 30.
 Miles pipe line, 30.
 No. domestic consumers, 500.
 Price gas, gross, domestic, per 1,000 c. f., 15c.
 Value of gas supplied, for year, \$12,000.
 Supplies Rushville.

Recording Calorgraph automatically and constantly records the calorific power of any gas in gross or net heat units, with 60-day or 24-hour charts. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Rushville Natural Gas Co., Rushville.

Capital stock, \$100,000.
 President, Theo. Abercrombie.
 Secretary, Theo. H. Reed.
 Treasurer, T. Rich Reed.
 Asst. sec'y, Ned Abercrombie.
 Wells drawn from, 47. Miles pipe line, 31.
 Pop. dist. supplied, 5,000.
 No. domestic consumers, 730.
 Price gas, domestic, per 1,000 c. f., 40c.
 Value gas supplied, for year, \$20,000.
 Supplies Rushville.

Rushville Supply Co., Rushville.

Capital stock, \$10,000.
 President, A. L. Gary.
 Secretary and pur. agent, C. H. Parsons.
 Gen'l mgr. and supt. C. H. Parsons.
 1000 acres leased in Rushville Twp. Rush Co., Ind.
 Wells drawn from, 24. Miles pipe line, 12.
 Well pressure, 200 lbs.
 Annual prod., 23,700,000 c. f.
 No. domestic consumers, 50.
 Price gas, gross, domestic per 1,000 c. f., 15c.
 Value gas supplied, for year, \$3,513.55.
 Mutual consumers company: supplies stockholders only.

Consumers Natural Gas Co., St. Paul.

Capital stock, \$2,300.
 President, James H. Martin.
 Treasurer, J. R. Eck.
 Secretary and manager, C. D. Harwood.
 Wells drawn from, 2. Miles pipe line, 1.
 No. domestic consumers, 60.
 Value of gas supplied, for year, \$500.
 Supplies St. Paul.

St. Paul Natural Gas and Oil Co., St. Paul.

Capital stock, \$1,473.
 President, Jacob Johannes.
 Secretary and manager, C. P. McAuliffe.
 Purchasing agent, C. P. McAuliffe.
 Wells drawn from, 19. Miles pipe line, 10.
 No. domestic consumers, 175.
 Price gas, gross, domestic, 15c. per 1,000 c. f.
 Value of gas supplied, for year, \$2,500.
 Supplies St. Paul.

Warren Gas Co., Saratoga.

President, W. R. Warren.
 Manager and pur. agent, D. E. Barber.
 Wells drawn from, 2. Miles of pipe line, 2.
 No. domestic consumers, 20.
 Price gas, gross, domestic, \$3.00 per stove per month.
 Value of gas supplied for year, \$1,000.
 Supplies Saratoga.

Citizens Natural Gas, Oil and Water Co., Shelbyville

Capital stock, \$65,000.
 President, H. M. Neal.
 Secretary and pur. agent, William Bass.
 Treasurer, A. J. Thurston.
 Manager, William Bass.
 Superintendent, P. S. Montrose.
 10,000 acres leased in Hancock County.
 Wells drawn from, 35. Miles pipe line, 35.
 Well pressures, 10 to 40 lbs.
 Annual production, 50,000,000 c. f.

Pop. dist. supplied, 11,000.
 No. domestic consumers, 950.
 Price of gas, 25 cts. per 1,000 c. f.
 Value gas supplied, for year, \$11,547.05.
 Supplies Shelbyville.

Sheridan Gas, Oil and Coal Co., Sheridan.

Capital stock, \$12,550.
 President, Frank Colby.
 Sec'y. and treas., G. H. Palmer.
 Manager and pur. agent, Frank Colby.
 1000 acres leased in Hamilton and Tipton Counties.
 Well drawn from, 9. Miles pipe line, 20.
 Well pressures, 250 lbs.
 Annual prod., gas, 5,325,500 c. f.
 Pop. dist. supplied, 2,500.
 No. domestic consumer, 500.
 Price gas, gross, domestic, 25c. per 1000 c. f.
 Value of gas supplied, for year, \$13,313.75.
 Supplies Sheridan.

Grant City Natural Gas Co., Shirley.

(Private plant.)
 Rural delivery No. 2.
 President and mgr., Nathaniel Edwards.
 Purchasing agent, Nathaniel Edwards.
 No. domestic consumers, 40; factories, 1.
 Price gas, gross, domestic, one stove, \$2.50;
 two stoves, \$4.00; lights, 20c. per month;
 industrial, one tile factory, \$1,000 per year.
 Value of gas supplied, for year, \$2,000.
 Supplies Grant City.

Farmers Gas Co., Spiceland.

Capital stock, \$7,000.
 President, W. M. Millikan.
 Secretary and manager, Harvey Millikan.
 Treasurer and pur. agent, David Ricks.
 Population, 590.
 Wells drawn from, 2.
 Miles pipe line, 20.
 (Supplies only stockholders.)

Union Heat, Light and Power Co., Union City.

General office, Winchester, Ind.
 Capital stock, pref., \$82,400; com., \$150,000.
 Annual div., pref., 6 p. c.; com., 4 p. c.
 President, Jas. W. McCamish.
 Secretary, W. W. Goodrich.
 Treasurer, P. E. Goodrich.
 Manager and pur. agt., W. W. Goodrich.
 3,000 acres leased in Randolph County, Ind.
 Wells drawn from, 35. Miles of pipe line, 75.
 Well pressures, 75 to 280 lbs.
 Annual prod., 75,000,000 c. f.
 Pop. dist. supplied, est., 16,000.
 No. domestic consumers, 1,550.
 Price gas, gross; Portland, \$1 per 1,000 c. f.
 (\$1 min.); Union City, 75c. first 5,000 c. f.;
 55c. next 3,000 c. f.; 40c. all over 8,000 c. f.
 (\$1 min.); Winchester, 50c. first 2,000 or
 part; 25c. for all over 2,000 c. f.
 Value gas supplied, for year, \$40,500.
 Supplies Union City Portland and Winchester, Ind.; Union City, Ohio.

Vincennes Gas Co., Vincennes.

Succeeded by Central States Gas Co., Vincennes.
 (See Artificial gas department.)

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road
 and 20th Street

PHILADELPHIA, PA.

Vincennes Oil and Gas Co., Vincennes.

Distributing center. Flat Rock, Ill.
 Capital stock, \$37,000.
 President, E. M. Kerlin.
 Pur. agent, E. M. Kerlin.
 Treasurer, R. D. Green.
 Manager, S. W. Piper.
 160 acres leased west of Flat Rock.
 Wells drawn from, 3 oil; 3 gas.
 Well pressures 20 lbs.
 Miles of oil pipe line, 1.
 Miles of gas pipe line, 8.
 Annual prod. crude oil, 2,000 bbls.
 Max. day's out-put, oil, 6 bbls.
 Average price oil per gal., 5c.
 Capacity of storage tanks: Wooden, 200 bbls.
 Annual prod., gas, 30,000,000 c. f.
 Gas distribution:
 Pop. dist. supplied, 1,000.
 No. domestic consumers, 200.
 Price gas, gross, domestic, 35c. per 1,000 c. f.;
 Value of gas supplied for year, \$8,000.
 Supplied Flat Rock, Ill.

Citizens' Natural Gas, Oil and Water Co., Waldron.

Capital stock, \$2,350.
 President, T. J. McCain.
 Secretary and treas., John W. Greene.
 Manager and pur. agent, John W. Greene.
 Wells drawn from, 4. Miles pipe line, 2.5.
 No. domestic consumers, 23.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value gas supplied, for year, \$454.20.
 Supplies part of Waldron.

Mrs. Sarah J. Grubb, Waldron.

Owner and mgr., Sarah J. Grubb.
 Wells drawn from, 3.
 Well pressure, 100 lbs.
 Miles pipe line, 1.
 Pop. dist. supplied, 600.
 No. domestic consumers, 32.
 Price gas, 20c. per 1,000 c. f.
 Value gas supplied, for year, \$700.
 Supplies Waldron in part.

South Side Gas Co., Waldron.

Capital stock, \$1,000.
 Secretary, Perry Armstrong.
 Wells drawn from, 2.
 Miles pipe line, 4.
 No. dom. consumers, 20.
 Price gas, gross, dom., 20c. per 1,000 c. f.
 Value gas supplied, for year, \$400.
 Supplies part of Waldron, Ind.

Waldron Natural Gas, Oil and Water Co., Waldron.

Capital stock, \$10,000.
 President, S. P. Stroup.
 Sec'y and pur. agent, Everett Haymond.
 Manager, Everett Haymond.
 Wells drawn from, 7.
 Miles pipe line, 4.5.
 No. domestic consumers, 25.
 Price gas, gross, domestic, per mo., 20 cts.
 per 1,000 c. f.
 Value of gas supplied, for year, \$850.
 Supplies part of Waldron.

When Gas, Oil and Water Co., Waldron.

Capital stock, \$300.
 President, T. L. Haymond.
 Manager, C. H. Haymond.
 Wells drawn from, 1. Miles pipe line, $\frac{1}{2}$.
 No. domestic consumers, 3.
 Value of gas supplied for year, \$50.
 Gas supplied only to well owners.

Monarch Gas Co. Winchester.

Capital stock, \$20,000.
 President, Charles F. Gray.
 Vice-president, F. G. Mullin.
 Treasurer, Kora H. Davis.
 Secretary, Bashie Seamans.
 Manager, Charles H. Davis.
 Purchasing agent, Charles H. Davis.
 Wells drawn from, 24. Miles pipe line, 28.
 No. domestic consumers, 350.
 Price gas, gross, domestic, 25c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,500.
 Supplies Winchester.

KANSAS**Day and Gibson, Altoona.**

General office, Chanute, Kan.
 (A partnership.)
 Manager, C. L. Day, Chanute.
 Wells drawn from, 8.
 Miles pipe line, 5.
 Annual production, 71,950,194 c. f.
 Price of gas, 3c. to 5c.
 Value of gas supplied for year, \$3,237.75.
 Sells production to Kansas Natural Gas Co.

Tri City Gas Co., Altoona.

Office, 1116 Commerce Bldg., Kansas City Mo.
 Capital stock, \$130,000.
 Bonds, \$126,000; int., 6 p. c.
 President, Chas. A. Loomis.
 Secretary and treas., S. J. Mattocks.
 General mgr. and pur. agt., S. J. Mattocks.
 Superintendent, Wm. A. Boss.
 Gas purchased, 239,493,000 c. f.
 Gas purchased from Hale Gas Co., Pipe Line
 Co. and True-Keith Oil and Gas Co.
 Pop. district supplied, 7,116.

No. dom. consumers, 2,038; industrial, 6.
 Price of gas, gross domestic, Altoona, 35c;
 Cherryvale, 30c; Chelsea, 35c; indus-
 trial, 30c.
 Value of gas supplied, (9 months), \$56,013.32.
 Supplies Altoona and Cherryvale; Kan., and
 Chelsea, Okla.

Arkansas Valley Gas Co., Arkansas City.

(Operated by Doherty Organization.)
 Capital stock, authorized, \$200,000; out-
 standing, \$150,000.
 President, A. J. Diescher.
 First vice-president, F. W. Frueauff.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Miles of pipe line, 31.
 No. domestic consumers, 2,337; factories
 supplied, 21.
 Price gas, gross, domestic, 30c. per 1,000 c. f.;
 industrial, 12.5c.
 Annual sales, 489,475,000 c. f.
 Supplies Arkansas City, Kan.

CALORIMETERS**American Meter Company**

561 W. 47th St., New York, N. Y.

The American-Junkers' Calorimeter has been greatly improved and accessories added until it has been made what we consider the most advanced type of instrument for this purpose now in use. This is confirmed by the numerous orders we are constantly receiving for it from all parts of the country and that it has been furnished to all the large syndicates, State Public Utilities Commissions and the City Gas Inspectors, the Public Utilities Commission at Washington, D. C., the U. S. Bureau of Standards, and the U. S. Department of War.

Atchison Railway, Light and Power Co., Atchison.

(Controlled by Illinois Traction Co.)
 Capital stock, com., \$500,000.
 Bonds, \$750,000; due 1935; int., 5 p. c.
 President, W. B. McKinley, Champaign, Ill.
 Secretary, E. A. Macnutt.
 Treasurer, W. H. Carnadan.
 Gen'l mgr., A. M. Patton.
 Pur. agent, H. J. Vance.
 Gen'l supt., J. W. Waggener, Atchison, Kan.
 Miles pipe line, 38.19.
 Gas purchased, 166,877,000 c. f.
 Gas supplied by Kansas Natural Gas Co.
 Pop. city supplied, 16,274.
 No. domestic consumers, 2,154; industrial, 19.
 Price gas, gross, per 1,000 c. f., 60c.
 Value gas supplied, for year, \$70,263.62.
 Supplies Atchison.

ELECTRICAL DEPARTMENT.

(Business conducted under same name as gas company.)

System: A. C., 3 phase, 60 cycles.
 Generating capacity: Lighting, 600 kw.; power, 750 kw.
 Voltage: Arcs, 80 series; incand., 110; power, 220 A. C.; 500 D. C.
 Miles of overhead wires, 25.5 city; 44 miles trans.
 City lighting contract: Hours lighted, 3,200.
 No. public arcs, 99; 320 watt.
 Price arc, Public, per year, \$55.35.
 No. public incand., 105, 60-100 c. p. Price per year, \$13.84; also 92-5 light posts. Price per year, \$33.
 Price arc, Com'l, 8c. per hr. kw.; residence rate, 10c. per kw. hr.
 Power circuits: Motors, 2,437 h. p. Price per kw. hr., 10c. to 2c.
 Power used, Steam; rated 1,600 h. p.
 Cost of station boiler coal, per ton, \$3.91.

City of Augusta Gas Works, Augusta.

(Municipal plant.)
 Manager and pur. agent, Mat Graham, Jr.
 640 acres leased in Butler County field.
 Wells drawn from, 13.
 Well pressure, 100 lbs.
 Pop. dist. supplied, 7,000.
 Miles of pipe line, 10.
 Annual prod., 240,000,000 c. f.
 Gas purchased, 150,000,000 c. f.
 No. domestic consumers, 1000; manufactories supplied, 100.
 Price gas, gross, domestic, and indus., 25c.; per 1,000 c. f.
 Value of gas supplied, for year, \$20,000.
 Supplies Augusta.

Skaer Gas and Drilling Co., Augusta.

Owner, J. W. Skaer.
 Manager, J. H. Skaer.
 Pur. agent, F. H. Penley.
 Wells drawn from, 9. Miles of pipe line, 3.
 Annual production, 1,025,000,000 c. f.
 All product sold to Wichita Natural Gas Co.

Baldwin Gas Co., Baldwin.

General office, 1116 Commerce Bldg., Kansas City, Mo.
 Capital stock, common, \$10,000.
 Bonds, \$1,000; due, annually; int. 6 p. c.

President, C. A. Loomis.
 Vice-president, S. J. Mattocks.
 Secretary, and supt., William A. Boss.
 Treasurer, S. J. Mattocks.
 Manager and pur. agt., S. J. Mattocks.
 Gas purchased, 46,355,000 c. f.
 Gas supplied by Receiver Kansas Natural Gas Co.
 Pop. dist. supplied, 1,380.
 Price of gas, gross; domestic, 60c. per 1,000 c. f.
 No. domestic consumers, 375.
 Value gas supplied, for year, \$18,330.71.
 Supplies Baldwin and vicinity.

The Allen County Supply Co., Bassett.

P. O., Iola, Kan.
 Capital stock, \$10,000.
 President, H. H. Muehlke.
 Sec'y and treas., J. A. Wheeler.
 Pur. agent, R. M. Braden.
 Gas pur. from Portland Gas and Pipe Line Co.
 Amount gas purchased, 19,000,000 c. f.
 Pop. dist. supplied, 600.
 Miles pipe line, 2.5.
 No domestic consumers, 100; factories, 1.
 Price gas, gross, 15c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,900.
 Supplies Bassett.

Bonner Springs Oil and Gas Co., Bonner Springs.

Capital stock, \$10,000.
 President, J. F. Donaldson.
 Manager and pur. agent, U. S. Hannum.
 Wells drawn from, 12.
 Miles pipe line, 11.
 Annual production, 45,000,000 c. f.
 Pop. dist. supplied, 2,500.
 No. domestic consumers, 350.
 No. manufactories supplied, 1.
 Price gas, gross; domestic, 35c. per 1,000 c. f.; industrial, 30c.
 Value gas supplied, for year, \$15,000.
 Supplies Bonner Springs.

Burlington Gas Co., Burlington.

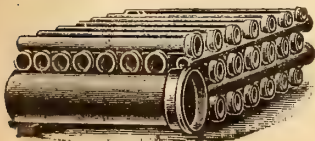
Owner, Henry Keiser, Bloomington, Ill.
 Manager, H. A. Cartwright.
 Purchasing agent, Henry Keiser.
 Gas purchased from The Keiser Gas Co., Yates Center, Kan.
 Miles of pipe line, 21.
 No. domestic consumers, 325.
 Price gas, gross, domestic, 35c. per 1,000 c. f.
 Supplies Burlington.

American Pipe Line Co., Caney.

(Subsidiary of Cities Fuel & Power Co.)
 Office, Bartlesville, Okla.
 Capital stock, \$50,000.
 President, F. W. Frueauff.
 Secretary, E. E. McWhiney.
 Treasurer, E. H. Johnston.
 Owns extensive oil and gas leases in Osage Indian Reservation, Okla.
 Supplies smelters at Caney and Deering; also sells to Kansas Natural Gas Co.

Caney Gas Co., Caney.

Capital stock, \$62,000.
 President, E. A. Sickels.
 Vice-president, S. M. Porter.
 Purchasing agent, E. S. Vincil.

**CAST IRON PIPE**

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

Asst. treasurer, R. E. McQuiddy.
 Purchases gas from Caney Gas, Oil and Mining Co.
 Annual purchase, 110,000,000 c. f.
 No. domestic consumers, 900.
 Price gas, domestic, per 1,000 c. f., 25c.; (discount, 3c.); industrial, 10c.
 Value of gas supplied for year, \$27,000.
 Supplies Caney.

Caney Gas, Oil and Mining Co., Caney.

Capital stock, \$62,000.
 President, E. A. Sickels.
 Vice-president, S. M. Porter.
 Purchasing agent, E. S. Vincil.
 Asst. treasurer, R. E. McQuiddy.
 Wells drawn from, 2.
 Gas purchased also from Kansas Natural Gas Co.
 Annual prod., 63,000,000 c. f.
 Gas purchased, 62,000,000 c. f.
 No. dom. consumers, 76.
 Price gas, domestic, per 1,000 c. f., 25c.; discount, 5c.; industrial, 10c.
 Value gas supplied, for year, \$10,000.
 Sells gas to Caney Gas Co., which supplies city.

The Caney Pipe Line Co., Caney.

Capital stock, \$10,000.
 President, Charles Owen.
 Sec'y and treas., W. H. Edgett.
 Superintendent, Mack Abraham.
 Manager, G. W. Connelly.
 Miles of pipe line, 20.
 Gas purchased, 1,601,733,000 c. f.
 Pop. dist. supplied, 3,000.
 No. dom. consumers, 475; factories, 5.
 Price gas, gross, dom., 25c. per 1,000 c. f.; net, 22c.; industrial, 9 and 10c. per 1,000 c. f.
 Value gas supplied, for year, \$155,327.71.
 Supplies a part of Caney.

Osage Natural Gas Co., Caney.

President, Charles Owen.
 Secretary, Grover C. Shannon.
 Treasurer, W. H. Edgett.
 Will sell to Kansas Natural Gas Co. at wells.

City of Chanute. Gas Plant, Chanute.

(Municipal plant.)
 Bonds, \$5,000; due 1919; interest, 5 p. c.
 Commissioner, W. M. Barbee.
 City Clerk, C. G. Wood.
 Pur. agent, C. G. Wood.
 Superintendent, E. M. Flannery.
 Wells drawn from, 40.
 Gas also purchased from Wichita Pipe Line Co.
 Miles pipe line, 93.
 Annual production, 1,300,000,000 c. f.
 Gas purchased, 708,000,000 c. f.
 No. domestic consumers, 2,766.
 No. manufactories supplied, 10.
 Price gas, gross, 20.5c. per 1,000 c. f.
 Value of gas supplied, for year, \$75,000.
 Supplies Chanute.

Kansas Crude Refinery, Chanute.

Owner, J. P. Stockman.
 Manager, J. P. Stockman.
 Wells drawn from, 2.

Miles pipe-line, 6.
 Annual production, 12,000,000 c. f.
 No. domestic consumers, 4; manufactories supplied, 1.
 Price of gas, gross, domestic, \$1.50 per stove six months; \$2.25 per stove, six months; industrial, 5c. per 1,000 c. f.
 Value of gas supplied, for year, \$700.

Lapham Oil and Gas Co., Chanute.

(A co-partnership.)
 President, A. S. Lapham.
 Manager and pur. agent, John W. Lapham.
 Wells drawn from, 15.
 Miles pipe line, 12.
 Annual production, 120,000,000 c. f.
 Pop. dist. supplied, 10,000.
 Price gas, gross, 10c.
 Value of gas supplied for year, \$12,000.
 Supplies Chanute waterworks and electric light plants.

The Southern Kansas Oil and Gas Co., Chanute.

President, Gordon S. Bowdish.
 Sec'y, treas. and mgr., Wayne H. Warren.
 Pur. agent, Wayne H. Warren.

W. H. Sproul, Chautauqua.

General Office, Sedan, Kan.
 Total investment, \$15,000.
 Owner, W. H. Sproul.
 Manager and pur. agent, W. H. Sproul.
 600 acres leased in Chautauqua, Kan. (Mid-continent field.)
 No. producing oil wells, 25.
 Miles of oil pipe line, 5.
 Well pressures, 150 lbs.
 Annual prod., oil 15,000 bbls.
 Max. day's output, oil, 50 bbls.
 Capacity of storage tanks, 100 bbls.
 Gas wells drawn from 6. Miles of gas pipe line, 14.
 Pop. dist. supplied, 650.
 No. dom. consumers, 125; manufactories, 2.
 Price gas, gross, domestic, 20c. per 1,000 c. f.; industrial, 10c.
 No. gas engines supplied, 5, at 50c. per day; steam boilers, 3, at \$7 per day.
 Value of gas supplied, for year, \$4,000.
 Supplies Chautauqua.

Consumers Gas Co., Chetopa.

(Successor to Labette Gas Co.)
 See report Bartlesville, Okla.

Coffeyville Gas and Fuel Co., Coffeyville.

Capital stock, \$300,000.
 Annual dividend, 2 p. c.
 Bonds, \$6,500; due 10 p. c. yearly; int., 6 p. c.
 President, W. C. Hall.
 Manager, W. H. Shepard.
 Secretary, F. O. Weis.
 Pur. agent, W. H. Shepard.
 (Gas purchased from Kansas Natural Gas Co.)
 Pop. dist. supplied, 16,000.
 Gas purchased, 613,000,000 c. f.
 Miles of pipe line, 60.
 No. domestic consumers, 3,200.
 Price gas, gross, domestic, per 1,000 c. f., 30c.
 Value of gas supplied, \$126,000.
 Supplies Coffeyville.



PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



The Anderson County Light and Heat Co., Colony.

General office, 1116 Commerce Bldg., Kansas City, Mo.
 Capital stock, \$16,000.
 President, C. A. Loomis.
 Vice-president, S. J. Mattocks.
 Manager and pur. agent, S. J. Mattocks.
 Secretary and supt., W. A. Boss.
 Treasurer, S. J. Mattocks.
 Gas purchased, from Kansas Natural Gas Co.
 Amt. purchased, 18,635,000 c. f.
 Pop. dist. supplied, 730.
 No. domestic consumers, 220.
 Price gas, gross, domestic, 60c. per 1,000 c. f.
 Value gas supplied, for year, \$8,183.79.
 Supplies Colony and Welda, Kan.

Edgerton Gas Co., Edgerton.

General office, 1116 Commerce Bldg., Kansas City, Mo.
 Capital stock, \$12,000.
 Bonds \$4,000; int. 6 p. c.
 President, C. A. Loomis.
 Vice-president, S. J. Mattocks.
 Secretary and supt., W. A. Boss.
 Treasurer, S. J. Mattocks.
 Manager and pur. agent, S. J. Mattocks.
 Gas supplied from Kansas City Pipe Line.
 Amt. purchased, 9,302,000 c. f.
 Pop. dist. supplied, 440.
 No. domestic consumers, 115.
 Price gas, gross, domestic, 60c. per 1,000 c. f.
 Value of gas supplied, for year, \$3,595.35.
 Supplies Edgerton.

Elk City Gas and Oil Co., Elk City.

(Gas supplied by Kansas Natural Gas Co.)
 Capital stock, \$15,000; ann. div., 5 p. c.
 President, A. R. Quigg.
 Manager and, pur. agt., A. R. Quigg.
 Gas furnished by Kansas Natural Gas Co. on a percentage basis.
 Miles of pipe line, 6.
 No. domestic consumers, 220.
 Price gas, domestic, 1,000 c. f., 25c.
 Value of gas supplied, for year, \$5,815.
 Supplies Elk City.

Elk Falls Gas, Oil and Development Co., Elk Falls.

Capital stock, \$50,000.
 Annual dividend, 8 p. c.
 President, S. C. Hanna.
 Vice-president, C. C. Forgeot.
 Secretary, J. H. Richolson.
 Treasurer, A. F. Eby.
 Supt. and pur. agent, H. C. McDiamid.
 500 acres leased in Elk Falls.
 Wells drawn from, 5.
 Well pressure, 110 lbs.
 Miles pipe line, 15.
 Annual prod., gas, 6,032,326 c. f.
 Pop. dist. supplied, 300.
 No. domestic consumers, 75.
 Price of gas, gross, dom., 27c. per 1,000 c. f.
 Value gas supplied, for year, \$1,628.71.
 Supplies Elk Falls.

Elsmore Oil and Gas Works, Elsmore.

(Not incorporated.)
 Manager, Frank Goyette.
 Pur. agent, Frank Goyette.
 Wells drawn from, 4.

Miles of pipe line, 3.5.

No. domestic consumers, 77.

Price of gas, gross, 15c. per light; and \$1.50 per stove per mo.

Value of gas supplied, for year, \$2,400.

Supplies Elsmore.

Southwest Gas and Fuel Co., Erie.

(Not incorporated.)
 Manager, L. S. Cambern.
 Pur. agent, L. S. Cambern.
 3,400 acres leased eight miles north of Erie in Neosho Co., Kan.
 Wells drawn from, 14, gas wells; 11 oil wells.
 Wells pressures up to 260 lbs.
 Miles of gas pipe line, 22.
 Annual prod., gas, 56,000,000 c. f.
 No. oil storage tanks; Steel 7; capacity 850 bbls.
 Average price oil, per bbl., \$2.00.
 Pop. dist. supplied, 1,600.
 No. domestic consumers, 400; factories, 2.
 Price of gas, gross, domestic, 30c. per 1,000 c. f.; industrial, 12.5c. per 1,000 c. f.
 Value of gas supplied, for year, \$14,000.
 Supplies Erie.

Eureka Gas Co., Eureka.

Owner, L. O. Madison.
 Mgr. and pur. agt., L. O. Madison.
 Population, 3,000.
 Wells drawn from, 6.
 Miles pipe line, 12.
 No. domestic consumers, 180.
 Price gas, gross, domestic, per 1,000 c. f., 30c.
 Value of gas supplied, for year, \$900.
 Supplies part of Eureka.

The Fort Scott and Nevada Light, Heat, Water and Power Co., Fort Scott.

Cont. by Ohio & Western Utilities Co., which is controlled and operated by National Utilities Co., Boston.
 Office, 207 E. Cherry St., Nevada, Mo.
 Capital stock, \$800,000.
 Bonds, \$450,000; due, 1914-1932; int., 6 p. c.
 President, W. C. Gunn, Fort Scott, Kan.
 Vice-president, W. R. Gunn, Fort Scott, Kan.
 Secretary, H. L. Wood, Fort Scott.
 Treasurer, A. W. Brooks, Boston, Mass.
 Gen. Manager, J. Fred Schaefer, Jr., Nevada, Mo.
 Superintendent, O. W. Cook, Nevada, Mo.
 Obtain all gas from Kansas Natural Gas Co.
 Miles pipe line, 64.
 Pop. dist. supplied, 9,000.
 No. domestic consumers, 1,003.
 No. manufactories, 200.
 Price gas, gross, domestic, 30c. per 1,000 c. f.; industrial, 10c. to 20c.
 Value of gas supplied for year, \$42,000.
 Supplies Fort Scott, Moran and Bronson, Kan.; Nevada and Deerfield, Mo.

Fort Scott Gas and Electric Co., Fort Scott.

Capital stock, \$350,000.
 Bonds outstanding, \$350,000; due, 1922; int., 5 and 6 p. c.
 President, H. Wurdack.
 Manager, A. L. Abbington.
 Secretary, Douglas Hudson.
 Purchasing agent, P. Ziegenfuss.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Engineers, Light and Development Co., St. Louis, Mo.
 Population city, 10,500; dist. supplied, 9,000.
 Obtain supply from Kansas Natural Gas Co.
 Miles pipe line, 32.
 High pressure mains, 7 miles; pressure, 6 lbs.
 No. domestic consumers, 1,820; manufactories supplied, 75.
 Price gas, gross, domestic, 33c; net 30c. per 1,000 c. f.; industrial, 12.5c.
 No. ranges in use, 800; heaters, 950; water heaters, 100.
 Value of gas supplied, for year, \$74,884.85.
 Supplies Fort Scott.

ELECTRICAL DEPARTMENT.

System operated: Arc, D. C.; incand., A. C., 60 cycle; power, A. C.
 Generating capacity: Lighting, 1,000 kw.
 Voltage: Primary, 2,300, at arc, 80; incand., 110; power, 220.
 City lighting contract: Hours lighted per year: Arc, 2,700.
 No. public arcs, 160. Price per year, \$60.
 Price current per kw. hr., gross, 12.5c. to 2 cts. Discounts, 20 p. c.
 Power circuits: No. motors, 100. Price per kw. hr., 8c. to 2c. Disc., 20 p. c.
 Generating power used, Steam; rated h. p., 1,250.
 Output of station, kw. hrs., total for year, 1,080,000.
 Cost of station slack, per ton, \$1.85, on track.

Excelsior Brick Co., Fredonia.

Capital stock, \$30,000.
 President, J. M. Kennedy.
 Manager and pur. agent, J. D. Lingenfelter.
 Wells drawn from, 12. Miles of pipe line, 7.
 Annual prod., 240,000,000 c. f.
 Gas used in Co's. manufacturing plant.

The Fredonia Gas Co., Fredonia.

Capital stock, \$100,000.
 Annual dividend, 8 p. c.
 President, B. E. La Dow.
 Manager, C. V. La Dow.
 Purchasing agt. C. V. La Dow.
 Wells drawn from, 40.
 Miles of pipe line, 40.
 Pop. district supplied, 6,000.
 No. domestic consumers, 1,350; manufactories supplied, 4.
 Price of gas, gross, domestic, 25c. per 1,000 c. f.; disc., 10 p. c.; industrial, 10c. to 15c. per 1,000 c. f.
 Value of gas supplied, for year, \$85,000.
 Supplies Fredonia, New Albany and Fall River.

American Gas Co., Galena.

Capital stock, \$195,000.
 President, P. V. Byrnes.
 Manager, A. Byrnes.
 Pur. agent, P. V. Byrnes.
 (Purchase gas from Kansas Natural Gas Co.)
 Gas purchased, 356,734,000 c. f.
 Miles of pipe line, 66.
 Gas purchased, approx., 413,295,000 c. f.
 Pop. dist. supplied, 17,000.
 No. domestic consumers, 2,858; factories, 35.

Price of gas, gross, domestic, and industrial, 30c. net in Galena, Oswego, Columbus and Altamont; 32c. net in Cherokee and Scammon.

Value of gas supplied, for year, \$114,831.46.
 Supplies Galena, Oswego, Columbus, Altamont, Cherokee, and Scammon, Kansas.

Gardner Gas Co., Gardner.

General office, 1,116 Commerce Bldg.
 Capital stock, \$20,000.
 Bonds \$6,000; int. 6 p. c.
 President, C. A. Loomis.
 Secretary and supt., W. A. Boss.
 Treasurer, S. J. Mattocks.
 Manager and pur. agent, S. J. Mattocks.
 Pop. dist. supplied, 514.
 Amt. gas purchased, 18,826,000 c. f.
 Gas purchased from Kansas Natural Gas Co.
 Price of gas, gross; domestic, 60c. per 1,000 c. f.
 No. domestic consumers, 210.
 Value of gas supplied, for year, \$7,311.49.
 Supplies Gardner.

The Garnett Light and Fuel Co., Garnett.

Capital stock, \$80,000.
 President, A. L. Derby.
 Treasurer, Geo. W. Lyndale.
 Secretary and pur. agent, Gail Carey.
 Manager, A. L. Derby.
 Purchasing agent, A. L. Derby.
 3,500 acres leased in Garnett and vicinity.
 Wells drawn from, 20. Miles pipe line, 35.
 Pop. dist. supplied, 3,000.
 No. domestic consumers, 875.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Supplies Garnett and vicinity.

Greeley Gas Co., Greeley.

Capital stock \$10,000.
 President, C. S. Powers.
 Manager, L. D. Gehr.
 Pur. agent, C. S. Powers.
 Wells drawn from, 11. Miles of pipe line, 6.5.
 Price of gas, gross, domestic, 30c. per 1,000 c. f.
 No. domestic consumers, 165.
 Value of gas supplied, for year, \$2,000.
 Supplies Greeley.

Humboldt Brick Mfg. Co., Humboldt.

Capital stock, \$82,275.
 Annual dividend, 15 p. c.
 President, E. H. Leitzbach.
 Treasurer, W. A. Bydley.
 Manager and pur. agent, J. J. Amos.
 Acres owned 200; acres leased 5,000. Field in Allen and Woodson Counties, Kan.
 Wells drawn from, 14. Miles pipe line, 20.
 Well pressures, 125 to 250 lbs.
 Pop. dist. supplied, 5,000.
 No. domestic consumers, 50; factories, 7.
 Price gas, gross, domestic, 25c. per 1,000 c. f.; industrial, 15c. to 20c.
 Value of gas supplied, for year, \$80,000.
 Supplies Humboldt in part.

Humboldt Gas Co., Humboldt.

Capital stock, issued, \$50,000.
 Annual div., 10 p. c.
 President, L. W. Young, Jr.
 Manager and pur. agent, L. W. Young, Sr.

HUNT INDUSTRIAL RAILWAYS for handling coal are built in a variety of special forms, for side or bottom dumping, or for emptying with minimum labor with shovels. Standard designs of cars, track, curves, switches, etc., can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Wells drawn from, 20. Miles pipe line, 20.
Annual production, 3,000,000 c. f.
No. dom. consumers, 625; manufactories, 2.
Price gas, dom., 25 cts. per 1,000 c. f.;
industrial, 10c. per 1,000 c. f.
Value of gas supplied, for year, \$28,000.
Supplies Humboldt.

Hutchinson Gas and Fuel Co., Hutchinson.

Controlled by Southwestern Power & Lt. Co.
Manager, Samuel Mountain.
(Purchase gas from the Wichita Natural Gas
Co.)
Amount gas purchased, 577,990,000 c. f.
Miles of pipe line, 50.2.
Price of gas, gross, domestic, 30c.; industrial,
12.5c. to 30c.
No. domestic consumers, 3,362; factories, 20.
Supplies Hutchinson.

The Gas Pipe Line Corporation, Independence.

Capital stock, pref., \$150,000; com., \$500,000.
Annual dividend, pref., 7 p. c.
Bonds, \$150,000; due, 1922; int. 6 p. c.
President, Arthur S. Kimberly.
Sec'y and treas., Geo. C. Beach.
Manager, Paul R. Johnson.
Pur. agent, L. J. Love.
Field in Chautauqua and Elk Counties, Kan.
Miles pipe line, 100.
Gas purchased, 35,000,000 c. f.
Value gas supplied for year, \$350,000.
Buys, transports and sells gas to Kansas
Natural Gas Co. at Grabham Station.
Kansas.

Kasigan Oil, Gas and Power Co., Independence.

General office, Jackson, Mich.
Capital stock, \$2,000,000.
President, John L. Senior.
Manager and pur. agent, H. I. Cowham.
Wells drawn from, 130. Miles pipe line, 115.
Ann. prod., 33,891,420 c. f.; gas purchased,
620,882,420 c. f.
No. domestic consumers, 1,450.
Price gas, gross, domestic, 20c. per 1,000 c. f.;
industrial, 10c. to 15c.
Value of gas supplied, for year, \$66,426.66.
Supplies Independence.

Smith and Swan, Independence.

(See report under Henryetta, Okla.)

Kansas Natural Gas Co., Independence.

Capital stock, \$6,000,000.
Bonds, \$2,420,050; due 1918; int., 6 p. c.
Bonds, (Kansas City Pipe Line Co.), \$585,000.
Receiver, John M. Landon.
President, V. A. Hays.
Sec'y and treas., R. E. McQuiddy.
Population district supplied, 750,000.
Wells drawn from, 488. Miles pipe line, 1,200.
No. dom. consumers, 148,023; factories, 308.
Price gas, gross, domestic, per 1000 c. f., 20c.
to 35c.; industrial, 10c. to 15c.
Value gas supplied, for year, \$3,155,229.45.
Supplies Kansas City, Topeka, Lawrence,
Leavenworth, Atchison, Ottawa, Inde-
pendence, Fort Scott, Colony, Welda,
Scipio, Richmond, Princeton, Baldwin,
Tonganoxie, Le Loup, Wellsville, Edger-
ton, Gardner, Olathe, Lenexa, Shawnee,

Merriam, Rosedale, Galena, Oswego, Lib-
erty, Columbus, Altamont, Cherokee,
Scammon, Weir City, Pittsburg, Sycam-
ore, Jefferson, Petrolia, Carlyle, Elk
City, Thayer, Parsons, Coffeyville and
Caney, in Kansas; St. Joseph, Joplin,
Kansas City, Carl Junction, Oronogo,
Purcell, Weston, Neck City, Nevada and
Alba, in Missouri. (Doherty organization
has contracted to acquire.)

City of Iola, Dept. of Public Utilities, Gas Dept., Iola. (Municipal plant.)

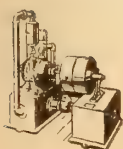
Managed by Com. on Public Utilities.
Commissioner, J. F. Knack.
City clerk, O. W. Holmes.
Pur. agent, C. M. Thompson.
Gas purchased from Portland Gas and Pipe-
line Co. and The J. B. Kirk Gas and
Smelting Co. at 20c. per 1,000 c. f.
Acres owned, 13; leased, 1,200.
Annual production, 150,000,000 c. f.; gas pur-
chased, 332,091,200 c. f.
Wells drawn from, 13. Miles of pipe line, 80.
Well pressures, 37 lbs.
Pop. dist. supplied, 11,000.
No. domestic consumers, 2,600.
Price gas, gross, domestic, per 1,000, c. f., 30c.,
industrial, special.
Value gas supplied, for year, \$52,612.89.
Supplies Iola.

The Kansas Farmers' Gas Co., Kansas City.

Gen'l office, 1116 Commerce Bldg.
Capital stock, \$50,000.
Bonds, \$18,707; int., 6 p. c.
President, C. A. Loomis.
Vice-president, S. J. Mattocks.
Treasurer, S. J. Mattocks.
Manager and pur. agent, S. J. Mattocks.
Secretary and supt., W. A. Boss.
Gas purchased from Kansas Natural Gas Co.
Amount gas purchased, 21,697,000 c. f.
Pop. dist. supplied, 1,700.
No. domestic consumers, 355.
Price gas, gross, domestic, 60c. per 1,000 c. f.
Value gas supplied, for year, \$8,589.22.
Supplies rural districts in Johnson, Ander-
son, Franklin, Douglas and Miami Cos.,
near following towns; Lenexa, Shawnee,
Rosedale, Richmond, Princeton, Colony,
Welda, Ottawa, Baldwin, Wellsville
Edgerton, Gardner and Le Loup.

Wyandotte County Gas Co., Kansas City.

Capital stock, \$300,000 pref.; \$700,000 com.
Bonds outstanding, \$1,341,000, due 1924; int.,
6 p. c.
President, E. L. Brundrett.
Secretary, M. J. Barry.
Treasurer, James Ball.
Comptroller, G. W. Curran.
General manager, W. H. McKenzie.
Purchasing agent, J. A. Pearson.
Pop. city supplied, 102,903.
No. consumers and meters, 19,570.
Price gas, domestic, per 1,000 c. f., 60c. net.
10 p. c. added after the 10th of mo. (6c.)
Miles of mains, 188.26.
No. public lamps, 1,385 Welsbachs; hours
lighted, 4,000.



YOU CAN CONVINCE THE MOST SKEPTICAL that gas
is not an expensive fuel. It is only expensive when inefficiently used. THE
NEEDHAM HIGH PRESSURE GAS SYSTEM enables your customers to
utilize every heat unit.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Price includes repairs, care, lighting and extinguishing.
 Annual sales, approx., 988,497,000 c. f.
 Ranges in use, 15,400; heaters, 4,200; water heaters, 1,500.
 Supplies Kansas City and Rosedale.

Citizens Light, Heat and Power Co., Lawrence.

(Gas supplied by Kansas Natural Gas Co.)
 Capital stock, \$300,000.
 Bonds, \$300,000; due 1925; int., 5 p. c.
 President, Jos. J. Heim.
 Manager and pur. agt., C. J. Dodds.
 Gas furnished by Kansas Natural Gas Co.
 Gas purchased, 364,237,500 c. f.
 Miles of mains, 57.
 No. domestic consumers, 3,350.
 Price gas, gross, domestic, per 1,000 c. f., 66c.
 (since Sept. 1, 1917.)
 Value gas supplied, for year, \$148,200.
 Supplies Lawrence.

Leavenworth Light, Heat and Power Co., Leavenworth.

(Gas supplied by Kansas Natural Gas Co.)
 For capitalization and bonds, see Appendix.
 President, E. G. Connette.
 Manager, C. S. Emmert.
 Pur. agt., United Gas & El. Eng. Corp.
 Population dist. supplied 27,583; city same.
 No. consumers, 3,088.
 Miles pipe line, 45.53.
 Gas purchased, 278,777,700 c. f.
 Price of gas, dom., 66c., less 6c.
 Value of gas supplied for year, \$101,400.89.
 Supplies Leavenworth.

ELECTRICAL DEPARTMENT.

System operated: A. C. 3 phase, 60 cycle and D. C.
 Generating capacity: Lighting and power, 1,600 kw.
 Voltage: Line, 2,300; incand., 110; power, 220.
 City lighting contract: Hours lighted, 4,000.
 No. public arcs, 125; 500 watt. Price per year, \$70.
 No. public incand., 330; 40 watt. Price per year, \$14.
 Commercial lighting: No. arcs, 113; No. incand., 38,160.
 Price current per kw. hr., gross, 11c. Discount, 1c.
 Power circuits: Motors, 1,264 h. p. Price per kw. hr., 10c. to 4.25c. Disc. up to 40 p. c. on hours use basis.
 Output of station, kw. for year, 4,274,094.
 Generating power, Steam; rated 1,450 kw.

The Liberal Oil and Gas Co., Liberal.

Gen'l office, Walker-Cogswell Bldg., Claremore, Okla.
 (Company in process of organization.)
 Capital stock, \$125,000.
 President and mgr., A. M. White.
 Pur. agents, A. M. White and W. B. Howard.
 Will supply Liberal, Kan.; Tyrone, Hooker and Guymon, Okla.

Mound City Brick and Gas Co., Mound City.

Capital stock, \$10,000.
 Annual dividend, 10 p. c.
 President, O. A. Kentner.

Secretary, E. N. Gause.
 Treasurer, H. C. Reese.
 Manager and pur. agent, O. A. Kentner.
 Gas purchased, 25,000,000 c. f. (From the Sugar Valley Oil Co.)
 Miles pipe line, 12.
 Pop. dist. supplied, 1,000.
 No. domestic consumers, 250; industrial, 2.
 Price gas, gross, domestic, 30c. per 1,000 c. f.; industrial, 25c.
 Value gas supplied, for year, \$7,000.
 Supplies Mound City.

Mound Valley Natural Gas and Oil Co., Mound Valley.

Capital stock, \$50,000.
 Annual dividend, 4 p. c.
 President, William Jepson.
 Manager and pur. agent, Geo. F. Jepson.
 Wells drawn from, 13.
 Miles pipe line, 25.
 Annual prod., 36,000,000 c. f.
 No. domestic consumers, 340.
 Price gas, gross, 25c per 1,000 c. f.; industrial, 7c. per 1,000 c. f.
 Value of gas supplied, for year, \$7,000.
 Supplies Mound Valley.

The Hale Gas Co. and Cherryvale Gas Light & Power Co., Neodesha.

(Sold to Union Pub. Service Co., Kansas City, in 1917.) See Tri-City Gas Co., Altoona, Kan.

Neodesha Gas Plant, Neodesha.

(Municipal plant.)
 Mayor, J. W. Bogue.
 Gas purchased from Hale Gas Co.
 Amount gas purchased, 155,000,000 c. f.
 No. dom. customers, 800.
 Price of gas, gross, 25c. per 1,000 c. f.
 Value of gas supplied for year, \$38,250.

Newton Gas and Fuel Co., Newton.

Cont. by Southwestern Power & Lt. Co.
 Manager, Samuel Mountain.
 Buys gas from the Wichita Natural Gas Co.
 Gas purchased, 351,000,000 c. f.
 Miles of mains, 24.2.
 Price gas, gross, domestic, 30c. per 1,000; industrial, 12.5c. to 27c. per 1,000 c. f.
 No. domestic consumers, 1,787; manufacturing factories supplied, 5.
 Supplies Newton.

Olathe Gas Co., Olathe.

General office, 915 Commerce Bldg., Kansas City, Mo.
 Capital stock, \$1,000.
 Bonds, \$75,000; due 1928; int., 6 p. c.
 President, W. F. Guthrie.
 Manager, Ed. L. Smith.
 Purchasing agent, Ed. L. Smith.
 Wells drawn from, 17.
 Miles pipe line, 11.
 Annual production 40,000,000 c. f.
 Gas purchased, 40,000,000 c. f.
 Pop. dist. supplied, 3,800.
 No. domestic consumers, 850.
 Price gas, gross, domestic, 35c. per 1,000 c. f.
 Value of gas supplied, for year, \$24,188.09.
 Supplies Olathe.

COMPRESSOR FOR AIR OR GAS, direct connected gas engines driven with high speed "Biplane" Valves exceedingly compact, efficient and economical.

HOPE ENGINEERING & SUPPLY COMPANY,
 Pittsburgh, Pa. Mt. Vernon, Ohio.

Tulsa, Okla.

Miami County Gas Co., Osawatomie.

Office, 1116 Commerce Bldg., Kansas City, Mo.
 Capital stock, \$100,000.
 Bonds, \$73,000; due serially; int., 6 p. c.
 President, Chas. A. Loomis.
 Manager and pur. agent, S. J. Mattocks.
 Secretary and treas., S. J. Mattocks.
 Superintendent, Wm. A. Boss.
 Pop. dist. supplied, 9,500.
 Gas purchased, 338,968,000 c. f.
 Gas supplied by Sentinel Oil and Gas Co.
 and Franklin Co. Pipe Line Co.
 Pop. dist. supplied, 9,500.
 Price of gas, gross, dom., 30c.; indus., 15c.
 No. dom. consumers, 1,700; indus. consumers, 15.
 Value of gas supplied for year, \$64,864.15.
 Supplies Osawatomie and Paola.

Franklin County Pipe Line Co., Ottawa.

Subsidiary of Cities Fuel and Power Co.
 (Operated by the Doherty Organization.)
 General office, Bartlesville, Okla.
 Capital stock, \$50,000.
 President, J. C. McDowell.
 Manager, A. J. Diescher.
 Gas purchased from Sentinel Oil and Gas Co.
 Sells entire output to Kansas Natural Gas Co.,
 Miami County Gas Co. and Rantoul Gas Co.

Sentinel Oil and Gas Co., Ottawa.

Subsidiary of Cities Fuel and Power Co.
 (Operated by the Doherty Organization.)
 General office, Bartlesville, Okla.
 Capital stock, \$66,755.
 President, F. W. Frueauff.
 Vice-pres., A. J. Diescher.
 Secretary, C. E. Murray.
 No. gas wells, 30.
 Sells entire output of gas to the Franklin
 County Pipeline Co.

The Ottawa Gas and Electric Co., Ottawa.

General office, 1116 Commerce Bldg., Kansas
 City, Mo.
 Capital stock, pref., \$75,000; com., \$175,000.
 Annual dividend, 6 p. c.
 Bonds, \$56,000; due 1920; int., 6 p. c.
 President, C. A. Loomis.
 Vice-president, S. J. Mattocks.
 Secretary, W. A. Boss.
 Treasurer, S. J. Mattocks.
 Manager and pur. agent, S. J. Mattocks.
 Superintendent, Wm. A. Boss.
 Gas supplied by Kansas Natural Gas Co.
 Amount gas purchased, 228,629,000 c. f.
 Population, 9,800.
 No. domestic consumers, 1,940; factories, 6.
 Price gas, gross, domestic and indus., 60c.
 per 1,000 c. f.
 Value gas supplied, for year, \$84,600.11.
 Supplies Ottawa.

Franklin Light and Fuel Co., Paola.

Population, 3,144.
 Supplies Paola.

The Parsons Gas Co., Parsons.

Office, 1116 Commerce Bldg., Kansas City, Mo.
 Successor to Parsons Natural Gas Co.
 Reorganized; began operation Dec. 1, 1917.

Capital stock, \$100,000.

Bonds, \$150,000; due annually; interest, 6 p. c.
 President, Charles A. Loomis.
 Sec'y and treas., S. J. Mattocks.
 Manager, Geo. D. Waters.
 Pur. agent, S. J. Mattocks.
 Superintendent, Wm. A. Boss.
 Gas supplied by Kansas Natural Gas Co.
 Miles pipe line, 61.6.
 Pop. dist. supplied, 17,000.
 Price gas, gross, domestic and indus., 35c.
 per 1,000 c. f.
 No. domestic consumers, 3,690.
 No. manufactories, 10.
 Value gas supplied, for (1 mo.) \$26,489.35.
 Supplies Parsons and Dennis.

Peru Gas and Mfg. Co., Peru.

Capital stock, \$50,000.
 President, Wm. Geiser.
 Manager and pur. agent, W. O. Meeker.
 Wells drawn from, 10. Miles pipe line, 18.
 No. dom. consumers, 300; manufactories, 1.
 Price gas, gross, domestic, flat rate, stoves,
 \$1.50 each, lights, 15c. per 1,000; industrial,
 1,000 c. f., 5c.
 Value of gas supplied, for year, \$10,000.
 Supplies Peru and Niotaze.

Pleasanton Gas and Oil Co., Pleasanton.

Capital stock, \$15,000.
 President, Harry Evans.
 Manager and pur. agent, Harry Evans.
 Secretary, T. J. Blakey.
 Wells drawn from, 10. Miles pipe line, 11.
 No. domestic consumers, 300.
 Price gas, gross, 25c. per 1,000 c. f.
 Value gas supplied, for year, \$10,000.
 Supplies Pleasanton.

Rantoul Gas Co., Rantoul.

Office, 1116 Commerce Bldg., Kansas City, Mo.
 (Partnership.)
 Gas supplied by Franklin Co. Pipe Line Co.
 Amount purchased, 7,324,000 c. f.
 Pop. dist. supplied, 300.
 No. domestic consumers, 75.
 Price gas, gross, domestic, 25c. per 1,000 c. f.
 Value gas supplied, for year, \$1,968.95.
 Supplies Rantoul, Kan.

Rantoul Heat and Light Co., Rantoul.

(Owned by S. S. Whiteford & Co.)
 President, S. S. Whiteford.
 Manager, R. F. Duffield.
 Wells drawn from, 2. Miles pipe line, 2.
 Annual product, 5,000,000 c. f.
 Price of gas, gross, domestic, 25c. per 1,000 c. f.
 No. domestic consumers, 50.
 Value of gas supplied, for year, \$1,200.
 Supplies Rantoul only.
 (No report, 1918.)

Richmond and Princeton Gas Co., Richmond.

General office, 1116 Commerce Bldg., Kansas
 City.
 Capital stock, \$10,000.
 Bonds, \$6,000; int., 6 p. c.
 President, C. A. Loomis.
 Vice-president, S. J. Mattocks.
 Secretary and supt., W. A. Boss.
 Treasurer, S. J. Mattocks.

Tycos Temperature Instruments for Gas Works

H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.
 Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Manager and pur. agent, S. J. Mattocks.
Pop. dist. supplied, 625.
Gas supplied by Kansas Natural Gas Co.
Amount gas purchased, 13,835,000 c. f.
No. domestic consumers, 189.
Price gas, net, domestic, 60c. per 1,000 c. f.
Value gas supplied, for year, \$5,417.65.
Supplies Richmond, Scipio and Princeton.

Sedan Gas and Water Co., Sedan.

Capital stock, common, \$40,000.
Bonds, \$22,500; due 1916; int., 6 p. c.
President and mgr., F. A. Smith.
Purchasing agent, E. C. Ackerman.
Wells drawn from, 11.
Price gas, gross, domestic, \$1.50 to \$2.00 per m. c. for fuel; 20c. per 1,000 c. f. per light; industrial, 8c. per 1,000.
No. domestic consumers, 410.
No. manufacturing supplied, 3.
Value gas supplied, for year, \$14,000.
Supplies Sedan.

Johnson County Gas Co., Shawnee.

Supplies Lenexa, Merriam and Shawnee.
(See report under Kansas City, Mo.)

Twin Cities Gas Co., Strong City.

Successor to the Kansas Gas and Cement Co. (Partnership.)
President, E. D. Wilson.
Sec'y and treas., Edw. Thurston.
Manager, E. D. Wilson.
4,000 acres leased, near Elmdale, Chase County, Kan.
Wells drawn from, 16.
Miles pipe line, 20.
Well pressures, 90 to 200 lbs.
Annual production, 40,000,000 c. f.
Pop. dist. supplied, 2,500.
No. domestic consumers, 350.
Price of gas, gross, domestic, 30c.
Value of gas supplied for year, \$12,000.
Supplies Strong City and Cottonwood Falls.

Thayer Gas Co., Thayer.

Successor to O. A. Evans & Co.)
Capital stock, \$3,375.
President, L. W. Young, Jr.
Manager and pur. agt., L. W. Young, Sr.
(Gas supplied by Kansas Natural Gas Co.)
No. domestic consumers, 190.
Price gas, gross, domestic, per 1,000 c. f., 30c.
Value of gas supplied, for year, \$5,000.
Supplies Thayer.

Tonganoxie Gas and Electric Co., Tonganoxie.

Capital stock, \$20,000.
President, Whitised Laming.
Treasurer, John C. Laming.
Manager, S. J. McNaughton.
Purchasing agent, S. J. McNaughton.
(Gas supplied by Kansas Natural Gas Co.)
Gas purchased 21,987,000 c. f.
Miles of pipe line, 6.
Pop. dist. supplied, 1,100.
No. domestic consumers, 324.
Price gas, gross, 60c. per 1,000 c. f.
Value gas supplied, for year, \$9,708.60.
Supplies Tonganoxie and Reno, Kan.

Consumers Light, Heat and Power Co., Topeka.

Receiver, L. G. Treleven.
President, G. M. Gunderson.
Superintendent, G. J. Swan.
Treasurer, E. J. E. Ward, Peoples Gas Bldg., Chicago.
Secretary and manager, L. G. Treleven
Gas supplied by Kansas Natural Gas Co.
Supplies Topeka.

Queen City Oil and Gas Co., Topeka.

Office, Kansas Reserve State Bank Bldg.
Wells drawn from, 7.
No. dom. consumers, 100.

Weir Gas Co., Weir.

Office, 1116 Commerce Bldg., Kansas City, Mo.
Capital stock, \$5,000.
Bonds, \$3,000; due, 1920; int., 6 p. c.
President, Charles A. Loomis.
Treasurer and pur. agent, S. J. Mattocks.
General manager, S. J. Mattocks.
Sec'y and supt., Wm. A. Boss.
Gas supplied by Kansas Natural Gas Co.
Amount gas purchased, 22,010,000 c. f.
Pop. dist. supplied, 2,580.
No. domestic consumers, 271.
Price gas, gross, domestic, 50c. per 1,000 c. f.
Value gas supplied, for year, \$7,312.29.
Supplies Weir.

Anderson County Light and Heat Co., Welda.

Supplies Colony and Welda.
(See report under Colony, Kan.)

The Wellington Gas Co., Wellington.

Office, Tulsa, Okla.
Capital stock, \$100,000.
President, W. A. Spencer
Secretary and manager, E. W. Sinclair.
Superintendent, T. O. Ford.
Purchasing agent, T. O. Ford.
Gas from Wichita Natural Gas Co.
Miles of pipe line, 28.
Pop. dist. supplied, 6,042.
No. domestic consumers, 1,503; manufacturing supplied, 5.
Price gas, gross, domestic, 30c.; industrial, 12.5c. per 1,000 c. f.
Value of gas supplied for year, \$77,283.19.
Supplies Wellington.

Wellsville Gas Co., Wellsville.

General office, 1116 Commerce Bldg., Kansas City, Mo.
Capital stock, \$20,000.
Bonds, \$6,000; int., 6 p. c.
President, C. A. Loomis.
Manager and pur. agent, S. J. Mattocks.
Secretary and supt., Wm. A. Boss.
Gas supplied by Kansas Natural Gas Co.
Amount gas purchased, 22,010,000 c. f.
Pop. dist. supplied, 770.
No. domestic consumers, 273.
Price gas, domestic, 60c. per 1,000 c. f.
Value gas supplied, for year, \$7,347.70.
Supplies Wellsville and La Loup.

Kansas Gas and Electric Co., Wichita.

(Controlled by Am. Power and Light Co.)
Capital stock, preferred, \$1,900,000; common, \$3,000,000; annual dividend, pref., 7 p. c.
Bonds, \$4,702,000; int. 5 p. c.

GAS EXHAUSTERS

Quality



GAS BOOSTERS

*For Industrial
Appliances*

President, H. P. Wright.
 Vice-presidents, L. O. Ripley, F. G. Sykes,
 A. S. Grenier, G. E. Claflin and M. C. Kelly.
 Gen'l manager, H. S. Sladen.
 Gas purchased from the Wichita Natural
 Gas Co. and Kansas Natural Gas Co.
 Miles of mains, 203.7.
 No. consumers, 16,553.
 Annual output, approx. 3,437,516,000 c. f.
 Supplies Wichita, Pittsburg.

ELECTRICAL DEPARTMENT.

(Wichita, Pittsburg, Independence and Ar-
 kansas City.)
 System operated: Arc A. C., 60 cycle; incand.
 A. C., 60 cycle; power, A. C. and D. C.
 Generating capacity: 14,155 kw.
 Voltage: incand., 110; power, 220 A. C., 500
 D. C. Transmission system to Newton,
 60,000 volts.
 City lighting contract: Hours lighted per
 year: Arc and incand., dusk to dawn.
 No. public ares, (Wichita), 368; 450 watt.
 Price per year, \$66.
 No. public incand. (Wichita), 2,204; 80 watt.
 Price per year, \$18.
 No. public ares (Pittsburg, Frontenac and
 Cherokee), 183; incand., 95.
 Commercial lighting: No. incand., 17,893 kw.
 equiv; elec. consumers, 21,126.
 Price per kw. hr., 9c. to 5c.
 Power circuits: price current kw. hr., 7c
 to 6 mills plus \$1.50 per mo. per kw.;
 sliding scale.
 Motors, connected, 3,441 h. p. (Pittsburg);
 17,400 h. p. (Wichita); 2,700 h. p. (Independ-
 ence); 789 h. p. (Arkansas City.)
 Output of stations, kw. hrs. for year,
 46,113,000.
 Station fuel, Natural gas and oil.
 Supplies Newton, Independence, Sedgwick,
 Valley Center, Cherryvale, Cherokee,
 Halstead, Pittsburg, Frontenac, Burrton,
 Eldorado, Towanda, Benton, Arkansas
 City, Buhler, Hesston, Moundridge,
 Whitewater and Augusta oil field.

Manufacturers Oil and Gas Co., Wichita.
 Company out of business.

The Western Distributing Co., Wichita.
 (Operated by the Doherty Organization.)
 Capital stock, common, \$175,000.
 President, H. L. Doherty.
 Vice-president, F. W. Frueauff.
 Vice-president, A. J. Diescher.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Pur. agent, Walter S. Hoyt.
 No. domestic consumers, 5,402; manufacto-
 ries supplied, 52.

Price gas, gross; domestic, 26c. per 1,000 c. f.
 industrial, 12.5c. per 1,000 c. f.
 Annual sales, approx. 864,965,000 c. f.
 Supplies El Dorado, Halstead, Burrton, Sedg-
 wick, Valley Center, Mt. Hope, Haven,
 Mulvane, Belle Plaine, Oxford, Derby,
 Udall, Rose Hill, Atlanta, Burden, Cam-
 bridge, New Salem, Grenola, Douglass
 Bentley, Arkansas City and Cambridge.

Wichita Natural Gas Co., Wichita.

(Operated by the Doherty Organization.)
 Subsidiary of Empire Gas and Fuel Co.
 Distributing center, Bartlesville, Okla.
 Capital stock, common, \$3,000,000.
 President, F. W. Frueauff.
 Vice-presidents, J. C. McDowell, A. J. Diescher.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Wells drawn from, 36. Miles pipe line, 367.
 Price of gas, gross, domestic, 27c. per 1,000
 c. f.; industrial, 12.5c.
 No. dom. consumers, 30,264; factories, 131.
 Annual sales, approx., 15,656,036,000. c. f.
 Supplies Hutchinson, Wichita, Newton,
 Winfield and Wellington, through dis-
 tributing companies; and to The West-
 ern Distributing Company.

Wichita Pipe Line Co., Wichita.

(Operated by the Doherty Organization.)
 Subsidiary of Empire Gas and Fuel Co.
 Capital stock, \$2,000,000.
 President, F. W. Frueauff.
 Vice-president, J. C. McDowell, A. J. Diescher
 and H. H. Scott.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Miles pipe line, 327.
 Annual sales, 11,765,037,000 c. f.

The Cowley County Gas Co., Winfield.

(Sold to Empire Gas and Fuel Co. of Bartles-
 ville, Okla.)

The Winfield Natural Gas Co., Winfield.

Address, P. O. Box 610.
 Miles of pipe line, 10.
 Pop. dist. supplied, 8,000.
 No. consumers, 325.

Keiser Gas Co., Yates Center.

Capital stock, \$125,000.
 President, Henry Keiser.
 Manager and sec'y, F. P. Casey.
 Pur. agent, Henry Keiser.
 Wells drawn from, 22. Miles pipe line, 22.
 Annual production, 175,772,000 c. f.
 No. domestic consumers, 1,050; factories, 4.
 Price of gas, gross, domestic, 25c. per 1000 c. f.;
 industrial, 12.5c. per 1000 c. f.
 Value gas supplied, for year, \$36,391.80.
 Supplies Yates Center, Buffalo and Rose.

KENTUCKY

United Fuel Gas Co., Inc., Ashland.
 (See report under Charleston, W. Va.)

Barbourville Supply Co., Barbourville.
 (Successor to Cumberland Natural Gas Co.)
 Capital stock, \$50,000.
 Bonds, \$25,000; int., 6 p. c.

President and manager, C. P. Kennedy.
 Secretary and treasurer, R. H. Newitt.
 Purchasing agent, C. P. Kennedy.
 Superintendent, R. H. Newitt.
 Knox County field.
 Wells drawn from, 2. Miles of pipe line, 12.
 Well pressures, 200 and 175 lbs.

WASH OIL PUMPS

Economy



P.H. & F.M. ROOTS CO.
 Connersville

Indiana

New York

Chicago

Annual prod., 18,000,000 c. f.
 Pop. dist. supplied, 2,000.
 No. domestic consumers, 250; factories, 3.
 Price of gas, domestic, 30c.; industrial, 17c.
 Value gas supplied, for year, \$5,000.
 Supplies Barbourville.

Burning Springs Gas and Fuel Co., Burning Springs.

Capital stock, \$2,000.
 Manager and pur. agt., J. L. Rawlings.
 Wells drawn from, 1.
 Miles of pipe line, 2.
 Pop. dist. supplied, 200.
 No. domestic consumers, 30; factories, 1.
 Price gas, gross, domestic, 75c. per mo.
 Value gas supplied, for year, \$400.
 Supplies Burning Springs.

Central Gas Co., Central City.

Capital stock, \$50,000.
 President and mgr., S. J. Gish.
 Supplies Central City.

Cloverport Gas Co. Inc., Cloverport.

(Successor to Cloverport Natural Gas Co.)
 President and treas., E. Bowne.
 Manager and sec'y, W. J. Worden.
 Pur. agents, E. Bowne or W. J. Worden.
 2,000 acres leased in Cloverport, Ky.
 Wells drawn from, 5.
 Miles pipe line, 8.
 Well pressures, 75 lbs.
 Annual production approx., 35,000,000 c. f.
 Pop. dist. supplied, 2,000.
 No. domestic consumers, 200.
 No manufactories supplied, 4.
 Price gas, gross, domestic and indus., 45c.
 Supplies Cloverport.

Union Light, Heat and Power Co., Covington.

Controlled by Columbia Gas and Electric Co., Cincinnati.
 Capital stock, \$500,000.
 Bonds, \$1,560,900; due 1918; int., 4 p. c. and \$283,000; due 1965; int. 5 p. c.
 President, W. W. Freeman.
 Vice-president, W. Y. Cartwright.
 Secretary and treas., P. Laffoon.
 Population of district supplied, 110,000.
 Gas purchased from Columbia Gas and El. Co. of W. Va.
 Consumers, 26,241.
 Price gas: Light, gross 40c.; net, 35c.; Indus., gross, 40c., 25c., 23c. per 1,000 c. f., with 10c. disc., 10 days.
 Supplies Covington, Bellevue, Dayton, Newport, District of Clifton, Ludlow, West Covington, Cote Brillant and Latonia, Ky.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.
 System operated: Arc A. C. series; incand. A. C., single ph., 7,200 alt.; power, A. C., single and 3 ph., 60 cycles.
 Power generators, 4,050 kw. capacity.
 Voltage: Arc, 77; incand., 110; power, 110-220.
 No. public arcs, 1,528; 430-450 watt; hours lighted, 4,000.
 No. public incand., 669; 75 watt, Tung.; hours lighted, 4,000.

Price arc, Public, per year, \$52.25 to \$60.
 Price incand., Public, per year, \$12 to \$32.
 Station is operated by So. Covington and Cin. St. Ry. Co.

Frankfort Kentucky Natural Gas Co., Frankfort.

Executive office, Oil City, Pa.
 Capital stock, \$400,000.
 President, Robt. S. Hampton.
 Treas. and pur. agent, W. O. Walker.
 Manager, John Tonkin.
 Miles of pipe line, 34.
 No. dom. consumers, 2,168.
 Price of gas, net, 40c. per 1,000 c. f.
 Value of gas supplied, for year, \$59,610.27.
 Supplies Frankfort, Versailles and Midway.

Kentucky Pipe Line Co., Jeffersontown.

(See report in Appendix.)

Central Kentucky Natural Gas Co., Lexington.

Executive office, Oil City, Pa.
 Capital stock, \$1,500,000.
 Bonds, \$320,000; due, serial; int., 6 p. c.
 President, Joseph Seep.
 Vice-pres., John Tonkin.
 Gen. mgr., John Tonkin.
 Pur. agent, W. O. Walker.
 Sec'y and treas., Robt. S. Hampton.
 Wells drawn from 86. Miles pipe line, 180.
 Annual prod., 42,104,000 c. f.; gas purchased, 1,191,654,000 c. f.
 No. domestic consumers, 12,780; factories, 20.
 Price gas, gross, domestic, 40c.; 38c. net per 1,000; indus., 38c. for first 100,000 c. f.; 35c. all over 100,000 c. f.
 Value of gas supplied for year, \$432,590.74.
 (Central Ky. Gas Company's proportion.)
 Supplies Lexington, Winchester, Mt. Sterling, Paris and several small towns. Sells at wholesale to Frankfort, Kentucky, Natural Gas Co.

Louisville Gas and Electric Co., Louisville.

Controlled by Standard Gas & Electric Co., through its own holdings and its stock ownership of Miss. Valley Gas & Electric Co.
 General office, 311 West Chestnut St.
 (For capitalization, etc., see Appendix.)
 President, Geo. H. Harries.
 Vice-pres. and gen. mgr., Donald McDonald.
 Secretary and treas., T. B. Wilson.
 Pur. agent, Graham Davies.
 Superintendent, (gas), M. W. Walsh.
 Superintendedt, (electricity), L. S. Streng.
 Purchase gas from United Fuel Gas Co., Inez, Ky.
 Miles pipe line, 189.6.
 Street main pressure, max. 12 in.; min. 3 in.
 Gas holder capacity, 5,319,000 c. f.
 Pop. of city, 264,400; of dist. supplied, 269,400.
 Price gas, 40c. to \$1.33; all over 1st 2,000 c. f. per mo., 38.88c.
 Supplies Louisville Oakdale, St. Helens, Beechmont, Highland Park and Southern Heights.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C., 2 and 3 phase, 60 cycles; power, A. C. and D. C.



HOLDERS, WATER AND GAS WORKS APPLIANCES, PIPE

R. D. WOOD & CO., PHILA., PA.



Generating capacity: Lighting and power.
35,500 kw.

Voltage: Incand., 110; power, 220 A. C.; 500 D. C.

No. public arcs, 3,372; 4 amp. mag. Price per year, underground, \$60; overhead, \$56.

No. public incand., 360; 100 watt. Price per year, \$39.

Commercial lighting: No. lighting consumers, 31,700; incand. lamps, 745,000; 50 w. equiv.

Price current per kw. hr., gross, 8c. to 3c.; rural districts, 10c. to 5c. Disc., 5 p. c.

Power circuits: No. motors, 3,745; price per kw. hr., 4c. to 1c. Disc., 5 p. c.

No. power consumers, 1,750.

Output of station for year, kw. hrs., 58,604,524.

Generating power used: Steam, 9,550 h. p.

Cost of station boiler coal, per ton, \$1.60 to \$2.40.

Also operate ice and steam heating plants.

Maysville Gas Co., Maysville.

Controlled by Maysville Public Service Co.

Capital stock, \$45,300.

Bonds, \$121,500; due, 1931; int., 5 p. c.

President, Horace J. Cochran.

Manager and pur. agent, Horace J. Cochran.
(Buys gas from Columbia Gas and Electric Co., at pipe line of Cincinnati Gas Transportation Co., 2.5 miles south of Maysville.)

Gas purchased, 242,629,183 c. f.

Pop. dist. supplied, 6,500.

No. domestic consumers, 1,340.

Price gas, gross, domestic, 40c. per 1,000 c. f.; discount, 10c.

Value of gas supplied, for year, \$63,207.48.

Supplies Maysville.

ELECTRICAL DEPARTMENT.

System operated: A. C., 2 ph., 60 cycles.

Generating capacity; Lighting, 350 kw.; power, 150 kw.

Voltage: Incand., 110; power, 110-220.

City lighting contract: Hours lighted per year, 4,000.

Public lights, series Mazda, type C:

91; 400 c. p.; 15 amp. Price, per yr., \$55.

37; 100 c. p.; 6.6 amp. Price, per yr., \$22.95.

54; 80 c. p.; 6.6 amp. Price, per yr., \$18.70.

38; 40 c. p.; 6.6 amp (B). Price, per yr., \$17.

Commercial and residential lighting: No. incand., approx., 9,000.

Price per kw. hr., gross, 10c. for first 30 hrs. use of active connected load, interior lighting; 5c. for balance of consumption.

Power circuits: No. motors, 44; price per kw. hr., 3.5c. and 3c. per kw. hr. plus \$1 per h. p. per mo. demand.

Supplies engine power to 2 550 v. generators of Maysville Street R. R. and Tr. Co., 300 kw. total rated capacity.

Output of station, kw. per year, 857,672.

Generating power used, Steam; rated 600 h. p.

Cost of station boiler coal, per ton, \$3.80.

Monticello Gas Co., Inc., Monticello.

Capital stock, \$19,800.

President, Oliver Jenkins.

Manager and pur. agent, E. F. Porter.

Secretary and treas., E. F. Porter.

Acres leased, 700.

Wells drawn from, oil, 6.

Maximum day's output, crude oil, 2 bbls.

Average price of oil per bbl., \$2.55.

Oil storage tanks: Steel, 1; capacity, 65 bbls.

Gas wells abandoned.

Paris Gas & Electric Light Co., Paris.

Capital stock, \$150,000.

Bonds, \$150,000; due 1939; int. 6 p. c.

President, H. Wurdack.

Manager and pur. agent, C. L. Steenberg.

Secretary and treas., Horace W. Beck.

Engineer and supt., Chas. L. Steenberg.

Gas purchased from Central Kentucky Natural Gas Co.

Amount of gas purchased, 109,774,400 c. f.

Miles of pipe line, 13.5.

No. domestic consumers, 900.

Price gas gross, dom., 40c.; net, 35c.

Annual sales, approx., 80,000,000 c. f.

Supplies Paris.

ELECTRICAL DEPARTMENT.

System operated: Incand., series, Type C; A. C., 3-phase, 60 cycles.

Generating capacity: Lighting, 325 kw.

Voltage: Incand. 110; power, 110-220.

City lighting contract; Hours lighted per year, incand., 4,000.

No. public incand. 221, 80 c. p., price per year, \$22.50; 38 Type C, 400 c. p., price per year, \$75.

Price current per kw. hr., gross, 12c.

Power circuits: No. motors, 65; price per kw. hr., 10c.

Output of station kw. for year, 450,000.

Generating power used: Steam; rated h. p. 350.

Cost of station boiler coal, per ton, \$2.30.

Burning Fork Development Co., Salyersville.

General office, Box 890, Charleston, W. Va.

Capital stock, \$15,000.

President, J. F. Bedell.

Purchasing agent, M. E. Moore.

Wells drawn from, 5.

Price gas, gross, 3c. per 1000 c. f.

Supplies Salyersville Gas Co.

Salyersville Gas Co., Inc., Salyersville.

General office, Box 890, Charleston, W. Va.

Capital stock, \$20,000.

President, M. E. Moore, Charleston, W. Va.

Pur. agent, M. E. Moore.

Wells drawn from, 3. Miles pipe line, 12.

Price gas, gross, domestic, 27c. per 1,000 c. f.; industrial, 15c.

Supplies Salyersville and vicinity.

Blue Grass Natural Gas Co., Winchester.

Capital stock, \$6,000.

Annual dividend, 6 p. c.

President and treas., W. P. Azbill.

Manager, W. P. Azbill.

Gas purchased from Central Kentucky Natural Gas Co.

Superior Drop-Forgings
of "Grand Prize" Calibre



Miles of pipe line, 10.
 No. dom. consumers, 100.
 Price gas, gross, dom., 50c. per month.
 Value of gas supplied, for years, \$4,000.
 Supplies, Clintonville and North Middle-town.

Empire Oil and Gas Co., Winchester.
 Capital stock, \$10,000,000.
 President, W. P. Lehrer.
 Secretary, E. E. McWhiney
 Treasurer, E. H. Johnston.
 Location of fields: Irvine, Ky.

LOUISIANA

Morehouse Oil & Development Co., Inc., Bastrop.

Capital stock, \$50,000.
 President, C. J. Goodwin.
 Secretary, H. F. Benson.
 Treasurer, H. Flood Madison.
 Gen'l manager and supt., C. J. Goodwin.
 10,000 acres leased north of Bastrop, La.
 Gas wells drawn from, 1.
 Miles of gas pipe line, 3½.
 Well pressures, 1,115 lbs.
 Production gas, est., 30,000,000 c. f. per day.
 Gas sold to one industrial company.

Mansfield Gas Co., Mansfield.

Capital stock, \$150,000.
 Bonds, \$40,000; due \$5,000 yearly; int. 6 p. c.
 President, H. L. Heilperin.
 Manager, J. H. Thatcher.
 Treasurer, W. B. McCormick.
 Wells drawn from, 5.
 Miles pipe line, approx., 15.
 No. domestic consumers, 500; factories, 12.
 Price gas, gross, domestic, 35c. per 1,000 c. f.;
 industrial, 10c. to 15c.
 Value of gas supplied, for year, \$38,000.
 Supplies Mansfield.

Monroe Gas Co., Monroe.

Capital stock, \$200,000.
 President, Oscar Nelson.
 Secretary, Carl McHenry.
 Treasurer, Travis Oliver.
 Price of gas, gross, 29c. per 1,000 c. f.

Ouachita Natural Gas and Oil Co., Monroe.

Capital stock, \$200,000.
 President, S. S. Hunter, Shreveport, La.
 Secy. and mgr., E. N. Fleisheim, Monroe.
 Treasurer, O. B. Morton, Monroe.
 Pur. agent, S. D. Hunter, Shreveport, and
 E. N. Fleisheim.
 Superintendent, P. H. Post.
 10,000 acres leased in northern part of
 Ouachita Parish, La.
 Wells drawn from, 4.
 Well pressures, 1,100 lbs.
 Miles pipe line, 13.
 Pop. dist. supplied, 15,000.
 No. dom. consumers, 500; industrial, 20.
 Price of gas, gross, dom. 30c.; industrial, 10c.
 Supplies Monroe and West Monroe.

Agurs & Josey, Shreveport.

Office, Leavy building.
 (Not incorporated.)
 Manager, W. C. Agurs.
 Wells drawn from, 1. Miles pipe line, 2.
 No. domestic consumers, 10; factories, 1.
 Price gas, gross, domestic, flat rate; \$1,
 \$1.50 and \$2; industrial, 3c per 1,000 c. f.
 Value of gas supplied, for year, \$761.50.
 Supplies Jewella.

Commercial Gas and Oil Co., Shreveport.

Office, 315 F. N. B. Bldg.
 Capital stock, auth., \$50,000; issued, \$10,800.
 President, T. P. Lloyd.
 Vice-pres., gen. manager. and pur. agent,
 E. B. Hands.
 Wells drawn from, 1.
 No. domestic consumers, 60.
 Price gas, domestic, flat rate.
 Supplies sub-divisions in Caddo Parish, out-
 side of Shreveport, La.

Louisiana Gas and Fuel Co., Shreveport.

Office, Merchants Bank Building.
 Capital stock, \$2,000,000.
 Bonds, \$1,000,000; due 1932; int. 6 p. c.
 President, Honore Palmer.
 Vice-pres. and gen. mgr., O. A. Wright.
 Secretary, J. A. McKenna.
 Treasurer, A. L. Linn, Jr.
 20,000 acres leased, 18 miles south of Shreve-
 port, La.
 Wells drawn from, 17.
 Miles of pipe line, 25.
 Well pressures: Shallow, 375 lbs.; deep,
 1,100 lbs.
 Annual production, 2,005,000,000 c. f.
 Sells to retailers.

Louisiana Gas Co., Shreveport.

Office, Merchants Bank Bldg.
 (Controlled by Louisiana Gas and Fuel Co.)
 Capital stock, \$400,000.
 Annual dividend, 15 p. c.
 President, J. S. Pevear.
 Vice-pres., Geo. B. Sipe.
 Manager, Geo. B. Sipe.
 Secretary and treas., N. C. McGowen.
 Purchasing agent, N. C. McGowen.
 Wells drawn from, 15.
 Miles of pipe line, 60.
 Well pressures: Shallow, 375 lbs.; deep,
 1,100 lbs.
 Annual production, 2,354,000,000 c. f.
 Pop. dist. supplied, 50,000.
 Value of gas supplied, for year, \$167,393.
 (Southwestern Gas and Electric Co. and
 Arkansas Natural Gas Co., distributors
 for this company.)

Reserve Natural Gas Co. of Louisiana, Shreveport.

Office, Ward Bldg.
 Capital stock, pref., \$600,000; com., \$1,200,000.
 President, M. W. Bahan.
 Sec'y and treas., T. J. Heard.
 Gen'l manager and pur. agent, C. A. Dally, Jr.
 Field, Caddo, De Soto and Bossier Parishes.
 A transportation company; gathers the gas
 of three companies and distributes a
 supply in certain proportions to each
 company.

RELIABLE

ANGLIRON RANGES and

HOT SPOT HEATERS

Service is essential to business success. It is the combination of quality, efficiency and durability. It is this combination which has placed "ANGLIRON" ranges and "HOT SPOT" heaters into the homes of thousands of satisfied users of gas as a fuel. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Gas purchased, 3,800,000,000 c. f.
Miles of pipe line, 95.
Supplies Arkansas Natural Gas Co. and
Southwestern Gas & El. Co.

Southwestern Gas and Electric Co., Shreveport.

(Successor to Shreveport Gas, Electric Light
and Power Co., and Texarkana Gas and
Electric Co.)

General office, Chicago, Ill.

(For detailed information regarding capi-
talization and bonds, see Appendix.)

President, Henry M. Dawes.

Pur. agent, A. G. Curtis.

Manager, A. G. Curtis.

No. wells drawn from, 37.

Annual production, 5,100,000,000 c. f.

Miles of pipe line, 286.

No. domestic consumers, 10,047.

No. manufactories supplied, 40.

Price gas, domestic, net, 22.5c. per 1,000 c. f.;
industrial, 7.7c.

Value gas supplied, for year, \$327,000.

Supplies Shreveport, Blanchard, Mornings-
post, Oil City, Caddo City, Lewis, Vivian,
Rodessa and Bosier City, La.; Atlanta
and Bloomsberg, Tex.; Texarkana, Ark.

ELECTRICAL DEPARTMENT.

System operated: Arc A. C., 60 cycle; incan-
A. C., 60 cycle; power A. C., 3 ph.

Generating capacity: Lighting and Power,
3,900 kw.

Voltage: Incand., 110-112; power, 220-440.

City lighting contract: Hours lighted per
year: Arc, 4,000.

No. public arcs, 418. Price per year, \$57.60.

Generating power used, Steam; rated, h. p.,
3,360.

Boiler fuel, natural gas.

MARYLAND

The Northern Natural Gas Co., Oakland.

Gen. office, 312 Fidelity Bldg., Buffalo, N. Y.

Capital stock, \$100,000.

President, H. A. Forman.

Manager, H. V. Thomas.

Pur. agent, F. D. Tracy.

Miles of pipe line, 57 (includes main and
lateral lines and town plants).

No. consumers, 1,067.

Price, gas, gross, domestic, 35c.

Gas purchased from W. Virginia and Mary-
land Gas Co. of W. Virginia.

Supplies Oakland, Deer Park, Mt. Lake Park,
Loch Lynn, in Maryland and Terra Alta,
in West Virginia.

West Virginia and Maryland Gas Co. of Md., Western port.

General office, 312 Fidelity Building, Buffalo,
N. Y.

Capital stock, \$20,000.

President, H. A. Forman.

Manager, H. V. Thomas.

Purchasing agent, F. D. Tracy.

Gas purchased from W. Virginia and Mary-
land Gas Co. of W. Virginia, whose report
covers operations of above company.

Supplies Westernport, Lonaconing, Frost-
burg, Mt. Savage and other towns in
Maryland.

MISSOURI

Carl Junction Gas Co., Carl Junction.

General office, Joplin, Mo.

Capital stock, \$15,000.

President, A. S. Raymond.

Secretary and treas., E. Allendorf.

Pur. agent, E. Allendorf.

Gas purchased from Kansas Natural Gas Co.

Amount purchased, 40,000,000 c. f.

No. domestic consumers, 350.

Price gas, gross, domestic, and industrial,
50c.

Supplies Carl Junction and Smithfield.

Carthage Gas Co., Carthage.

(Operated by the Doherty Organization.)

Stock owned by Empire Dist. Electric Co.

Capital stock, com., \$100,000; pref., \$100,000.

Bonds, \$50,000; due 1926; int. 6 p. c.; and
\$75,000, due 1940; int. 6 p. c.

President, Henry L. Doherty.

Vice-pres., A. E. Spencer.

Secretary, David D. Hoag.

Treasurer, B. C. Adams.

Manager, B. C. Adams.

Miles pipe line, 41.7.

Gas purchased from Quapaw Gas Co.

No. domestic consumers, 2,569; manufac-
tories supplied, 49.

Price gas, gross, domestic, 25c; industrial,
25c. net per 1,000 c. f.

Annual sales, approx., 296,235,000 c. f.

Supplies Carthage and suburbs.

Joplin Gas Co., Joplin.

(Controlled by United National Utilities Co.,
1321 Walnut St., Philadelphia, Pa.)

Superintendent, J. W. McMillan.

Miles of pipe line, 103.

Price gas, gross and net, 25c. per 1,000 c. f.;
industrial, 25c.

Number of consumers, 7,451; manufactories
supplied, 39.

Value of gas supplied, for year, \$266,357.68.

Supplies Joplin.

Johnson County Gas Co., Kansas City.

General office, 1116 Commerce Bldg.

Capital stock, \$16,000.

Bonds, \$7,500; int., 6 p. c.

President, C. A. Loomis.



Vice-president and treas., S. J. Mattocks.
 Secretary and supt., Wm. A. Boss.
 Manager and pur. agent, S. J. Mattocks.
 Gas supplied by Kansas Natural Gas Co.
 Amt. gas purchased, 25,591,000 c. f.
 Pop. dist. supplied, 1,040.
 No. dom. consumers, 356; industrial, 6.
 Price gas, gross, domestic, 60c. per 1,000 c. f.
 Value gas supplied, for year, \$10,327.96.
 Supplies Merriam, Shawnee, Lenexa and
 South Park, Kan.

Kansas City Gas Co., Kansas City.

Capital stock, com., auth., \$1,250,000; issued,
 \$812,500; pref., auth., \$1,250,000; issued,
 \$812,500.
 President, E. L. Brundrett.
 Treasurer, J. M. Scott.
 Secretary, J. M. Scott.
 Comptroller, G. W. Curran.
 Engineer, A. Hurlburt.
 Purchasing agent, J. A. Pearson.
 Pop. city supplied, 322,166.
 Gas supplied by Kan. Natural Gas Co.
 No. consumers, 51,350.
 No. meters, 69,964.
 Miles of mains, approx., 533.
 Price gas, 60c. per 1,000 c. f.
 No. public lamps, 6,802 Welsbachs.
 Price includes repairs, care, lighting and
 extinguishing.
 No. hours lamp is lighted per year, 4,000.
 Annual sales, approx., 3,492,400,000 c. f.
 Ranges in use, 56,172; heaters, 6,902; water
 heaters, 5,509.
 No. commercial gas arc lamps, 2,200.
 Supplies Kansas City, Mo.

Oronogo Gas Co., Oronogo.

General office, Joplin, Mo.
 Capital stock, \$50,000.
 President, Arthur S. Raymond.
 Sec'y and treas., E. Allendorf.
 Manager and pur. agent, E. Allendorf.
 Gas purchased from Kansas Natural Gas
 Co.
 Miles of pipe line, 11.
 Number domestic consumers, 350.
 Manufactories supplied, 10.
 Price gas, gross, domestic, and industrial,
 50c. per 1,000 c. f.
 Value gas supplied, for year, \$41,646.52.
 Supplies Oronogo.

St. Joseph Gas Co., St. Joseph.

Practically all stock owned by American
 Light and Traction Co.
 Capital stock, \$1,000,000.
 Bonds, \$1,000,000; due 1937; int., 5 p. c.
 President, Emerson McMillin.
 Vice-pres., W. A. P. McDonald.
 Manager, Vincent L. Elbert.
 Sec'y and treas., A. V. Schaeffer.
 Pur. agent, J. W. Mitchell.
 Asst. secy. and asst. treas., C. N. Jelliffe.
 Pop. dist. supplied, 80,000.
 Gas supplied by Kansas Natural Gas Co.
 Gas purchased, 845,406,500 c. f.
 Annual prod., manuf. gas, 78,998,300 c. f.
 Miles of mains, approx., 126.42.
 No. domestic consumers, 12,007.
 Supplies St. Joseph.

Webb City and Carterville Gas Co., Webb City.

(Organized by the Doherty Organization.)
 (Gas supplied by Quapaw Gas Co.)
 Capital stock, \$300,000.
 Bonds, \$50,000; due, 1926; int., 6 p. c., and
 \$145,000; due, 1940; int., 6 p. c.
 President, Henry L. Doherty.
 Vice-president, Arthur E. Spencer.
 Secretary, David D. Hoag.
 Treas. and mgr. B. C. Adams.
 Pop. dist. supplied, 18,500.
 Miles of pipe line, 53.47.
 No. dom. consumers, 3,144; factories, 79.
 Price gas, domestic, 25c. per 1,000 c. f.; in-
 dustrial, 12.5c. per 1,000 c. f.
 Annual sales, approx., 757,301,000 c. f.
 Supplies Webb City and Carterville.

Weston Gas and Light Co., Weston.

General office, 1116 Commerce Bldg.
 Capital stock, \$20,000.
 Bonds, \$10,000, due 1921; int. rate, 6 p. c.
 President, C. A. Loomis.
 Vice-president and treas., S. J. Mattocks.
 Manager and pur. agt., S. J. Mattocks.
 Secretary, N. F. Musgrove.
 Superintendent, Wm. A. Boss.
 Gas supplied by Kansas Natural Gas Co.
 Amt. gas purchased, 18,835,000 c. f.
 Pop. dist. supplied, 1,500.
 No. domestic consumers, 309.
 Price gas, dom., 60c. per 1,000 c. f.
 Value gas supplied, \$8,101.20.
 Supplies Weston.

MONTANA

Pioneer Oil and Gas Co., Bainville.

Capital stock, \$300,000.
 President, Frank J. Stiehl.
 Manager and pur. agent, J. W. Phillips.
 Wells drawn from, 1.
 Price gas gross, dom., 25c. per 1,000 c. f.
 Will supply Williston, N. D.

Montana Petroleum Co., Baker.

General office, Miles City, Mont.
 Capital stock, \$1,000,000.
 President, A. N. Hotchkiss.
 Manager and pur. agent, H. F. Albers.

Wells drawn from, 2.
 Miles pipe line, 1.
 Pop. of town supplied, 1,000.
 Price gas gross, dom., 40c. per 1,000 c. f.;
 industrial, 20c.
 Supplies Baker.

Eastern Montana Oil and Gas Co., Glendive.

Office, Miles City, Mont.
 Capital stock, 307,000 shares.
 President, M. W. Milligan.
 Secretary, A. M. Ball.
 Treasurer, T. F. Hagan.
 Manager and pur. agent, John Johns.

Be prepared for emergencies. Keep GOODMAN STOPPERS in stock.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Acres owned 800; acres leased 800; field in Dawson Co., Mont.
Wells drawn from, 7.
Miles pipe line, 23.
Well pressures, 220 to 280 lbs.
Annual prod., 51,000,000 c. f.
Pop. dist. supplied, 5,000.
No. domestic consumers, 448; industrial, 3.
Price gas gross, domestic, 40c.
Value gas supplied for year, \$22,000.
Supplies Glendive.

Havre Natural Gas Co., Havre.

Capital stock, \$141,200.
President, Dr. D. S. Mac Kenzie.
Manager and pur. agent, H. O. Wheeler.
Treasurer, H. O. Wheeler.
Superintendent, Oscar Cohn.
120 acres owned; 14,000 acres leased, two miles east and north of Havre.
Wells drawn from, 3.

Miles of pipe line, 14.
Well pressure, 150 to 350 lbs.
Annual production, 216,000,000 c. f.
Pop. of city supplied, 7,500.
No. dom. consumers, 625; manufactories, 5.
Price of gas, gross, dom., 50c. for first 5,000 c. f.; 40c. next 10,000 c. f.; next 25,000 c. f. 30c.; next 150,000 c. f., 25c.; next 300,000 c. f., 20c.; all over 500,000 c. f. 15c.; disc. 10 p. c., 10 days, (in effect after Dec. 1, 1917).
Value of gas supplied, for year, \$42,000.
Supplies Havre.

Havre Oil & Gas Co., Havre.

Capital stock, \$250,000.
President, Hon. Abe Crossen.
Manager, Hon. Abe Crossen.
Secretary, H. Archibald.
Treasurer, Jos. Gussenhas.
Wells drawn from, 1.
Price gas, gross, 5c. per 1,000 c. f.

NEW YORK

Addison Gas and Power Co., Addison.

(Purchase gas from Potter Gas Co., Bradford, Pa.)
Capital stock, \$50,000.
Bonds, \$15,000; due 1903-1907; int., 6 p. c.
President, E. C. Fish.
Manager, Miles T. Cassada.
Purchasing agent, F. D. Kelly.
Gas purchased from Potter Gas Co.
Miles of mains, approx., 7.
Amount purchased, 46,829,560 c. f.
Pop. dist. supplied, 1,700.
No. domestic consumers, 483.
Price gas, gross, domestic, 45c. per 1,000 c. f.; net 40c.
Value of gas supplied, for year, \$16,984.40.
Supplies Addison.

Akron Natural Gas Co., Akron.

(Operated by Doherty Organization.)
(Controlled by Frost Gas Co.)
Capital stock, \$195,400.
President, I. D. Echerson.
Purchasing agent, I. D. Echerson.
Manager, T. B. Crary.
Population, 1,585.
Wells drawn from, 45.
Miles pipe line, 55.8.
No. dom. consumers, 854.
Price gas, gross, dom., 32c.
Annual sales, 135,571,000 c. f.
Supplies Akron, Clarence and Millgrove, and sells to Alden-Batavia Co.

Attica Natural Gas Co., Attica.

(Operated by Doherty Organization.)
(Controlled by Frost Gas Co.)
Capital stock, \$10,000.
President, F. W. Frueauff.
Manager, T. B. Crary.
Gas sold, 25,444,000 c. f.
Miles pipe line, 6.6.
No. domestic consumers, 616.
Price gas, dom., 50c. per 1,000 c. f.
Supplies part of Attica.

Baldwinsville Light and Heat Co., Baldwinsville.

Capital stock, \$100,000.
Annual dividend, 4 p. c.
President, Wm. F. Morris.
Manager, J. T. Wilkins.
Purchasing agent, J. T. Wilkins.
Wells drawn from, 17.
Miles of pipe line, 13.
Annual production, 28,992,000 c. f.
No. domestic consumers, 502.
Price gas, gross, domestic, 50c. per 1,000 c. f.
Value gas supplied, for year, \$14,972.
Supplies Baldwinsville.

Alden-Batavia Natural Gas Co., Batavia.

(Operated by Doherty Organization.)
(Controlled by Frost Gas Co.)
Capital stock, \$300,000.
President, F. W. Frueauff.
Manager, T. B. Crary.
Wells drawn from, 70.
Miles pipe line, 144.25.
No. domestic consumers, 4,648.
Price gas per 1,000 c. f., 35c.; disc., 20 p. c.
Annual sales, approx., 519,730,000 c. f.
Supplies Batavia, Alden Crittenden Corfu, Alexander, East Pembroke and Wyoming and sells to Attica Natural Gas Co.

Iroquois Natural Gas Co., Buffalo.

General office, Iroquois Bldg.
Capital stock, auth., \$10,000,000.
President, B. C. Oliphant.
Treasurer, W. M. Cusack.
Miles of pipe line, approx., 1,136.
Wells drawn from, 315.
No. domestic consumers, 88,681.
Price of gas, 37c. and 33c. up to 40,000 c. f.; 42c. and 40c. over 40,000 c. f.
Supplies Buffalo, Salamanca, West Salamanca, Springville, Angola, East Aurora, Hamburg, Little Valley, Cattaraugus, Lackawanna, Lancaster, Blasdell and Depew.

Test Meters, steel cases, with capacities from 1/10 to 1 cubic foot per revolution, reading fractional quantities direct and adding up and indicating large volumes. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

New York Central Gas Co., Buffalo.

Office, 842 Marine National Bank Bldg.
Capital stock, auth., \$5,000,000.
President and manager, F. M. Lowry.
Sec'y and treas., J. A. Richie.
Company holds oil and gas leases, not yet developed.

North Buffalo Natural Gas Fuel Co., Buffalo.

(Operated by Doherty Organization.)
Capital stock, \$10,000.
President and mgr., F. M. Lowry.
Sec'y and treas., J. A. Richie.
Wells drawn from, 11.
Miles of pipe line, 10.9.
Annual sales, 26,063,000 c. f.
Gas purchased, 2,039,000 c. f.
No. domestic consumers, 268.
Price gas, gross, domestic, 35c. per 1,000 c. f.
Value of gas supplied, for year, \$9,069.75.
Supplies North section of Buffalo.

South Shore Natural Gas and Fuel Co., Buffalo.

(Subsidiary of Frost Gas Co.)
President, Frank W. Frueauff.
Vice-pres and mgr. F. M. Lowry.
Secretary and treas., J. A. Richie.
Wells drawn from, 73.
Miles pipe line, 295.59.
Annual production, 1,045,759,000 c. f.
Pop. dist. supplied, 28,750.
No. domestic consumers, 7,665.
No. manufactories supplied, 10.
Price gas, domestic 25c. to 50c. per 1,000 c. f.; industrial, 27c.
Value of gas supplied for year, \$287,591.92.
Supplies Dunkirk, Sheridan, Portland, Chautauqua, Westfield, Farnham, Irving, Silver Creek, Mayville and Forestville.

Caledonia Natural Gas Co., Caledonia.

Capital stock, \$10,000.
President, A. Miner Wellman.
Manager and pur. agt., A. Miner Wellman.
Superintendent, A. G. Baker.
Population, 1,290.
Wells drawn from, 7. Miles pipe line, 7.
Annual production, 4,500,000 c. f.
No. domestic consumers, 103.
Price gas, per 1,000 c. f., domestic and industrial, 40c. first 5,000 c. f.; 35c. all over 5,000 c. f.
Value gas supplied, for year, \$2,200.
Supplies Caledonia in part.

Tri-County Natural Gas Co., Caledonia.

Capital stock, \$34,500.
Bonds, \$25,000; due, \$2,500 annually; int. 6 p. c.
President and mgr., A. Miner Wellman.
Purchasing agt., A. Miner Wellman.
Superintendent A. G. Baker.
Gas purchased from Pavilion Natural Gas Co.
Amount of gas purchased, 42,000,000 c. f.
Miles pipe line, 35.5.
Pop. dist. supplied, 3,000.
No. domestic consumers, 540.
Price gas, 40c. per 1,000 c. f. for 1st 5,000 c. f.; 35c. per 1,000 c. f., for all over 5,000 c. f.
Value gas supplied, for year, \$16,000.
Supplies Caledonia, Mumford, Scottsville, parts of Leroy and Wheatland.

Canistota Gas Co., Canistota.

Main office, Wellsville, N. Y.
Capital stock, \$25,000.
Bonds, \$21,000; due 1950; int. 5 p. c.
President, Harry Bradley.
Vice-pres., Geo. H. Bradley.
Secretary and treas., J. B. Bradley.
Population, 2,077.
(Purchase gas from Empire Gas and Fuel Co., Ltd., Wellsville.)
Miles of pipe line, 11.5.
No. domestic consumers, 725.
No. manufactories supplied, 6.
Price gas, domestic, gross, 40c.; net, 37c. industrial, the same.
Supplies Canistota.

Home Gas Co., Ceres.

Distributing center, Genesee, N. Y.
Capital stock, \$10,000.
Dividend paid, 3 p. c. annually.
President, F. H. Raymond.
Sec'y, treas. and mgr., John J. Roberts.
Pur. agent, John J. Roberts.
Wells drawn from, 2.
Miles pipe line, 2.
Annual production, 5,432,000 c. f.
Distribute for Producers Gas Co., Olean, N. Y.
Pop. dist. supplied, 300.
No. domestic consumers, 71; factories, 1.
Price gas, gross, domestic, 35c. per 1,000 c. f.; industrial, 35c. per 1,000 c. f.
Supplies Ceres, N. Y. and Ceres, Pa.

Churchville Oil and Natural Gas Co., Churchville.

General office, 1108-1110 Prudential Bldg., Buffalo, N. Y.
Capital stock, \$100,000.
President, Frank B. Barnard.
Vice-president, E. J. Ames.
Manager and supt., G. B. Keith.
Purchasing agent, Frank B. Barnard.
Acres leased, 1,500 in Monroe and Genesee Co.
Annual prod., 5,000,000 c. f.
Wells drawn from, 20.
Miles pipe line, 35.
Well pressure, 200 lbs.
Pop. dist. supplied, 2,500.
No. domestic consumers, 325.
Price gas, gross; dom. and indus., 50c. and 80c. per 1,000 c. f.
Value gas supplied, for year, \$6,000.
Supplies Churchville, Bergen and Riga.

Boro Oil and Gas Co., Collins.

General office, Gowanda, N. Y.
Capital stock, \$2,500.
President, M. A. McIntyre.
Manager, Michael McIntyre.
Purchasing agent, M. McIntyre.
Wells drawn from, 16.
Miles pipe line, 9.75.
Annual production, 96,108,000.
No. domestic consumers, 89.
No. manufactories supplied, 1.
Price gas, gross, domestic 25c. per 1,000; industrial, 25c.; 20c. to Gas Company.
Value gas supplied, for year, \$20,439.95.
Supplies Collins and Gowanda, Natural Gas Co.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Crystal City Gas Co., Corning.

Capital stock, com., \$150,000; pref., \$75,000.
 Bonds, \$25,000; due, 1920; int. 6 p. c.
 President, B. W. Wellington.
 Secretary and treas., W. B. Hunt.
 Manager, G. S. Goff.
 Pur. agent and supt., W. M. Gurnsey.
 Gas purchased from Potter Gas Co.
 Amt. annual purchase, 494,599,803 c. f.
 Miles of pipe line, 30.
 Pop. city supplied, 16,000.
 Price gas, gross, domestic, 45c. per 1,000 c. f.;
 discount, 5c.
 No. domestic consumers, 3,425.
 Value gas supplied, for year, \$206,152.
 Supplies City and Town of Corning.

Eden Gas and Fuel Co., Eden.

Capital stock, \$10,000.
 Notes, \$10,600; int., 6 p. c.
 President, E. H. Davis.
 Manager and pur. agent, H. J. Hickman.
 Wells drawn from, 5. Miles pipe line, 7.
 Annual production, 5,608,000 c. f.
 No. domestic consumers, 155.
 Price gas, gross; domestic, 40c. per 1,000 c. f.;
 net, 30c.
 Value of gas supplied, for year, \$2,075.
 Supplies Eden.

Elmira Water Light and R. R. Co., Elmira.

For financial data, see Appendix.
 President, Ray Tompkins.
 Sec'y and treas., C. C. Kolstad.
 Manager, F. H. Hill.
 Pur. agent, United Gas and El. Eng. Corp.
 Resident eng., H. E. Gough.
 Supt. gas dept., D. H. Harrington.
 Gas purchased from Potter Gas Co.
 Amt. purchased, 55,251,050 c. f.
 Miles pipe line, 74.5.
 Pop. dist. supplied 45,000.
 No. consumers, 8,590.
 Price gas, gross, domestic, 52½c. per 1,000 c. f.
 Dis., 10 p. c. per 1,000 c. f.
 Gas ranges in use, 5,443; water heaters 1,987.
 Supplies Elmira.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.;
 power, A. C., 60 cycles, 3 phase.
 Generating capacity: Lighting and power,
 16,400 kw.
 Voltage: Arcs, 72; incand., 110; power,
 110-220.
 City lighting contract: hours lighted per
 year: Arcs and incand., 4,000.
 No. public arcs, 324; 1,200 c. p. Price per
 year, 72.
 No. public incand., 1,211; 60 watt. Price per
 year, \$23.10.
 Commercial lighting: No. arcs, 192; No. in-
 cand., 145,714; 50 w. equiv.
 Other lamps: 1,064 tungsten street lights,
 50 to 75 watt.
 Price current per kw. hr., com. 10c. to 4.6;
 disc. 10 p. c.; wholesale light and power,
 demand charge, plus 1.6c. to .65c. per
 kw. hr.
 Power circuits: Motors, 5,852 h. p.; price
 per kw. hr., 7c. to 2.2c. Disc., 10 p. c.
 Output of station, kw. for year, 32,477,500.

Generating power used, Steam; rated
 B. h. p., 4,697.
 Cost of station boiler coal per ton, \$2.48.
 Furnish power for city water works pump-
 ing station; also city and interurban
 railway lines and Corning Lt. & Pr. Corp.

Brocton Gas & Fuel Co., Fredonia.

(Subsidiary of Frost Gas Co.)
 Capital stock, \$10,000.
 President, F. W. Frueauff.
 Manager, F. M. Lowry.
 Secretary and treas., Jas. A. Richie.
 Miles of pipe line, 15.5.
 Gas purchased, 38,762,000 c. f.
 No. dom. consumers, 432.
 Price gas, gross, dom., 34c.
 Value of gas supplied, for year \$13,245.28.
 Supplies Brocton and Portland.

Frost Gas Co., Fredonia.

(Operated by Doherty Organization.)
 (Controls Brocton Gas and Fuel Co., Silver
 Creek G. and I. Co. and So. Shore Nat.
 Gas and F. Co.)
 President, F. W. Frueauff.
 Manager, F. M. Lowry.
 Sec'y and treas., Jas. A. Richie.
 Wells drawn from, 37. Miles pipe line, 115.
 Annual sales, 292,404,000 c. f.
 Price of gas, gross, domestic, 30c. per 1,000 c.
 f.; industrial, 20c. per 1,000 c. f.
 No. consumers, 2,704.
 Value gas supplied, for year, \$86,564.07.
 Supplies villages of Fredonia, Stockton, and
 towns of Sheridan and Pomfret.

Gorham Marl and Natural Gas Co., Gorham.

Capital stock, \$12,000.
 Annual dividend, 6 p. c.
 President, A. D. Allen.
 Manager, A. Walter.
 Pur. agent, A. Walter.
 Wells drawn from, 5. Miles pipe line, 2.
 Pop. dist. supplied, 5,000.
 Annual prod., 12,000,000 c. f.
 No. domestic consumers, 100.
 Price gas, gross, domestic, \$1 per 1,000 c. f.
 Value gas supplied, for year, \$1,200.
 Supplies Gorham.

Gowanda Natural Gas Co., Gowanda.

Capital stock, \$2,200.
 President, Michael McIntyre.
 Manager and pur. agent, Michael McIntyre.
 Population, 2,143.
 Wells drawn from, 1. Miles pipe line, about 5.
 Annual prod. 9,719,000 c. f.
 Gas purchased, 81,289,000 c. f.
 No. domestic consumers, 700.
 No. manufactories supplied, 8.
 Price gas, per 1,000 c. f., 32c. net.
 Value gas supplied, for year, \$4,044.60.
 Supplies Gowanda.

Pierce Natural Gas Co., Hamburg.

(Reported out of business.)

Wanakah Gas Corporation, Hamburg.

General office, 39 Erie St., Buffalo, N. Y.
 Capital stock, \$10,000.
 President, Frank E. Wattles.

SPECIFIC GRAVITY**American Meter Company**

561 W. 47th St., New York, N. Y.

APPARATUS; YOUNG'S SULPHUR TEST—REFEREES' SULPHUR AND AMMONIA TEST. We manufacture these apparatus, the Referees' Sulphur and Ammonia Tests being made in accordance with the latest notifications of the London Board of Gas Referees.

Treasurer, James M. Carter.
 Secretary, Marc W. Comstock.
 Gas purchased from Iroquois Natural Gas Co.
 Miles of pipe line, 3.
 No. domestic consumers, 50.
 Price gas, gross, domestic, 60c. per 1,000 c. f.
 Supplies Wanakah.

Ontario Gas Co., Honeoye Falls.

(Operated by Doherty Organization.)
 Capital stock, \$200,000.
 President, A. M. Wellman.
 Secretary and treas., Guy Wellman.
 Manager, A. M. Wellman.
 Wells drawn from, 23. Miles pipe line, 59.8.
 Annual prod., 148,389,000 c. f.
 Pop. dist. supplied, 10,000.
 No. consumers, 1,309.
 Price gas, gross, 31.5c.
 Value gas supplied, for year, \$47,589.92.
 Supplies Honeoye Falls, Lima, Holcomb,
 West Bloomfield, East Bloomfield, North
 Bloomfield, Bristol and Bristol Center.

Hornell Gas Light Co., Hornell.

General office, Wellsville, N. Y.
 Capital stock, \$75,000.
 Bonds, \$116,000; due, 1949; int., 5 p. c.
 President, Harry Bradley.
 Vice-pres., Geo. H. Bradley.
 Sec'y and treas., J. B. Bradley.
 Miles pipe line, 28.
 Gas purchased from Empire Gas and Fuel
 Co., Ltd.
 No. domestic consumers, 3,941; manufacto-
 ries supplied, 5.
 Price gas, per 1,000 c. f., domestic, gross, 40c.
 net, 37c.; industrial, same.
 Supplies Hornell and Town of Hornell.

The Depew and Lancaster Light, Power and Conduit Co., Lancaster.

Office, 173 Central Ave.
 Capital stock, pref., \$117,500; com., \$139,375.
 Bonds, \$464,200; due, 1954; int., 5 p. c.
 President, Ernest Feyler.
 Secretary, John T. Steele.
 Treasurer, Ernest Feyler.
 Manager, A. R. Tremaine.
 Pur. agent, A. R. Tremaine.
 Superintendent, F. E. Gillette.
 1,402 acres leased in Lancaster and Alden
 Townships, Erie Co., N. Y.
 Wells drawn from, 17.
 Miles of pipe line, 20.
 Well pressure, 175 to 300 lbs.
 Annual prod., gas, 42,289,000 c. f.
 Pop. dist. supplied, 5,500.
 No. domestic consumers, 430.
 No. manufacturing supplied, 1.
 Price of gas, gross, dom. and indus., 32.5c.
 per 1,000 c. f.; net 30c.
 Value of gas supplied, for year, \$13,000.
 Supplies Lancaster.

ELECTRICAL DEPARTMENT.

System operated: incand. and power, A. C.,
 3 phase, 25 cycles.
 Miles of over-head wires, 393.

Voltage: 11,500, 2300, 230.

City lighting contract: Hours lighted per
 year, arc and incand., 4,000.
 No. public arcs, 249; 300 watt. Price per
 year, \$63.
 No. public incand., 825; 40-60-80 and 100 watt.
 Price per year, \$17 to \$65.
 Commercial lighting: No. arcs, 10. No. in-
 cand., approx., 12,000.
 Price current per kw. hr., gross, 9c. to 4c.
 Power circuits: Price per kw. hr., 3 to .006c.
 Output of station, kw. for year, approx.,
 5,706,231.
 Power purchased from Niagara & Erie
 Power Co. and distributed in Lancaster,
 Depew, Sloan, Doyle, Forks, Orchard
 Park, etc.

Pavilion Natural Gas Co., Le Roy.

General office, 68 Main St., Le Roy.
 Distributing center, Pavilion, N. Y.
 (Controlled through ownership of stock, by
 Independent Natural Gas Co.)
 Capital stock, \$100,000.
 President, John A. Beck.
 Vice-president, Chas. E. Succop.
 Gen. manager, J. S. L. Purdy.
 Asst. manager, E. J. White.
 Secretary and treas., J. H. Friday.
 Pur. agent, J. H. Friday.
 Superintendent, G. W. Daggs.
 Field in Genesee County.
 Wells drawn from, 45. Miles pipe line, 162.
 Well pressure, average, 75 lbs.
 Annual prod., 589,491,083 c. f.
 Pop. dist. supplied, 25,000.
 No. domestic consumers, 5,500.
 Price gas, gross, domestic, per 1,000 c. f., 40c.
 Value of gas supplied, for year, \$199,884.47.
 Supplies Le Roy, Perry, Warsaw, Pavilion,
 Mt. Morris and Avon.

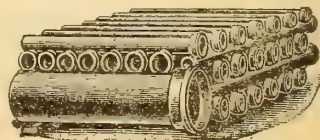
Granby & Hemenway Gas Co. Inc., Naples.

Capital stock, \$5,000.
 Annual dividend, 20 p. c.
 President, (Mrs.) Edna A. Hemenway.
 Secretary, Jas. W. Granby.
 Pur. agent, Jas. W. Granby.
 Gen'l manager, Jas. W. Granby.
 Wells drawn from, 5.
 Miles of mains, 3.25.
 Annual prod., 2,323,560 c. f.
 Pop. dist. supplied, 1,200.
 No. domestic consumers, 135.
 Price gas, gross, domestic, \$1 per 1,000 c. f.
 Value gas supplied, for year, \$2,323.56.
 Supplies Naples.

North Collins Fuel and Supply Co., North Collins.

Capital stock, \$20,000.
 Bonds, \$1,500; due 1917; int., 6 p. c.
 Vice-president, Geo. J. Breudel.
 Manager, John M. Thiel.
 Pur. agent, John M. Thiel.
 Wells drawn from, 3. Miles pipe line, 6.5.
 Annual production, 17,000,000 c. f.
 No. domestic consumer, 224.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Value of gas supplied, for year, \$5,100.
 Supplies North Collins.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
R. D. WOOD & CO. : PHILADELPHIA, PA.



Keystone Gas Co., Olean.

Office, Finance Bldg., So. Penn Square,
Philadelphia, Pa.
Capital stock, \$100,000.
President, John L. Emerson.
Secretary and treasurer, J. N. Pew, Jr.
Pur. agent, J. N. Pew, Jr.
Manager, J. A. Johnson.
Gas purchased from Iroquois Natural Gas Co.
Miles of pipe line, 62.
No. domestic consumers, 4,251.
Price gas per 1,000 c. f., domestic, 33c.; in-
dustrial, 23c.

Producers Gas Co., Olean.

Capital stock, \$300,000.
Annual dividend, 6 p. c.
President, E. J. Wilson.
Manager and pur. agent, F. W. Herron.
Wells drawn from, 200.
Miles pipe line, 45.
Annual prod., 300,000,000 c. f.
Gas purchased, 40,000,000 c. f.
Price gas, dom., per 1,000 c. f., 37c. Disc., 2c.
Value of gas supplied, for year, \$115,000.
Supplies Olean, Portville, Westons Mills,
Friendship, Belmont, Belfast and Angel-
ica.

Western New York and Pennsylvania Traction Co., Olean.

General office, 142 N. Union St.
President, W. R. Page.
Field mgr., A. P. Hanks.
Wells drawn from, 49.
Miles pipe line, 19.
Annual production, 132,599,700 c. f.
Gas purchased, 41,225,224 c. f.
Supplies gas engine plant of Western New
York and Penna. Traction Co., at Ceres,
N. Y. Does not sell gas, to any extent.
Purchases gas produced by farmers, which
is also used in above stations.
Value of gas supplied for year, \$17,382.49.

Orchard Park Gas and Oil Co., Orchard Park.

Capital stock, 15,000.
President, L. E. Willet.
Treasurer, H. R. Stratemeier.
Manager, C. W. Day.
Pur. agts., L. E. Willet and Leroy A. Streeter.
Wells drawn from, 20.
Miles pipe line, 5.
All gas sold to Iroquois Natural Gas Co. of
Buffalo, N. Y.
Value of gas, for year, \$30,000.

New York State Natural Gas Corp., Pavilion.

Distributing center, Roanoke, N. Y.
Capital stock, \$25,000.
President, Roy A. Streeter.
Secretary, Roy C. Corbin.
Treasurer, W. E. Sawyer.
Manager and supt., R. C. Corbin.
Pur. agent, W. E. Sawyer.
1,521 acres leased in Pavilion and Stafford.
Wells drawn from, 7.
Well pressures, 300 to 500 lbs.
Miles of pipe line, 31.
Annual prod., 22,534,400 c. f.
Pop. dist. supplied, 2,000.
No. dom. consumers, 325; manufactories, 5.

Price gas, gross, domestic, 35c. per 1,000 c. f.;
industrial, 100,000 c. f. or less, 35c.; over
100,000 c. f., 25c.

Value of gas supplied for year, \$7,887.05.

Supplies Roanoke, Stafford, Morganville,
Byron and So. Byron.

Pulaski Gas and Oil Co., Ltd., Pulaski.

Capital stock, \$25,000.
President, Mary Douglas.
Mgr. and pur. agent, Geo. W. Douglas.
Wells drawn from, 28.
Miles pipe line, 13.
Annual production, 22,187,300 c. f.
Pop. dist. supplied, 2,000.
No. domestic consumers, 669; gas engines, 8.
Price gas, domestic and industrial, 30c. to
50c. per 1,000 c. f.
Value of gas supplied for year, \$10,948.15.
Supplies Pulaski and vicinity.

Richburg Gas Co., Richburg.

Owner and manager, L. A. Hardman.
Superintendent, Harry M. Hardman.
110 acres leased in Allegany County.
Wells drawn from, oil and gas, 7; gas 3.
Well pressure, max., 65 lbs.
Miles gas pipe line, 3.
Annual prod., crude oil, 350 bbls.
Daily prod., gas, 35,000 c. f.
Pop. dist. supplied, 500.
No. domestic consumers, 28; industrial, 1.
Price gas, gross, domestic, 24c. per 1,000 c. f.;
flat rate, \$36 to \$72 per dwelling.
Value of gas supplied, for year, \$850.
Supplies Richburg.

L. Hardman & Sons, Richburg.

Manager, L. A. Hardman.
125 acres owned; 70 acres leased in Allegany
County.
Wells drawn from, 72 (oil and gas).
Miles pipe line, 5.5.
Well pressure, max., 100 lbs.; min., 5 lbs.
Max. day's output, crude oil, 13 bbls.
Average price, per gal., 8.5c.
Pop. dist. supplied, 500.
No. domestic consumers, 42; industrial, 1.
Price of gas, dom., 30c. per 1,000 c. f.; indus.,
35c. per 1,000 c. f.
Value gas supplied, for year, \$1,385.
Supplies Richburg.

Sandy Creek Oil and Gas Co., Ltd., Sandy Creek.

General office, Lacona, N. Y.
Capital stock, \$15,000.
President, P. G. Hydorn.
Secretary and treas., D. A. Colony.
Manager and pur. agent, D. A. Colony.
Wells drawn from, 19.
Miles pipe line, 15.
No. domestic consumers, 333; manufactories
supplied, 4.
Price gas, gross, per 1,000 c. f., domestic 50c.
Value of gas supplied, for year, \$8,163.65.
Supplies Lacona and Sandy Creek.

Silver Creek Gas and Improvement Co., Silver Creek.

(Subsidiary of Frost Gas Co.)
Capital stock, \$100,000.
President, F. W. Frueauff.
Manager, F. M. Lowry.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

Secretary and treas., J. A. Richie.

Wells drawn from, 7.

Miles pipe line, 15.

Annual prod., 121,566,000 c. f.

Pop. dist. supplied, 4,000.

No. domestic consumers, 733.

Price gas, gross, domestic, 24.5c. per 1,000 c. f.

Value of gas supplied, for year \$29,574.29.

Supplies Silver Creek.

Snyder Gas Co., Snyder.

General office, Fidelity Bldg., Buffalo, N. Y.

Capital stock, \$40,000.

Annual dividend, 8 p. c.

President, H. A. Forman.

Manager, H. A. Forman.

Pur. agent, S. D. Kittinger.

Wells drawn from, 9.

Miles pipe line, 11.

Annual production, 19,000,000 c. f.

No. domestic consumers, 275.

Price gas, gross, domestic, 55c. per 1,000 c. f.

Value of gas supplied, for year, \$9,500.

Supplies Amherst.

Southport Gas Co., Southport.

General office, Pine City, N. Y.

Owner, Miles T. Cassada.

Treasurer, Belle Cassada.

Manager and pur. agent, Miles T. Cassada.

Gas purchased from Potter Gas Co.

Amt. gas purchased, 4,590,000 c. f.

Pop. dist. supplied, 250.

Miles of pipe line, 2.

No. domestic consumers, 70.

Price gas, domestic, 45c. per 1,000 c. f., gross;
40c. net.

Value gas supplied, for year, \$1,836.

Supplies part of Southport.

Oliver Gas and Fuel Co., Tonawanda.

General office, Kenmore, N. Y.

Capital stock, \$2,100.

President, R. M. Zimmerman.

Manager and pur. agent, R. M. Zimmerman.

Secretary, H. A. Zimmerman.

Wells drawn from 3.

Miles of pipe line, 2.

Annual prod., 3,700,000 c. f.

No. domestic consumers, 35; manufactories
supplied, 1.

Price gas, gross; domestic, 35c. per 1,000 c. f.

Value of gas supplied, for year, \$1,200.

Supplies Tonawanda.

Niagara Light, Heat and Power Co., Tonawanda.

(See Artificial Gas Department.)

Town Line Natural Gas Co., Town Line.

Capital stock, \$2,000.

President, C. F. King.

Treasurer, J. C. King.

Secretary, S. F. King.

Manager and pur. agent, C. F. King.

Miles pipe line, 2.5.

No. domestic consumers, 49.

Price gas, domestic, 25c. per 1,000 c. f.

Value of gas supplied, for year, \$1,500.

Supplies Lancaster and Alden.

Consumers' Natural Gas Co., Watkins.

General office, 401 Robinson Bldg., Elmira.

Capital stock, \$20,000.

Bonds, \$63,000; due, 1940; int., 6 p. c.

President, George G. Reynolds.

Manager and pur. agent, George G. Reynolds.

Annual production, 27,000,000 c. f.

Wells drawn from, 11. Miles pipe line, 2.

No. dom. consumers, 820; manufactories, 12.

Price gas, gross, domestic and industrial,
\$1 to 50c. per 1,000 c. f.

Value gas supplied, for year, \$17,500.

Supplies Watkins and Montour Falls.

Empire Gas and Fuel Co., Ltd., Wellsville.

Capital stock, \$1,000,000.

President, Harry Bradley.

Vice-pres. and treas., Geo. H. Bradley.

Manager and pur. agent, Harry Bradley.

Superintendent, E. L. Harder.

Wells drawn from, about 600.

Miles pipe line, 85.

No. domestic consumers, 4,359.

Price gas, gross, per 1,000 c. f., domestic, 40c.;
disc., 3c.

Supplies Wellsville, Bolivar, Cuba, Scio,
Almond, Alfred Station, Allentown, And-
over, Alfred, Whitesville, Greenwood,
Richburg and Little Genesee. Also sup-
plies gas used by Hornell Gas Light Co.,
Hornell, and Canisteo Gas Co., Canisteo.

The Peoples' Natural Gas Co., West Seneca.

Gen'l office, 1071 Ellicott Sq., Buffalo, N. Y.

Capital stock, \$25,000.

President, C. J. Near.

Secretary, Wm. J. Doetsch.

Manager and pur. agent, B. F. Dowd.

Superintendent, S. F. Brandel.

Acres leased, 20 in West Seneca, N. Y.

Wells drawn from, 5.

Well pressure, 85 lbs.

Miles of pipe line, 15.5.

Annual production, 14,561,173 c. f.

Gas purchased, 4,555,333 c. f.

Pop. dist. supplied, 1,500.

No. domestic consumers, 345.

Price gas, gross, dom., 32c. less 2c. per 1,000
c. f. per mo.

Value of gas supplied for year, \$4,368,351.90.

Supplies Gardenville and Ebenezer, town
of West Seneca.

Williamsville Natural Gas Co., Williamsville.

General office, 803 Iroquois Bldg., Buffalo.

Capital stock, \$35,100.

President, J. W. Stearns.

Manager and pur. agent, J. W. Stearns.

Treasurer, Edward C. Koester.

Superintendent, John W. Miller.

1,000 acres leased in Williamsville.

Wells drawn from, 3. Miles of pipe line, 12.

Annual production, 3,245,000 c. f.

Also purchase gas from Iroquois Natural
Gas Co.

Amt. purchased, 29,248,000 c. f.

Pop. dist. supplied, 1,105.

No. domestic consumers, 474.

Price of gas, gross, dom., 45c. per 1,000 c. f.

Value gas supplied, for year, \$10,240.19.

Supplies Williamsville and town of Amherst.

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES



METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for
Review of Technical Paints. CHEESMAN & ELLIOT, 100 William St., New York



OHIO

Ada Natural Gas and Fuel Co., Ada.

General office, Granville, O.
 Capital stock, \$20,000.
 President, Fenwick Ewing.
 Manager and pur. agent, Thomas M. Kier.
 Sec'y and treas., C. B. Slack.
 Miles of pipe line, 4.
 (Gas obtained from Medina Gas and Fuel Co.)
 No. domestic consumers, 832.
 Price gas, gross, domestic, 33c. per 1,000 c. f.;
 industrial, 20c.
 Supplies Ada and Alger.

Alliance Gas and Power Co., Alliance.

(Operated by the Doherty Organization.)
 Capital stock, \$550,000.
 Bonds, \$375,000; due 1932; int., 5 p. c.
 Underlying bonds: Alliance Gas and El. Co.,
 \$57,500; due, 1929; int., 5 p. c.
 President, Henry L. Doherty.
 1st Vice-president, F. W. Frueauff.
 2d Vice-president, Geo. W. York.
 Secretary and treas., W. P. Morton.
 Gen'l mgr., supt. and pur. agt., H. G. Bonner.
 Pop. city supplied, 22,500.
 No. consumers, 5,099.
 Miles of mains, approx., 55.
 Price gas, gross, dom., 10c., industrial, 7.5c.
 Annual sales, 715,053,000 c. f.
 Supplies Alliance.

ELECTRICAL DEPARTMENT.

System operated; Arc, incand. and power,
 A. C., 3 phase, 7,200 alt.
 Generating capacity: Lighting and power,
 3,800 kw.
 Voltage: Arcs, series; incand., 110; power,
 110-220.
 City lighting contract: Hours lighted per
 year: Moonlight schedule.
 No. public arcs, 104; 456 watt. Price per
 year, \$65.
 No. public incand., 111; 16 c. p. Price per
 year, \$12.
 Commercial lighting: No. arcs, 55.
 Price current per kw. hr., gross, 12½c. to 5c.
 Disc., 5 p. c.
 Power circuits: No. motors, 367; price per
 kw. hr., 5c.
 Generating power used, Steam; rated h. p.,
 5,066.
 Output of station, kw. hrs., for year, 9,998,534.
 Cost of station boiler coal, per ton, \$4.22.

Amesville Gas Co., Amesville.

Capital stock, \$4,400.
 President, O. M. Lovell.
 Manager, W. E. Thompson.
 Miles of pipe line, 8.5.
 Gas purchased, 11,240,000 c. f.
 No. domestic consumers, 115.
 No. manufactories, supplied, 1.
 Price gas, gross, 30c. per 1,000 c. f.
 Value of gas supplied, \$2,400.
 Supplies Joy, Sharpsburg, Lathrop and
 Amesville.

Ashtabula Gas Co., Ashtabula.

Capital stock, \$200,000.
 Div. paid, annual rate, 6 p. c.
 Bonds, \$60,000; int., 6 p. c.
 President, Geo. W. Wright.
 Mgr. and pur. agent, F. W. Stone.
 Secretary and treas., F. W. Stone.
 Population, 24,000.
 Gas supplied by Northeastern Oil and Gas Co.
 Conneaut, O.
 Annual purchase, 400,000,000 c. f.
 Miles of pipe line, 52.
 No. domestic consumers, 5,700.
 Price gas, domestic, gross, 36c. per 1,000 c. f.;
 34c. net.
 Value gas supplied, for year, \$202,000.
 Supplies Ashtabula.

The Commercial Oil and Gas Co., Ashtabula.

Office, 172 Main Street.
 Capital stock, \$40,650.
 President, W. H. Young.
 Secretary and treas., F. D. Colson.
 Gen'l manager, A. W. Herring.
 4,000 acres leased in Saybrook Township,
 Ashtabula County, O.
 Wells drawn from 8. Miles of pipe line, 3.5.
 Pop. dist. supplied, 25,000.
 Supplies Ashtabula, through distributing
 company.

Wm. J. Oil and Gas Co., Ashtabula.

Gen'l office, 416 Erie Co. Bank Bldg., Buffalo,
 N. Y.
 Capital stock, \$25,000.
 President, W. J. Brannen.
 Sec'y and treas., W. W. Sears.
 Wells drawn from, 8.
 Well pressures, 675 to 850 lbs.
 Miles of pipe line, 10.
 No. manufactories supplied, 16.
 Price gas, gross, 20c. per 1,000 c. f.

Athens Gas Light and Electric Co., Athens.

Gen. office, 1607 Union Bank Bldg., Pitts-
 burgh, Pa.
 Capital stock, \$40,000.
 President, E. P. Whitcomb.
 Secretary and mgr., W. J. Broder.
 Treasurer, W. R. Hadley.
 Purchasing agent, A. A. Armstrong.
 Supplies Athens and Chauncey.
 Controlled by the Union Natural Gas Corp-
 oration, whose report covers operations
 of above company.

The South Liberty Oil and Fuel Co., Basil.

(Company out of business.)

Bellevue Gas Co., Bellevue.

Gen. office, Union Bank Bldg., Pittsburgh, Pa.
 Capital stock, \$40,000.
 Bonds, \$40,000; due, 1929; int., 6 p. c.
 President, E. P. Whitcomb.
 Secretary, W. J. Broder.
 Treasurer, W. R. Hadley.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Gen. manager, W. J. Broder.
 Purchasing agent, A. A. Armstrong.
 Supplies Bellevue.
 (Controlled by Union Natural Gas Corporation, whose report covers operations of company.)

Berea Pipe Line Co., Berea.

(Operated by Doherty Organization.)
 Capital stock, \$250,000.
 Bonds, \$225,000; due, 1926; int., 6 p. c.
 President, J. C. McDowell.
 Vice-pres., Jno. W. Smith.
 Sec'y and treas., R. A. Brooks.
 Manager, C. W. Sears.
 Wells drawn from, 40.
 Miles pipe line, 109.
 Production, June-Dec., 1917, 864,066,000 c.f.
 No. domestic consumers, 1,383; factories, 26.
 Price gas, domestic, 25c. per 1,000 c.f.; industrial 25c.
 Supplies Berea, Strongsville, West View, Olmsted Falls, Brooklyn Heights, Parma Heights and Rural.

R. J. Berry, Bowerstown.

General office, Findlay, O.
 (Private ownership.)
 Manager and pur. agent, R. J. Berry.
 Superintendent, S. M. Elliott.
 464 acres leased in Harrison and Carroll Counties, Ohio.
 Wells drawn from, 11. Miles pipe line, 13.45.
 Annual prod., 23,912,000 c. f.
 No. domestic consumers, 318; industrial, 8.
 Price gas, gross, domestic, 32c. per 1,000 c.f.
 Value gas supplied, for year, \$7,326.
 Supplies Bowerstown, Sherrods-ville, Lees-ville and New Hagerstown.

Cadiz Gas Co., Cadiz.

Capital stock, \$40,000.
 President, D. T. Ackerly.
 Manager and pur. agt., Carl D. Mead.
 Wells drawn from, 11.
 Annual prod., 23,000,000 c. f.
 Miles pipe line, 8.
 Pop. dist. supplied, 2,000.
 No. domestic consumers, 410; factories, 2.
 Price gas, gross, per 1,000 c. f., domestic 32.5c. industrial, 25c. net.
 Supplies Cadiz.

F. N. Donaldson, Cadiz.

Office, Jewett, O.
 Owner, F. N. Donaldson.
 Manager, F. N. Donaldson.
 Wells drawn from, 4.
 Miles pipe line, 30.
 Pop. dist. supplied, 10,000.
 No. domestic consumers, 247.
 Price gas, gross, per 1,000 c. f., domestic, 30c.
 Value of gas supplied for year, \$4,200.
 Supplies part of Cadiz.

The Canfield Gas and Electric Co., Canfield.

(Successor to The Altimo Gas Co.)
 Capital stock, \$100,000.
 President, W. Jarvis Smith.
 Secretary, John Rowan.
 Pur. agents, W. J. Smith and John Rowan.
 Wells drawn from, 7.

Miles pipe line, 15.
 No. domestic consumers, 220.
 Price gas, gross, domestic, 33c. per 1,000 c. f.; discount, 10 p. c.
 Supplies Canfield.

The American Gas Co., Carrollton.

Distributing center, Scio.
 Capital stock, \$150,000.
 Annual div., 4 p. c.
 President, W. V. Baird.
 Manager and pur. agent, W. V. Baird.
 Secretary and treas., A. K. Rader.
 Wells drawn from, 28. Miles pipe line, 58.
 Annual prod., 108,694,000 c. f.
 Pop. dist. supplied, 6,000.
 No. domestic consumers, 985.
 No. manufactories supplied, 2.
 Price gas, gross; domestic, 35c. per 1,000 c. f.; indus., 25c.
 Value gas supplied for year, \$34,000.
 Supplies Carrollton, Scio, Kilgore, and Har-lem Springs, Jewett and New Rumley.

The Scott Oil and Gas Co., Carrollton.

Distributing center, Amsterdam.
 Capital stock, \$30,000.
 Dividend paid, 10 p. c. annually.
 President, C. A. Tope.
 Manager, A. L. Curry.
 Pur. agent, G. S. Tinlin.
 Wells drawn from, 10. Miles pipe line, 8.
 Annual prod., 35,000,000 c. f.
 Gas purchased, 5,000,000 c. f.
 Pop. dist. supplied, 3,000.
 No. domestic consumers, 450; factories, 2.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Value gas supplied for year, \$11,000.
 Supplies Amsterdam and Bergholz.

Celina Gas Company, Celina.

General office, Lima, Ohio.
 Capital stock, \$50,000.
 President, E. R. Curtin.
 Vice-pres., Walton Clark.
 Secretary, G. W. Curran.
 Treasurer and asst. sec'y, H. C. Miller.
 Asst. treas., B. P. Shearon.
 Pur. agent, J. A. Pearson.
 Miles of pipe line, 15.38.
 Gas purchased, 51,752,000 c. f.
 Number of domestic consumers, 792.
 Price of gas, gross, domestic, 33c. per 1,000 c. f. industrial, 33c. to 25c. per 1,000 c. f.
 Value of gas supplied, for year, \$16,061.38.
 Supplies Celina.

Union Gas and Electric Co., Cincinnati.

(Controlled by Columbia Gas and Electric Co.)
 For capitalization, bonds, officers, etc., see Appendix.
 Manager gas dept., H. J. Lakamp.
 Pur. agent, C. J. Bauer.
 Pop. dist. supplied, 550,000; of city, 425,000.
 No. consumers, 117,294.
 Miles of mains, approx., 723.
 Price gas, domestic light, gross, 40c.; net, 35c.; indus., 13 to 35c.
 No. public lamps, 4,500.
 No. commercial gas arcs, 4,000.
 Supplies Cincinnati and adjoining towns.

HUNT COAL AND COKE VALVES are made in a variety of forms—simplex, duplex, Seaton or "S," Briggs, etc.—in designs and materials especially adapted to gas works and coke oven requirements. Write for Catalogue N15-3.
C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ELECTRICAL DEPARTMENT.

System operated: Lighting, arcs and incand.;
A. C. and D. C.; power, D. C. and A. C.,
single and 3 phase, 7,200 alt.
Voltage: Incand., 115; power, 115-230.
City lighting contract: Hours lighted per
year, arcs, 3,914.
No. public arcs, 6,635. Price per year, \$55,
underground; \$50, overhead circuits.
No. public incand., 624.
Commercial lighting: No. arcs, 481.
Price per kw. hr., gross, 8.5c.
Power circuits: Motors, 62,325 h.p. Price cur-
rent per kw., hr. 8.5c.

Buckeye Gas Co., Circleville.

General office, Union Bank Bldg., Pittsburgh,
Pa.
(Controlled by Union Natural Gas Corpora-
tion, whose report covers operations of
above company.)
Capital stock, \$300,000.
President, E. P. Whitecomb.
Secretary, W. J. Broder.
Treasurer, W. R. Hadley.
Manager, W. J. Broder.
Purchasing agent, A. A. Armstrong.
Supplies, Circleville, Amanda, Stoutsville,
Ashville and Sugar Grove.

The Clarington Gas Co., Clarington.

(Out of business.)

East Ohio Gas Co., Cleveland.

General offices, East Ohio Gas Building, East
6th Street.
(For information as to capitalization, bonds,
etc., see Appendix.)
President and gen. mgr., Martin B. Daly,
Cleveland.
Vice-president, A. C. Bedford, New York.
Vice-president, Geo. H. Jones, New York.
Secretary and treasurer, H. V. Shulters.
Asst. sec'y and treas., C. W. Downing.
Asst. gen. mgr., R. W. Gallagher.
Gen'l supt., John J. McMahon.
Supt., Cleveland plant, J. G. Hanks,
Gen'l supt., main lines, Thos. M. Lee.
Pur. agent, G. H. Horsley.
Comptroller, Geo. H. Jones.
Population dist. supplied, 1,250,000.
Gas piped from Central W. Va.
Price gas, Cleveland, gross, 31c.; net, 30c.
per 1,000 c. f.; Youngstown, gross, 33c.;
net, 30c.; all other towns, gross, 38c.;
net, 35c.
No. domestic consumers, 320,000.
Supplies Cleveland, Canton, Akron, Dennison,
Massillon, New Philadelphia, Uhrichs-
ville, Canal Dover, Youngstown, Warren,
Girard, Hubbard, Niles, Kent, Ravenna,
Alliance, Cuyahoga Falls, New Berlin,
New Middletown, Struthers, Lowelville,
Poland East Palestine, Petersburg,
Barberton, Wadsworth, Doylestown,
Orrville, Wooster, Shreve, Millersburg,
Londonville, Danville, Buckeye City,
Barberton, Bratenahl, Strasburg and
Brink Haven, Ohio.

The Central Contract and Finance Co., Columbus.

(Purchased by Ohio Fuel Supply Co. in 1917.)

Columbus Gas and Fuel Co., Columbus.

(Controlled by Ohio Cities Gas Co.)
General Office, 135 No. Front St.
Capital stock, com. auth., \$3,000,000; issued,
\$3,000,000; pref. auth., \$6,000,000; issued,
\$6,000,000.
Ann. div., pref., 5 p. c.; com., 4 p. c.
Bonds, \$1,390,000; due 1932; int., 5 p. c.
President, T. J. Jones.
Manager, T. J. Jones.
Sec. and treas., G. C. Scott.
Superintendent, J. P. Strickler.
Pop. dist. supplied, 190,000.
Gas purchased, 5,706,261,000 c. f.
Miles of mains, 325.
No. domestic consumers, 44,097; manufac-
tories supplied, 121.
Price gas, per 1,000 c. f., domestic, 30c.;
industrial, 30 to 16.5c.
Value of gas supplied, for year, \$1,542,993.18
Supplies Columbus, Bexley, Linden, Arling-
ton and Worthington.

Columbus Natural Gas Co., Columbus.

(See report under St. Mary's, Ohio.)

The Federal Gas and Fuel Co., Columbus.

(Controlled by Ohio Cities Gas Co.)
General office, 135 No. Front St.
Capital stock, \$1,071,000.
President, Beman G. Dawes.
Vice-pres. and mgr., T. J. Jones.
Secretary and treas., F. S. Heath.
Miles of mains, 139.
Gas purchased, 2,921,119,000 c. f.
Pop. dist. supplied, 60,000.
No. domestic consumers, 14,405; manufac-
tories supplied, 132.
Price gas, dom., 30c. net; industrial, 16.5c.
Value gas supplied, for year, \$640,568.86.
Supplies Columbus.

Logan Natural Gas and Fuel Co., Columbus.

(See report of this company under Lancaster.)

The Ohio Fuel Supply Co., Columbus.

(See report under under Pittsburgh, Pa.)

United Fuel Gas Co., Columbus.

(See report of this company under Charles-
ton, W. Va.)

Miami Valley Gas and Fuel Co., Columbus.

(The Ohio Fuel Supply Co. owns about 95 p. c.
of the stock of this company.)
Capital stock, \$625,000.
Dividend paid, 2 p. c.
President, N. P. Baker.
Treasurer, H. C. Reeser.
Manager, N. P. Baker.
Auditor, O. J. Cherry.
Obtain gas from the Ohio Fuel Supply Co.
Price of gas, gross, domestic, 25c. to 40c. per
1,000 c. f.
Supplies Sidney, Piqua, Covington, Tippe-
canoe City and Troy.

Northeastern Oil and Gas Co., Conneaut.

Capital stock, \$300,000.
Bonds, \$450,000; int., 6 p. c.
President, M. B. Daly, Cleveland, Ohio.
Secy. and treas., C. H. Gale, Cleveland, Ohio.



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Gen'l supt., W. C. Dahler, Geneva, Ohio.
 19,000 acres leased in Ashtabula, Co., Ohio.
 Wells drawn from, 22. Miles pipe line, 58.
 Well pressures, 600 to 700 lbs.
 Annual production, 1,100,000,000 c. f.
 Gas purchased from Clarion Gas Co., Penna.
 Amount gas purchased, 800,000,000 c. f.
 No. domestic consumers, 10,000.
 Price gas, gross, domestic, per 1,000 c. f., 36c.
 and readiness to charge 20c. per meter
 per mo.
 Value of gas supplied, for year, \$300,000.
 Supplies Ashtabula, Jefferson, Conneaut,
 East Conneaut, Geneva, Andover, Austruburg
 and Amboy.

The Buckeye State Gas and Fuel Co., Coshocton.

(Operated by the Doherty Organization.)
 (Subsidiary of Central Ohio Gas & Electric
 Co.)
 Capital stock, \$200,000.
 President, Henry L. Doherty.
 1st Vice-pres., Frank W. Frueauff.
 2d Vice-president, Warner Hay.
 Secretary and treas., E. B. Smith.
 Wells drawn from, 38.
 Miles of pipe line, 77.96.
 No. domestic consumers, 300; factories, 4.
 Price gas, gross, dom. and industrial, 30c.
 Annual sales, gas, 595,165,000 c. f.
 Annual sales, oil, 7,203 bbls.
 Supplies Bladensburg, Warsaw, West Bedford,
 and The Coshocton (Ohio) Gas Co.;
 also The Medina (Ohio), Gas and Fuel Co.

Coshocton Gas Co., Coshocton.

(Operated by the Doherty Organization.)
 (Subsidiary of Central Ohio Gas & Electric
 Co.)
 Capital stock, common, \$80,000; pref., auth.,
 \$45,000; issued, \$16,000.
 Bonds, \$42,000; due 1921; interest, 6 p. c.
 President, H. L. Doherty.
 Vice-presidents, Frank W. Frueauff and
 E. B. Smith.
 Secretary and treas., E. B. Smith.
 Miles of mains, 24.
 No. consumers, 2,869.
 Price gas, per 1,000 c. f., domestic, and
 industrial, 30c.
 Annual sales, 295,940,000 c. f.
 Supplies Coshocton.

Crestline Oil and Gas Co., Crestline.

(Co-partnership.)
 President and mgr., E. W. Satterwhite.
 Pur. agent, F. P. Hayes.
 Wells drawn from, 1.
 Miles pipe line, 14; (to be laid.)
 Daily prod., estimated, 2,500,000 c. f.
 (No report 1918.)

Dayton Gas Co., Dayton.

Controlled by Ohio Cities Gas Co.
 (For capitalization and bonds see Appendix).
 President, and treas., C. A. Ward.
 First vice-pres., F. S. Heath.
 Second vice-pres., Geo. Light.
 Vice-pres. and mgr., Geo. Light.
 Secretary, H. J. Hussong.
 Gas purchased from Logan Natural Gas and
 Fuel Co. Amt. purchased, 2,435,000,000 c. f.
 Pop. dist. supplied, 140,000.

No. domestic consumers, 32,000.
 No. manufactories supplied, 100.
 Price of gas, domestic, 34c. per 1,000 c. f. net.
 Value of gas supplied, for year, \$882,500.
 Supplies City of Dayton.

Deavertown Oil and Gas Co., Deavertown.

(T. L. Cunningham and P. E. Carpenter.)
 Invested, \$2,500.
 Wells drawn from, 1 $\frac{1}{2}$ Miles of pipe line, 2.
 Annual production, 2,549,000 c. f.
 No. domestic consumers, 28.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value of gas supplied for year, \$549.
 (No report, 1917 or 1918.)

Delaware Gas Co., Delaware.

Office, 68 North Sandusky St.
 Capital stock, \$120,000.
 President, T. C. Jones.
 Vice-president, John W. Hills.
 Secretary, John F. Shoub.
 Manager and pur. agt., T. C. Jones.
 Depositary, Delaware National Bank.
 Population, 10,000.
 (Purchase gas from Union Natural Gas
 Corporation, Pittsburg, Pa.)
 No. domestic consumers, 1,962.
 Miles of pipe line, 30 $\frac{1}{2}$.
 Price of gas, domestic, gross, 38c., net, 35c.
 (after Sept. 1, 1917; minimum charge,
 \$1.00 per month.)
 Supplies Delaware.

Citizens Gas and Electric Co., Elyria.

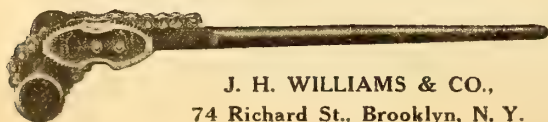
Gen. office, Union Bank Bldg., Pittsburgh, Pa.
 Capital stock, \$600,000.
 Bonds, \$486,000; due 1921; int. 5 p. c.
 President, E. P. Whitcomb.
 Secretary, W. J. Broder.
 Manager, W. J. Broder.
 Treasurer, W. R. Hadley.
 Pur. agent, A. A. Armstrong.
 Supplies Elyria and Lorain.
 Controlled by Union Natural Gas Corporation,
 whose report covers operations of
 above company.

The Citizens Gas Light and Coke Co., Findlay.

Gen. office, Union Bank Bldg., Pittsburgh, Pa.
 Capital stock, \$300,000.
 Bonds, \$47,000; due 1920; interest, 5 p. c.
 President, E. P. Whitcomb.
 Secretary, W. J. Broder.
 Treasurer, W. R. Hadley.
 Manager, W. J. Broder.
 Pur. agent, A. A. Armstrong.
 (Plant leased to the Logan Natural Gas and
 Fuel Co.)
 Controlled by Union Nat. Gas Corporation,
 whose report covers operations of above
 company.

Forest Gas and Oil Co., Forest.

Capital stock, \$60,000.
 President, Jno. Herzog.
 Manager, Wm. E. Johnson.
 Purchasing agent, Wm. E. Johnson.
 Secretary and treas., Bert Herzog.
 Population, 1,355.
 Wells drawn from, 6.
 Miles pipe line, 10.



J. H. WILLIAMS & CO.,
 74 Richard St., Brooklyn, N. Y.

Williams' Improved "Vulcan" Drop-Forged Chain Pipe Wrench

With Double-Ended Reversible Jaws for Turning
 or Holding Pipe, Pipe-Fittings, etc. from $\frac{1}{4}$ to 12
 Inches Diameter

No. dom. consumers, 350; factories, 1.
Price gas, gross, 33c per 1,000 c. f.
Value of gas supplied for year, \$9,600.
Supplies Forest.

North Mercer Natural Gas Co., Fort Recovery.

General office, Lima, O.
Capital stock, \$100,000.
President, E. R. Curtin.
Vice-pres., Walton Clark.
Secretary, G. W. Curran.
Treasurer and asst. sec'y, H. C. Miller.
Asst. treas., B. P. Shearon.
Pur. agent, J. A. Pearson.
Wells drawn from, 7.
Miles pipe line, 16.71.
Annual production, 18,495,000 c. f.
No. domestic consumers, 266.
Price gas, gross, domestic, 33c. per 1,000 c. f.;
industrial, 33c. to 25c.
Value of gas supplied, for year, \$5,879.38.
Supplies Ft. Recovery.

The Fremont Gas, Electric Light and Power Co., Fremont.

Gen. office, Union Bank Bldg., Pittsburgh, Pa.
Capital stock, \$250,000.
Bonds, \$178,000; due 1931; int. 5 p. c.
President, E. P. Whitcomb.
Secretary, W. J. Broder.
Treasurer, W. R. Hadley.
Manager, W. J. Broder.
Purchasing agent, A. A. Armstrong.
Supplies Fremont.
Controlled by Union Nat. Gas Corporation,
whose report covers operations of above
company.

The Granville Fuel and Light Co., Granville.

Capital stock, \$50,000. Annual div., 6 p. c.
President, C. E. Crawford.
Manager, H. H. Dreibelbis.
Pur. agent, H. G. Miller.
Wells drawn from, 12.
Miles pipe line, 10.
Annual prod., 50,000,000 c. f.; gas purchased,
170,000,000 c. f.
No. domestic consumers, 760; factories, 1.
Price gas, gross, domestic, 20c. per 1,000 c. f.
industrial, 15c.
Value of gas supplied, for year, \$31,000.
Supplies Granville, St. Louisville, Chatham.

Jantha Light and Fuel Co., Greenville.

President, C. H. McClung.
Supplies Greenville, Eaton, Eldorado, West
Manchester and West Alexander.

Hamilton City Gas Works, Hamilton.

(Municipal plant.)
Bonds, \$220,000; int., 4 p. c.
Service director, J. J. Sloat.
Superintendent, Harry Thompson.
City auditor, Ernst E. Erb.
Purchase gas from Ohio Fuel Supply Co., at
22c. per 1,000 c. f.
Miles pipe line, 68.
No. domestic consumers, 7,200.
Price gas, gross, domestic and indus., 30c.
per 1,000 c. f.
Value of gas supplied for year, \$96,275.68.
Supplies Hamilton.

ELECTRICAL DEPARTMENT.

(Business conducted under name of City
Electric Light Plant.)

Bonds, \$195,000; 4 p. c.
Supt. James O'Toole.
System operated: 3 phase, 7,200 alt.
Generating capacity: Lighting, 1,000 kw.
Voltage: Arcs, 72; incand., 116; power, 220.
City lighting contract: Hours lighted per
year: Arc, 4,20.
No. public arcs, 375; G. E. series enclosed;
No. public incand., 685; 75 watt.
Price current per kw. hr., gross, 6c. to 2.25c.,
sliding scale.
Output of station, kw. per year, 3,428,728.
Generating power used, Steam.
Cost of station boiler coal, per ton, \$2.35 to \$4.

Consumers Gas Co., Hopedale.

Capital stock, \$2,500.
President, C. C. Tweedy.
Sec. and pur. agent, B. F. Patton.
Treasurer, W. K. Vermillion.
Gas purchased from F. N. Donaldson,
Cadiz, O.
No. domestic consumers, 50.
Price gas, gross, dom., 25c. per 1,000 c. f.
Value of gas supplied for year, \$1,044.50.

The Huntsville Gas Co., Huntsville.

Capital stock, \$2,400.
Annual div. 7.5 p. c.
President, J. S. Montgomery.
Secretary, Ida Williamson.
Wells drawn from, 1. Miles pipe line, ad-
prox., 1.
No. domestic consumers, 33.
Price gas, gross, domestic, 25c. per 1,000 c. f.
Street lights, 22.
Value of gas supplied, per year, \$400.
Supplies Huntsville.

Heard & Jennings Oil & Gas Co., Isletta.

General office, Scio, O.
Manager, C. F. Heard.
Wells drawn from, 4.
Miles of pipe line, 6.
Annual prod., 24,000,000 c. f.
Price gas gross, 10c. per 1,000 c. f.
Gas sold to The Consolidated Gas Co. of New
Comerstown.

Dr. McClain & Sons, Jeromeville.

No. consumers, 150.
Price gas, gross, domestic, 25c. per 1,000 c. f.

Northern Ohio Fuel Co., Kansas.

General office, 1325 Market St., Wheeling,
W. Va.
(Co-partnership.)
Owner, Alex. Bolton.
Pur. agent, J. S. Shaul.
Manager, Alex. Bolton.
Wells drawn from, 9.
Miles pipe line, 12.
Annual prod., 10,000,000 c. f.
Gas purchased, 1,000,000 c. f.
No. domestic consumers, 420.
Price gas, gross, 30c. per 1,000 c. f.; discount,
10 p. c.
Value of gas supplied, for year \$3,000.
Supplies Kansas and Bettsville.



R. D. WOOD & CO., PHILA., PA.
GAS HOLDERS, PURIFIERS, CAST IRON PIPE



The Hardin-Wyandot Lighting Co., Kenton.

(Successor to Kenton Gas & El. Co., Consumers El. Co., Forest, O., and Citizens Light & Power Co., Upper Sandusky, O.)

Capital stock, \$500,000.

President, F. A. Potter.

Gen'l mgr. and pur. agt., P. M. Magly.

Population, 9,000.

(Buys gas from Medina Gas and Fuel Co.)

Miles pipe line, 50.

No. domestic consumers, 1,987.

Price gas, per 1,000 c. f., domestic, 33c. net.

Supplies Kenton.

ELECTRICAL DEPARTMENT.

System: Lighting, ares, D. C.; magnetite.

Generating capacity: Lighting, 650 kw.

Voltage: Arcs, 72; incand., 110.

No. public ares, 150; 4 amp. mag.; lighted 4,000 hours per year.

Price public arc per year, \$70.

Price commercial, per kw., 10, 8 and 6c.; disc. 10 p. c.

Power used, Steam; rated 800 h. p.

Price boiler coal per ton, \$2.40.

Operates plants in Kenton and Upper Sandusky.

City Natural Gas Works, Lancaster.

(Municipal plant.)

Clerk, Wenzel Helwig.

Gas purchased from Logan Natural Gas and Fuel Co.

Pop. dist. supplied, 15,000.

No. domestic consumers, 4424; manufactories 39.

Price gas, per 1,000 c. f., gross, 25c.

Value gas supplied for year \$192,918.64.

Supplies Lancaster.

Logan Natural Gas and Fuel Co., Lancaster.

Gen. office, Union Bank Bldg., Pittsburgh, Pa.

Capital stock, \$10,000,000.

President, E. P. Whitcomb.

Secretary, W. J. Broder.

Treasurer, W. R. Hadley.

Gen'l manager, W. J. Broder.

Purchasing agent, A. A. Armstrong.

Supplies Avery, Amherst, Ashland, Adelphi, Birmingham, Brookville, Bucyrus, Berlin Heights, Carey, Cardington, Castine, Centerburg, Chicago Junction, Chilli-cothe, Clyde, Crestline, Dayton, Delaware, Dover, Edison, Eaton, Euphemia, Eldorado, Fairfield, Florence, Findlay, Fostoria, French Creek, Galion, Galena, Greenville, Hallsville, Homer, Hebron, Jacksontown, Jeromeville, Kingston, Lakeside, Lexington, Lancaster, Lewis, burg, Laurelvilleville, Logan, Litchfield, Mansfield, Mt. Liberty, Mt. Gilead, Milan, Millersport, Monroeville, New Madison, New Paris, New Riegel, Norwalk, Osborne, Polk, Pavonia, Plymouth, Rockbridge, Shelby, Spencer, Sandusky, Sunbury, Sycamore, Thornville, Tiffin, Tiro, Upper Sandusky, Utica, Wellington, Westerville, West Alexandria, West Manchester, Yellow Springs, in Ohio; and the following towns in Indiana: Alexandria, Ander-

son, Elwood, Fairmount, Hartford City, Lynn, Marion, Muncie, New Castle, Normal City, Richmond and Riverside. Controlled by the Union Natural Gas Corp., whose report covers operations of above company.

Lewisville Fuel and Supply Co., Lewisville.

(Partnership: C. G. Oblinger and E. G. Cunningham and J. W. Zerger.)

Secretary and treas., J. W. Zerger.

Wells drawn from, 2. Miles pipe line, 5.5.

Annual prod., approx., 73,000 c. f.

No. domestic consumers, 99.

Price gas, gross, domestic, 20c per 1,000 c. f.

Value of gas supplied for year, \$1,300.

Supplies Lewisville.

Lima Natural Gas Company, Lima.

General office, Lima, Ohio.

Capital stock, \$650,000.

Bonds, \$100,000; due 1939; int., 5 p. c.

President, E. R. Curtin.

Vice-pres. Walton Clark.

Secretary, G. W. Curran.

Treasurer and asst. sec'y, H. C. Miller.

Asst. treasurer, B. P. Shearon.

Pur. agent, J. A. Pearson.

Gas purchased, 929,361,000 c. f.

Pop. of city, 42,000; dist. supplied, 42,750.

No. of domestic consumers, 10,224.

Price of gas, gross, domestic, 33c. per 1,000 c. f.; industrial, 33c. to 25c.

Value of gas supplied, \$283,625.91.

Supplies city of Lima, Cridersville and Coldwater.

The Venture Gas Co., Lima.

(Operated by Doherty Organization.)

Capital stock, \$13,000.

President, J. C. McDowell.

Manager, C. W. Sears.

Buys gas from Medina Gas and Fuel Co.

No. domestic consumers, 978; manufactories, 2.

Price gas, gross; domestic, 30c. per 1,000 c. f.; industrial, 15c.

Supplies Nevada and Morral.

Lindsey Gas Co., Lindsey.

Owner, W. H. Gilbert.

Manager, A. C. Frank.

Wells drawn from, 4. Miles pipe line, 8.

Annual prod., 37,100,000 c. f.

Pop. dist. supplied, 500.

The Lisbon Oil and Gas Co., Lisbon.

(Property in Ohio has been sold to Natural Gas Co. of West Virginia.)

Macksburg Gas Co., Macksburg.

(Partnership composed of A. C. McConnell and L. Stephens.)

Manager and pur. agent, A. C. McConnell.

Wells drawn from, 5. Miles of pipe line, 3.5.

Pop. dist. supplied, 500.

No. domestic consumers, 94.

Price gas gross, dom., 30c per 1,000 c. f.; industrial, 30c.

Value of gas supplied for year, \$1,050.

Supplies Macksburg.

RELIABLE

HOT SPOT

COPPER REFLECTOR

GAS HEATERS

By adopting the "HOT SPOT" heater as his leader, the live new business man will increase his sales and exclude from his territory heating appliances of inferior kinds, thus increasing the popularity of gas for heating purposes. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Malta and McConnellsville Gas Co., Malta.

Capital stock, \$50,000.
 Annual dividend, 20 p.c.
 President, Carl K. Dresser.
 Sec'y and treas., S. Richard Dresser.
 Manager and supt., H. C. Hopp.
 Purchasing agents, H. C. Hopp, Malta, and
 Carl K. Dresser, Bradford, Pa.
 77 acres owned (mineral right); 3,737 acres
 leased. Field in Morgan Co., Ohio.
 Wells drawn from, 43. Miles pipe line, 31.
 Well pressures, 40 to 400 lbs.
 Annual prod., 138,321,000 c. f.
 Pop. dist. supplied, 3,000.
 No. domestic consumers, 1,101.
 No. manufactories supplied, 1.
 Price gas, net, per 1,000 c. f., dom. and indus.,
 25c.
 Value gas supplied for year, \$34,580.25.
 Supplies Malta and McConnellsville.

Mansfield Gas Light Co., Mansfield.

(Operated by the Doherty Organization.)
 (Subsidiary of Central Ohio Gas & Electric Co.)
 Controlled by Cities Service Co.
 Capital stock, pref. \$98,500; common, \$36,500.
 Bonds, \$20,000; due, \$5,000 ann.; int., 6 p. c.
 President, H. L. Doherty.
 Vice-president, R. E. Burger.
 Vice-president, F. W. Frueauff.
 Secretary and treas., J. E. Loiseau.
 Gas purchased.
 Miles pipe line, 37.
 No. consumers, 2,229.
 Price of gas, dom. and industrial, 25c.
 Supplies Mansfield.

Kramer & Drosch, Maria Stein.

(Partnership: John M. Kramer and Aug.
 Drosch.)
 Manager and pur. agent, J. M. Kramer.
 Wells drawn from, 1. Miles pipe line, $\frac{1}{4}$.
 Annual prod., 1,000,000 c. f.
 No. domestic consumers, 10.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Value of gas supplied for year, \$200.
 Supplies Maria Stein.

Maria Stein Home Gas and Oil Co., Maria Stein.

Capital stock, \$2,500.
 Annual dividend, 10 p. c.
 President, Jos. Dahlinghaus.
 Manager, M. Gast.
 Secretary and pur. agent, Henry Menker.
 200 acres leased near Maria Stein.
 Wells drawn from, 3.
 Miles of pipe line, 3.75.
 Well pressures, approx., 10 lbs.
 Annual prod., 475,400,000 c. f.
 No. domestic consumers, 25.
 Price gas, gross, domestic, 15c. per 1,000 c. f.
 (\$1.75 per mo. meter rate.)
 Value of gas supplied for year, \$475.
 Supplies Maria Stein.

National Oil and Gas Co., Marietta.

Capital stock, \$80,000.
 President and mgr., John S. Archer.
 Sec'y, treas. and pur. agt., C. B. Barry.
 Wells drawn from, 15.
 Miles pipe line, 75.

No. domestic consumers, 1,000.

Price gas, gross, domestic, 25c. per 1,000 c. f.
 Supplies Lower Salem, Warner, Lowell,
 Coal Run, Beverly, Waterford, Water-
 town and Whipple.

The Permian Oil and Gas Co., Marietta.

Capital stock, \$40,000.
 President, Robt. McKelvy.
 Sec'y and treas., Geo. White.
 Manager, Geo. White.
 Purchasing agent, Geo. White.
 369 acres leased in Noble and Washington
 Counties, Ohio.
 Wells drawn from, 9. Miles of pipe line, 20.
 Well pressures, 200 lbs.
 Annual prod., 55,643,000 c. f.
 Pop. dist. supplied, 2,500.
 No. domestic consumers, 600.
 Price gas, domestic, 30c. per 1,000 c. f. net.
 Value gas supplied, for year, \$14,143.
 Supplies Caldwell, Dexter City, Macksburg,
 Elba, Dudley, and South Olive.

The River Gas Co., Marietta.

General office, 424 Sixth Ave., Pittsburgh, Pa.
 President and gen'l mgr., John G. Pew.
 Purchasing agent, R. A. Johnson.
 Supplies Marietta, Belpre, New Matamoras,
 Chesterhill, Stockport, Newport, Fly and
 Reno.

Marion Gas Co., Marion.

General office, Union Bank Bldg., Pittsburgh.
 Capital stock, \$150,000.
 Bonds, \$149,000; due 1930; int. 6 p. c.
 President, E. P. Whitcomb.
 Secretary, W. J. Broder.
 Treasurer, W. R. Hadley.
 Manager, W. J. Broder.
 Purchasing agent, A. A. Armstrong.
 Supplies Marion.
 Controlled by the Union Natural Gas Cor-
 poration, whose report covers opera-
 tions of above company.

City and Suburban Gas Co., Martins Ferry.

(See report under Wheeling, W. Va.)

The Vondale-Vernon Gas Co., McArthur.

Capital stock, \$10,000.
 President, B. J. Henry.
 Manager, Fred. L. Diles.
 Wells drawn from, 1.
 Daily prod., 550,000 c. f.
 Sells entire output to The Ohio Fuel Supply
 Co.

The Medina Gas and Fuel Co., Medina.

(Operated by Doherty Organization.)
 (Subsidiary of Central Ohio Gas & Electric
 Co.)
 Capital stock, \$400,000.
 Bonds, \$200,000; due serially, from January
 1, 1913; interest, 6 p. c.
 President and mgr., J. C. McDowell.
 Vice-presidents, C. W. Sears, F. W. Frueauff.
 Secretary and treas., R. A. Brooks.
 Wells drawn from, 111. Miles pipe line, 287.
 No. consumers, 3,615.
 Price of gas, gross, per 1,000 c. f., domestic,
 25c.; industrial, 15c.

We will gladly send you any size or sizes of GOODMAN STOPPERS
 on trial.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Annual sales, gas, 2,826,688 c. f.; oil, 1,205.86 bbls.
Supplies Medina, Lodi, Creston, West Salem, Seville, Burbank, Leroy, Chippewa Lake, Harpster, Rittman, Sterling, Rowsburg and Brunswick.

Killbuck and Millersburg Oil and Gas Co., Millersburg.

Capital stock, \$31,320.
President, H. H. Church.
Secretary and treas., F. P. Kuntz.
Manager, H. H. Church.
Pur. agent, H. H. Church.
7,000 acres leased, in Holmes Co., Ohio.
Wells drawn from, 30. Miles pipe line, 32.
Well pressures, 70 to 190 lbs.
Pop. dist. supplied, 3,200.
Annual prod., gas, 90,000,000 c. f.
Gas purchased, 16,000,000 c. f.
No. domestic consumers, 550.
Price gas, domestic, 30c. per 1,000 c. f.
Value of gas supplied, for year, \$16,990.
Supplies Killbuck and Millersburg.

Mineral City Gas Co., Mineral City.

(Not incorporated.)
Proprietor, Geo. J. Markley.
Manager and pur. agent, Geo. J. Markley.
50 acres leased in Sandy Twp., Tuscarawas County, Ohio.
Wells drawn from, 1. Miles pipe line, 3.5.
Well pressures, 800 lbs.
Annual prod., 6,880,000 c. f.
Pop. dist. supplied, 1,200.
No. domestic consumers, 50; indus., 1.
Price gas, gross, domestic, 33c. per 1,000 c. f.
Value of gas supplied, for year, \$2,064.
Supplies Mineral City.

Venture Gas Co., Morral.

(See report under Lima, Ohio.)

The Mount Vernon Gas Light Co., Mount Vernon.

(Mains leased to the Upham Gas Co.)

The Upham Gas Co., Mt. Vernon.

Capital stock, \$100,000.
President, D. A. Upham.
Mgr. and pur. agent, D. A. Upham.
Wells drawn from, 40. Miles pipe line, 40.
Annual prod., 500,000,000 c. f.
No. dom. consumers, 100; manufactories, 5.
Price gas, gross, domestic, 27c. per 1,000 c. f.; industrial, 15c.
Value of gas supplied, for year, \$50,000.
Supplies Mt. Vernon.

The Clinton Natural Gas Co., Mt. Victory.

(Sold to Medina Gas and Fuel Co.)

The Edward H. Everett Co., Newark.

President, Edward H. Everett.
Manager and pur. agent, J. M. Keckley.
Wells drawn from, 40. Miles of pipe line, 35.
All gas used in glass manufactory.

The Newark Consumers Gas Co., Newark.

Capital stock, \$10,000.
President, E. W. Heisey.
Manager and treasurer, A. H. Heisey.
Sec'y and pur. agent, Geo. E. Graeser.
Gas purchased from A. H. Heisey & Co.

Miles of pipe line, 4.

No. dom. consumers, 300; manufactories, 10.
Price gas, gross, domestic, 33c. per 1,000 c. f.; industrial, 18c. to 25c.
Value of gas supplied, for year, \$89,690.43.
Supplies part of Newark.

Newark Natural Gas and Fuel Co., Newark.

General office, Union Bank Bldg., Pittsburgh.
Capital stock, \$81,600.
President, E. P. Whitcomb.
Secretary, W. J. Broder.
Treasurer, W. R. Hadley.
Manager, W. J. Broder.
Purchasing agent, A. A. Armstrong.
Supplies Newark, Belleville and Butler.
Controlled by the Union Natural Gas Corporation, whose report covers operations of above company.

The North American Oil and Gas Co., Newark.

Capital stock, \$300,000.
Div. paid, annual rate, 8 p. c.
President, Geo. E. Howell.
Purchasing agt. and mgr., Fletcher S. Scott.
Wells drawn from, 4.
Miles pipe line, 3.
Price gas, per 1,000 c. f., gross, industrial, 6c.
Value of gas supplied, for year, \$4,000.
Sells at wholesale only.

New Bremen and Minster Gas Co., New Bremen.

Capital stock, auth., \$50,000; issued, \$10,000.
President Geo. W. Hall.
Sec'y. and treas., Wm. D. Arnett.
Manager, Geo. W. Hall.
Pur. agent, Geo. W. Hall.
Wells drawn from, 23.
Well pressures, 2 to 50 lbs.
Miles of pipe line, 32.
Annual production, 40,000,000 c. f.
Pop. dist. supplied, 4,000.
No. dom. consumers, 524; indus. 20.
Price of gas, domestic and industrial, 35c. per 1,000 c. f. with min. charge of 75c. per month.
Value of gas supplied, for year, \$14,000.
Supplies Minster and New Bremen.

The Consolidated Gas Co., Newcomerstown.

Capital stock, common, \$100,000.
Bonds, \$11,000; due 1921; int. rate, 6 p. c.
President, J. S. Barnett.
Secy. and treas., S. L. Stowe.
Manager, S. A. Stowe.
Purchasing agent, S. L. Stowe.
Wells drawn from, 17.
Miles of pipe line, 68.
Annual prod., 100,000,000 c. f.
Pop. dist. supplied, 4,000.
No. domestic consumers, 1,050; manufactories supplied, 10.
Price gas, domestic, 35c. per 1,000 c. f. gross, 30c. net; industrial, 30c. gross, 25c. net.
Value of gas supplied, for year, \$22,000.
Supplies Newcomerstown and West Lafayette.

New Knoxville Gas Co., New Knoxville.

Manager, Ernest Hottkamp.
Wells drawn from, 5.
Miles pipe line, 1.5.

Precision Orsats or Flue Gas Analyzers for either 50 or 100 CCs always in stock. Prices and Bulletins on request.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Annual prod., 5,914,400 c. f.
No. dom. consumers, 13; factories, 1.
Price gas, gross, dom., 25c. per 1,000 c. f.
Value gas supplied, for year, \$1,253.60.
Supplies New Knoxville.

North Lima Gas Co., North Lima.

Capital stock, \$10,000.
President and gen. mgr., C. M. Heeter.
Sec'y and treas., Annie M. Heeter.
Purchasing agent, C. M. Heeter.
Superintendent, Irvin Bickle.
200 acres leased in Mahoning Co., Ohio.
Wells drawn from, 7.
Well pressures, 100 lbs.
Miles pipe line, 22.
No. dom. consumers, 168.
Price gas gross, dom., 33c.
Supplies New Springfield and North Lima.

Oak Harbor Natural Gas Co., Oak Harbor.

General office, Woodville.
Capital stock, \$16,000.
Annual dividend, 10 p. c.
President, Emery Thierwechter.
Manager, George H. Mauntler.
Secretary and treas., E. H. Mauntler.
Pur. agent, Geo. H. Mauntler.
Wells drawn from, 7.
Miles pipe line, 6.75.
Annual prod., 11,391,300 c. f.
No. domestic consumers, 325.
Price gas, gross, per 1,000 c. f., domestic, 50c.
Value gas supplied, for year, \$5,866.75.
Supplies Oak Harbor.

Oberlin Gas and Electric Co., Oberlin.

Capital stock, pref., \$50,000; com., \$200,000.
Annual div., pref., 7 p. c.
Bonds, \$200,000; due 1931; int., 6 p. c.
President, H. Wurdack.
Secretary, A. E. Hay.
Treasurer, Horace W. Beck.
General mgr., Paul M. Loewe.
Miles of pipe line, 15.
Amt. gas purchased, 130,366,000 c. f.
No. domestic consumers, 1,152.
Price gas, gross, domestic, 33c.; net, 30c.
Ranges in use, 690; heaters, 410; water heaters, 200; gas furnaces, 258.
Supplies Oberlin.

ELECTRICAL DEPARTMENT.

System operated: Arc, series A. C.; incand. A. C., 60 cycle; power, 2 phase, 60 cycle.
Generating capacity: Lighting and power, 410.
Voltage: Line, 2,300; incand., 110; power, 220.
No. public ares, 50, 6.6 amp. Price per year, \$72.
Incand., 38 (tungsten), 100 watt. Price per year, \$18.
Commercial lighting: No. ares, 15; No. incand., 8,000.
Price current per kw. hr., gross, 10c. Disc., 5 p. c. on sliding scale down to 6c.
Power circuits: No. motors, 47, price per kw. hr., 10c. Disc., 5 p. c. on sliding scale.
Output of station, kw. for year, 494,921.
Generating power used, Steam rated 600 h. p.

Pittsfield Gas Co., Oberlin.

General office, 917 Williamson Bldg., Cleveland, O.
Capital stock, \$60,000.
Bonds, \$75,000; serial; int., 6 p. c.
President, Fred L. Hall.
Vice-pres., A. M. Snyder.
Secretary and treas., H. Ford.
Manager and pur. agent, Fred L. Hall.
Wells drawn from, 6.
Miles pipe line, 14.
Annual production, 60,000,000 c. f.
Price gas, gross, dom., 30c. per 1,000 c. f.; industrial, 15c.
Value of gas supplied, for year, \$12,000.
Supplies Oberlin, through a distributor.

Muskingum Light and Fuel Co., Otsego.

(Sold to The Chillicothe Gas Co.)

Hoyt Oil and Gas Co., Pembarville.

General office, 731 Second Nat'l. Bank Bldg., Akron, O.
Capital stock, \$35,000.
President, Wm. H. Hoyt.
Secretary and treas., C. C. Hoyt.
Pur. agent, C. C. Hoyt.
Acres owned, 3,000; acres leased 3,000; Field.
No. Lima oil field.
Wells drawn from, 12 oil; 18 gas.
Average price of oil per bbl., \$2.09.
Supplies Pembarville and vicinity.

Portsmouth Gas Co., Portsmouth.

Controlled by United National Utilities Co., 1321 Walnut St., Philadelphia, Pa.
Superintendent, Jno. McMillan.
Population dist. supplied, 20,000.
(Purchase gas from United Fuel Gas Co.)
Miles of pipe line, 46.
No. consumers, 7,212.
Price gas, gross; domestic, 25c. per 1,000 c. f. industrial, 10c. to 20c. net.
Annual sales, approx., 1,363,743,000 c. f.
Supplies Portsmouth.

Columbus Natural Gas Co., St. Marys.

(Operated by Doherty Organization.)
(Subsidiary Central Ohio Gas & Electric Co.)
Distributing center, Granville.
Capital stock, \$400,000.
Bonds, \$38,200, int. 5 p. c.
President, J. C. McDowell.
Vice-president and mgr., C. W. Sears.
Sec'y and treas., R. A. Brooks.
Pur. agent, C. W. Sears.
Miles of pipe line, 182.
No. consumers, 1,480.
Price of gas, gross, dom. 30c.; industrial, 25c.
Sells gas to distributing company at Columbus, Ohio.
Supplies Shepard, Pataskala, Summit, Reynoldsburg, Kirkersville, Etna and Outville.

St. Marys Gas Co., St. Marys.

General office, Lima, O.
Capital stock, \$100,000.
Bonds, \$100,000; due 1934; int., 5 p. c.
President, E. R. Curtin.
Vice-pres., Walton Clark.
Secretary, G. W. Curran.
Treasurer and asst. sec'y., H. C. Miller.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Asst. treasurer, B. P. Shearon.
 Pur. agent, J. A. Pearson.
 Miles of pipe line, 21.42.
 Gas purchased, 110,220,000 c. f.
 No. domestic consumers, 1,371.
 Price gas, gross, domestic, 33c. per 1,000 c. f.;
 industrial, 33c., to 25c.
 Value of gas supplied, for year, \$33,065.26.
 Supplies St. Marys.

St. Rosa Gas Co., St. Rosa.
 (Out of business.)

Sandusky Gas and Electric Co., Sandusky.

(Supplied with gas by Logan Natural Gas
 and Fuel Co.)
 Capital stock, pref., \$100,000; com., \$500,000.
 Bonds, \$750,000; due, 1929 and 1945; int., 5 p. c.
 President, W. S. Barstow.
 Secretary, A. B. Cheadle.
 Treasurer, O. Clement Swenson.
 Local mgr. and pur. agent, E. A. Bechstein.
 Superintendent, Wm. Ryan.
 Miles pipe line, 64.47.
 Amount gas purchased, 1,258,896,000 c. f.
 Pop. dist. suppl'd, 25,000.
 No. domestic consumers, 5,650; manufacto-
 ries supplied, 150.
 Price gas, per 1,000 c. f., 33c.
 Value of gas supplied for year, \$377,385.
 Supplies Sandusky.
 Electrical dept.: See "Rec'd too late."

A. L. Wagers, Shanesville, Ohio.

President and pur. agent, A. L. Wagers.
 Wells drawn from, 7. Miles of pipe line, 10.
 Price gas, gross, dom. and indus., 40c.
 Value of gas supplied, for year, \$2,200.
 Supplies Sugarcreek and Shanesville.

The Shiloh Gas Co., Shiloh.

Capital stock, \$10,000.
 Annual dividend, 6 p. c.
 President, G. O. Dickerson.
 Manager, H. V. White.
 Sec'y and treas., A. W. Firestone.
 Pur. agent, A. W. Firestone.
 Wells drawn from, 6. Miles pipe line, 2.
 No. dom. consumers, 130; manufactories, 2.
 Price gas, gross, 35c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,100.
 Supplies Shiloh.

Springfield Gas Co., Springfield.

(Controlled by Ohio Cities Gas Co.)
 General office, 135 N. Front St., Columbus, O.
 Capital stock, \$610,000.
 Annual dividend, 12 p. c.
 Bonds, \$400,000; due 1934; int., 6 p. c.
 President, Beman G. Dawes.
 Vice-president, T. J. Jores.
 Secretary and treasurer, F. S. Heath.
 Manager, E. D. Abbott.
 Superintendent, E. D. Abbott.
 Population, 60,000.
 Miles of mains, 125.
 Gas supplied by Ohio Fuel Supply Co.
 Gas purchased, 1,640,271,000 c. f.
 No. consumers, 12,629.
 Price gas, per 1,000 c. f., domestic, 30c.
 No. public gas lamps, 995.
 Value of gas supplied for year, \$455,567.71.
 Supplies Springfield.

Tri-State Gas Co., Steubenville.

(See Manufacturers Light and Heat Co.,
 Pittsburgh, Pa.)

The Federal Oil and Gas Co., Stewart.

Capital stock, \$5,000.
 President, F. K. Coleman.
 Manager, S. J. Biddison.
 Wells drawn from, 3. Miles pipe line, 4.
 No. domestic consumers, 105.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,800.
 Supplies Stewart and Guysville.

The Noble Fuel Supply Co., Summerfield.

(Successor to Summerfield Gas Co.)
 General office, 1912 Union Bank Bldg., Pitts-
 burgh, Pa.
 Capital stock, \$10,000.
 Annual dividend, 20 p. c.
 President, Ellis M. Treat.
 Sec'y. and treas., W. W. Ramsey.
 Gen'l manager, E. D. Willis.
 Pur. agent, E. D. Willis.
 Superintendent, Gailey Myers.
 Field in Marion Township, Noble County, O.
 Wells drawn from, 6. Miles pipe line, 6.
 Well pressure, 145 lbs.
 Annual production, 50,000,000 c. f.
 Pop. dist. supplied, 3,000.
 No. domestic consumers, 220.
 Price gas, gross, domestic, 22c. per 1,000 c. f.
 Value of gas supplied, for year, \$4,300.
 Supplies Summerfield and Whigville.

Northwestern Ohio Natural Gas Co., Toledo.

(Owned by the Ohio Fuel Supply Co.)
 Capital stock, \$2,750,000.
 President, Geo. W. Crawford.
 Vice-president, J. M. Gerard.
 Secretary and treas., H. C. Reeser.
 General superintendent, J. W. McMahon.
 Population, 175,000.
 No. domestic consumers, 55,000.
 Price gas, gross, per 1,000 c. f., domestic, 37c.
 Supplies Toledo, Perrysburg, Maumee and
 Bowling Green, No. Baltimore

The Utica Gas and Electric Co., Utica.

Capital stock, pref., \$10,000; common \$20,000.
 Annual dividend, com., 8 p. c.
 President, R. W. Kirkpatrick.
 Manager, H. P. Kirkpatrick.
 Secretary and pur. agent, K. J. Kirkpatrick.
 273 acres leased in Licking Co., Nash Town-
 ship; Knox Co., Moran Township.
 Wells drawn from, 4. Miles pipe line, 6.
 Well pressures, 80 lbs.
 Annual prod., gas, 5,670,000 c. f.
 Gas pur. from other Companies, 1,600,000 c. f.
 Pop. dist. supplied, 2,500.
 No. domestic consumers, 100.
 Price gas, gross, domestic, 20c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,454.
 Gas business discontinued, Nov. 12, 1917.

ELECTRICAL DEPARTMENT

Capital apportioned to electric plants, \$15,000.
 System operated: Incand., 3 phase; power,
 A. C., 60 cycles.
 Generating capacity: Lighting, 110 kw. hrs.,
 power, 125 kw. hrs.

EXPERIMENTAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. We make various styles, includ-
 ing the calorimeter, photometer and labora-
 tory meters. These are carried in stock.

Miles of over hand wires, 6.
Voltage: incand.; 110-115; power, 110-220.
Commercial lighting. No. incand., 800.
Price current per kw. hr., gross, 7.5c.
Power circuits: No. motors, 3; price per kw.
hr., 1c. and \$1. per h. p. per mo.
Output of station, kw. for year, 38,000.

The Utica Gas, Oil and Mining Co., Utica.

Capital stock, \$20,000.
President, O. C. Teague.
Manager and pur. agent, O. C. Teague.
Secretary, H. L. Everts.
Wells drawn from, 25. Miles pipe line, 22.
Annual prod., 230,000,000 c. f.
Pop. dist. supplied, 3,000.
No. domestic consumers, 350; manufacto-
ries, 2.
Price gas, gross, domestic, 30c. per 1,000 c. f.;
industrial, 16c.
Value of gas supplied, for year, \$25,000.
Supplies Utica.

Vanlue Natural Gas Co., Vanlue.

Gen'l manager and supt., W. M. Eatherton.
40 acres owned, $\frac{1}{2}$ mile south of Vanlue.
Gas wells drawn from, 3; well pressure 250
lbs.
Miles of gas pipe line, 2.
Annual production, gas, 3, 600,000 c. f.
Pop. dist. supplied, 400.
No. dom. consumers, 70; indus. 6.
Price of gas, gross, domestic and indus., 30c.
Value of gas supplied, for year, \$800.
Supplies, Vanlue.

Shaw and Goddard, Vincent.

(Partnership.)
General Manager, H. B. Goddard.
 $\frac{1}{2}$ acre owned, in Durham Twp., Washington
Co., Ohio
Gas wells drawn from, 1.
Miles of gas pipe line, 2.
Well pressures, approx., 100 lbs.
Annual production, gas, 1,000,000 c. f.
No. domestic consumer, 7.
Price of gas, gross, domestic: flat rate \$25
per year for 2 fires and lights.

Wapakoneta Natural Gas Co., Wapakoneta.

General office, Lima, Ohio.
Capital stock, \$100,000.
Bonds, \$100,000; due, 1934; int., 5 p. c.
President, E. R. Curtin.
Vice-pres., Walton Clark.
Secretary, G. W. Curran.
Treasurer and asst. sec'y., H. C. Miller.
Asst. treas., B. P. Shearon.
Gas purchased, 114,930,000 c. f.
Miles of pipe line, 15.68.
No. of domestic consumers, 1,386.
Price of gas, gross, domestic, 33c. per 1,000 c. f.;
industrial, 33c. to 25.
Value of gas supplied, for year, \$35,265.67.
Supplies Wapakoneta.

Washington Gas and Electric Co., Washington C. H.

Capital stock, com., \$200,000; pref., \$50,060,
Annual div., pref., 7 p. c.
Bonds, \$50,000; due 1925; int., 5 p. c.
President, W. A. Baehr.
Gen'l. manager, H. C. Estberg.

Pur. agent, W. A. Baehr.
Superintendent, Joseph Gillespie.
Pop. dist. supplied, 8,000; of city, 8,000.
Miles of mains, approx., 35.7.
No. consumers and meters, 1,866.
Price gas, 45c. per 1,000 cu. ft.; 1st, 8,000;
next, 10,000, 40c. per 1,000 cu. ft.; all over
18,000, 35c. Min. monthly bill, 75c.
Ranges in use, 590.
Supplies Washington, C. H. and Bloom-
burg.

ELECTRICAL DEPARTMENT

System operated; Arc, G. E. D. C., incand.,
60 cycle, 1 phase, 7,200 alt.; power, 60
cycle, 3 phase, A. C.
Voltage: Prim., 2,200; incand., 110; power, 220.
City lighting contract; Hours lighted per
year; Arc, 4,000.
No. public acres, 45 Type "C." mazdas; 100c.
p.; and 175-250 c. p.; 6.6 amp. Price per
year, 100 c. p. \$25, 250 c. p. \$38.
Electric meters, 1,618.
Price current per kw. hr., gross, 10c. Quan-
tity discounts.
Power circuits: No. motors, 40; price per kw.
hr., 10c. Quantity discounts.
Generating power used, steam.
Cost of station boiler coal, per ton, \$4.50.
Supplies Washington, C. H., Bloomburg,
New Holland, Atlanta, Milledgeville,
Jeffersonville, South Solon, Leesburg,
and Buena Vista.

A. J. Doblinger, Waterville.

(No report, 1918.)

Main Street Natural Gas Co., Waterville.

(No report, 1918.)

Waterville Gas and Oil Co., Waterville.

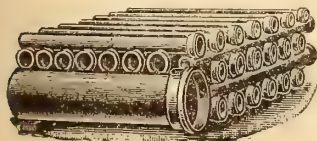
Capital stock, \$10,000.
President, R. G. Stitt.
Manager, R. G. Stitt.
Secretary, May Cowdrich.
Pur. agent, R. O. Youngs.
Wells drawn from, 6.
Miles pipe line, 7.25.
Annual prod., 8,434,700 c. f.
No. domestic consumers, 180.
Price gas, gross, per 1,000 c. f., domestic, 50c.
Value of gas supplied, for year, \$4,217.35.
Supplies Waterville.

Whitman & Chilcothe Bros., West Millgrove.

Wells drawn from, 4.
Annual prod., 2,830,000 c. f.
Pop. dist. supplied, 150.
No. dom. consumers, 50; No. gas engines, 1.
Price gas, gross, dom., 30c. per 1,000 c. f.
Value of gas supplied, for year, \$991.31.
Supplies West Millgrove.

The Central Gas Co., Woodsfield.

Capital stock, \$80,000.
Bonds, \$20,000; due \$10,000 yearly; int., 6 p. c.
President, George Troutman.
Manager, J. E. Keegan.
Purchasing agent, H. L. Ogle.
Wells drawn from, 21. Miles pipe line, 35.
No. domestic consumers, 1,200.



*We carry in stock or have in process of
manufacture a full line of all regular sizes of*

CAST IRON PIPE R. D. WOOD & CO.
PHILADELPHIA, PA.

Price gas, domestic, net per 1,000 c. f., 18c.
 Value gas supplied, for year, \$26,000.
 Supplies Woodsfield, Beallsville, Jerusalem,
 Malaga and Ozark.

The Mauntler Bros. & Co., Woodville.

Distributing center, Elmore.
 Capital stock, \$16,000; issued, \$10,000.
 Annual dividend, 10 p. c.
 President, Geo. H. Mauntler.
 Manager and pur. agent, Geo. H. Mauntler.
 Secretary, E. H. Mauntler.
 Wells drawn from, 6. Miles pipe line, 7.

Annual prod., 5,115,454 c. f.
 Gas purchased, 1,973,000 c. f.
 No. domestic consumers, 275.
 No. manufactories supplied, 1.
 Price of gas, gross, 80c. per 1,000 c. f.
 Value of gas supplied, for year, \$5,611.20.
 Supplies Elmore.

Venture Gas Co., Worster.

(See report under Lima, O.)

Zanesville Gas and Electric Co., Zanesville.

(Company has discontinued business.)

OKLAHOMA

Mac Thwaite Oil & Gas Co., Ada.

Capital stock, \$150,000.
 President, W. C. Duncan.
 Treasurer, M. Webb Offutt.
 Manager, M. Webb Offutt.
 Asst. gen. mgr., H. D. Johnson.
 Superintendent, J. H. Huff.
 Pur. agent, H. D. Johnson.
 3,000 acres leased in Pontotoc Co., Okla.
 No. gas wells, 9.
 Miles of pipe line, 30.
 Annual production, 200,000,000 c. f.
 Gas purchased 20,000,000 c. f.
 Pop. dist. supplied, 12,000.
 No. dom. consumers, 1,400; factories, 16.
 Price gas, gross, dom., 25c. per 1,000 c. f.;
 indus., 10c.
 Value of gas supplied for year, \$50,000.
 Supplies Ada.

Ardmore City Gas Co., Ardmore.

Capital stock, auth., \$250,000; issued, \$219,900.
 President, Wm. A. Baehr.
 Manager, P. C. Ekern.
 Pur. agent, Wm. A. Baehr.
 Wells drawn from, 2.
 Miles of pipe line, 28.
 Annual sales, approx., 612,981,000 c. f.
 (Pipe line only.).

Bartlesville Gas and Oil Co., Bartlesville.

(Operated by Doherty Organization.)
 Capital stock, \$300,000.
 President, F. W. Frueauff.
 Vice-pres., W. H. Merritt.
 Sec'y and treas., L. A. Ramsey.
 Asst. treas., V. B. Day.
 Gas purchased from Quapaw Gas Co.
 No. domestic consumers, 2,981.
 Price gas, gross, domestic, 25c. per 1,000 c. f.;
 industrial, 12.5c.
 Supplies Bartlesville.

The Consumers Gas Co., Bartlesville.

(A sub. company of Quapaw Gas Co.)
 (Operated by the Doherty Organization.)
 President and mgr., A. J. Diescher.
 Secretary C. E. Murray.
 Treasurer, R. C. Russum.
 Pur. agent, H. H. Sloan.
 No. dom. consumers, 3,120; indus., 159.
 Price gas, dom., 25c.; indus., 12.5c.
 Annual sales, 1,739,724,000 c. f.
 Supply Edna, Bartlett and Chetopa, Miami,
 Vinitia, mines and mills at Hattonville.

Empire Gas and Fuel Co., Bartlesville.

(See report in "Parent Co's.")

The Henry Gas Co., Bartlesville.

Gen'l office, 1420 Marquette Bldg., Chicago, Ill.
 Capital stock, \$125,000.
 President, Robert L. Henry.
 Manager and pur. agent, Robert L. Henry.
 Wells drawn from, 55. Miles pipe line, 45.
 Sells gas to Collinsville Gas Co., Bartlesville
 Zinc Co. and other companies.

Osage-Producers Gas Co., Bartlesville.

Capital stock, \$50,000.
 President, H. V. Foster.
 Vice-president, T. F. Gorman.
 Manager, F. F. Finney.
 Pur. agent, Geo. Fox.
 Gas purchased from Indian Territory Illumi-
 nating Oil Co.
 Miles pipe line, 80.
 No. domestic consumers, 400; factories, 60.
 Price gas, gross, domestic, 25c. per 1,000 c. f.;
 industrial, 8c.
 Value of gas supplied, for year, \$75,000.
 Supplies Bigheart, Avant, and oil operators
 in Osage County, Okla.

The Quapaw Gas Co., Bartlesville.

(Operated by the Doherty Organization.)
 Distributing center, Bartlesville, Okla.
 Capital stock, \$3,000,000.
 President, F. W. Frueauff.
 Manager, A. J. Diescher.
 Treasurer, R. C. Russum.
 Secretary, C. E. Murray.
 Gas purchased from the Wichita Pipe Line Co.
 and Indian Ter. Illum. Oil Co.
 No. domestic consumers, 12,914; manufacto-
 ries, 452.
 Price gas, net, domestic, 25c. per 1,000 c. f.;
 industrial, 12.5c. to 25c. per 1,000 c. f.
 Supplies lead and zinc mines and mills in
 Joplin, Mo. district, and Northeastern
 Oklahoma district. Supplies also Webb
 City, and Carthage, Mo.; Baxter Springs
 and Labette, Kan.; Bartlesville and
 Miami, Okla.

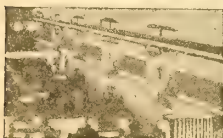
Signal Pipe Line Co., Bartlesville.

Capital stock, \$80,000.
 President, John A. Bell, Jr.
 Treasurer, J. K. Robb.

INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for
 Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



Manager and pur. agent, O. A. Kraeer.
Wells drawn from, 35.
Miles oil pipe line, 24.5.
Well pressures, avg. 160 lbs.
Price of gas, industrial, 7c. per 1,000 c. f.
Value of gas supplied for year, approx.,
\$120,000.
Supplies smelters in Bartlesville, Okla.

Smelter Gas Co., Bartlesville.

Capital stock, \$10,000.
President and manager, C. E. Kayser.
Purchasing agent, J. H. Surdoyal.
Superintendent, J. H. Surdoyal.
Wells drawn from, 50.
Miles pipe line, 55.
Daily open flow capacity of wells, 110,000,000
c. f.
Gas purchased, 5,250,000,000 c. f.
No. manufactories supplied, 3.
Price of gas, 8c. per 1,000 c. f.
Value of gas supplied, for year, \$417,000.

Beggs Gas Co., Beggs.

Office, 1116 Commerce Bldg., Kansas City, Mo.
Capital stock, \$12,250.
Bonds, \$6,500; due semi-annually; int., 6 p. c.
President, C. A. Loomis.
Secretary, Wm. A. Boss.
Treasurer, S. J. Mattocks.
Pur. agent and manager, S. J. Mattocks.
Superintendent, Wm. A. Boss.
Miles of pipe line, 12.
Gas supplied by Oklahoma Natural Gas Co.
Amount of gas purchased, 48,593,000 c. f.
Pop. dist. supplied, 855.
No. domestic consumers, 244; indus., 2.
Price of gas, gross, dom. 25c.; indus. 15c.
Value of gas supplied for year, \$8,277.65.
Supplies Beggs.

Blackwell Oil and Gas Co., Blackwell.

Capital stock, \$210,000.
Annual dividend, 10 p. c.
President, J. L. Waite.
Manager and pur. agent, G. W. Kite.
Secretary, A. W. Brooks.
Wells drawn from, 21. Miles of pipe line, 23.
Annual production, 873,686,300 c. f.
No. domestic consumers, 1,127; manufactories
supplied, 8.
Price of gas, gross; dom., 25c.; industrial, 3c.
to 16c.
Value gas supplied, for year, \$54,890.62.
Supplies Blackwell and town of Brame.

Junction Oil & Gas Co., Blackwell.

Capital stock, \$50,000.
President and mgr., Dave Schonwald.
Secretary, John S. Burger.
Pur. agents, Board of Directors.
Wells drawn from, 6.
Miles of pipe line, 15.
Annual production, 12,000,000 c. f.
Pop. dist. supplied, 1,000.
No. dom. consumers, 100.
Price gas, gross, dom., 30c. per 1,000 c. f.
Value gas supplied, for years, \$1,361.28.
Supplies Hunnewell.

Northern Oil & Gas Co., Blackwell.

(Company reports no production.)

Boynton Oil and Gas Co., Boynton.

(Successor to Boynton Oil, Gas and Fuel Co.)
General office, Muskogee, Okla.
Capital stock, auth., \$1,000,000; issued,
\$283,830.
President and treas., John H. Mosier.
Vice-presidents, A. J. McMahan and Rich. J.
Penny.
Secretary, Chas. Francis.
Manager and pur. agent, John H. Mosier.
8,000 acres owned in Boynton, Okla., and
Seminole County.
Wells drawn from, 8. Miles pipe line, 60.
Annual prod., 6,825,000,000 c. f.
Gas purchased, 150,000,000 c. f.
No. manufactories supplied, 3.
Price of gas, gross, 5c. to 10c. per 1,000 c. f.
Value of gas supplied for year, \$175,000.
Supplies Boynton, through the Boynton Gas
and Electric Co.

Boynton Gas and Electric Co., Boynton.

General office, Muskogee, Okla.
Capital stock, \$5,000.
President, John H. Mosier, Muskogee.
Manager and pur. agent, John H. Mosier.
Wells drawn from, 8. Miles pipe line, 10.
Annual prod., 175,000,000 c. f.
No. domestic consumers, 300; manufactories
supplied, 4.
Price gas, gross, domestic, 25c. per 1,000 c. f.;
industrial, 4c. and 5c.
Supplies Boynton.

Bristow Gas Co., Bristow.

General office, Bartlesville, Okla.
Capital stock, \$100,000.
Bonds, \$10,000; due \$5,000 ann.; int., 6 p. c.
President, C. L. Freeland.
Manager, Frank Barnes.
Secy. and treas., Frank Barnes.
Pur. agent, Chas. E. Jennings.
Wells drawn from, 2. Miles pipe line, 12.
Annual prod., 113,436,000 c. f.
Price gas, gross; domestic, 25c. per 1,000 c. f.;
industrial, 15c.
No. domestic consumers, 533; manufactories
supplied, 13.
Value gas supplied, for year, \$21,126.
Supplies Bristow.

Broken Arrow Gas Co., Broken Arrow.

General office, Gillette Bldg., Tulsa.
Capital stock, \$45,000.
President and mgr., E. R. Minshall.
Secretary and treas., Lewis R. Lewis.
Wells drawn from, 1. Miles of pipe line, 7.
No. domestic consumers, 420; manufactories
supplied, 15.
Price of gas, gross, domestic, 20c. per 1,000
c. f.; industrial, 8c. per 1,000 c. f.
Value gas supplied, for year, \$14,000.
Supplies Broken Arrow.

The Chelsea Natural Gas Co., Chelsea.

(Succeeded by Tri-City Gas Co.)

Tri-City Gas Co., Chelsea.

General Office, 1116 Commerce Bldg., Kan-
sas City, Mo.
(See report under Altoona, Kan.)



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

True-Keith Oil and Gas Co., Chelsea.

Capital stock, \$20,000.
 President, F. E. Keith.
 Sec'y and treas., J. W. True.
 Pur. agents, F. E. Keith and J. W. True.
 550 acres leased in Rogers field.
 Wells drawn from, 12. Miles pipe line, 12.
 Well pressures, 200 to 350 lbs.
 Annual production, 150,000,000 c. f.
 Pop. dist. supplied, 2,500.
 Price of gas, gross, dom., 20c. to 35c.; indus., 10c. to 15c.
 Supplies Tri-City Gas Co.

Caney River Gas Co., Claremore.

Gen'l office, Union Bank Bldg., Pittsburgh, Pa.
 Capital stock, common, \$1,000,000.
 Div. paid, annual rate, 8 p. c.
 Bonds, \$100,000; 1st 6 s.; due, 1917; 400,000 1st refund, 6 s.; due annually from 1918.
 President and gen. mgr., G. T. Braden.
 Vice-pres. and treas., R. H. Bartlett.
 Secretary and asst. treas., John C. Bartlett.
 Asst. sec'y and asst. gen. mgr., R. E. Alexander.
 Wells drawn from, 73. Miles pipe line, 210.
 Price of gas, gross, domestic, 25c.; industrial, 5c. to 15c.
 No. domestic consumers, 7,981; manufacturing supplies, 50.
 Supplies Ramona, Claremore, Wagoner, Inola, Coweta, Porter, Haskell, Muskogee, Pryor Creek, Bixby and Chouteau.

Liberal Oil and Gas Co., Claremore.

(See report under Liberal, Kan.)
 Supplies Tyrone, Hooker and Guymon, Okla.)

Collinsville Gas Co., Collinsville.

Capital stock, common, \$25,000.
 President, Robt. L. Henry.
 Secretary, Earl Reaser.
 Treasurer, N. O. Colburn.
 Purchasing agt. and mgr., Earl Reaser.
 Gas purchased from Henry Oil Co.
 Amt. gas purchased, annually, 180,000,000 c. f.
 Pop. dist. supplied, 4,000.
 Price of gas, gross, domestic, 25c.; indus., 7c.
 No. dom. consumers, 840; factories, 1.
 Value gas supplied, for year, \$21,000.
 Supplies Collinsville.

Creek County Gas Co., Cushing.

Operated by Doherty organization.
 Capital stock, \$400,000.
 Secretary and treas., W. H. Tippet.
 Manager and pur. agent, W. H. Tippet.
 Wells drawn from, 25. Miles of pipe line, 40.
 Price, gas, gross, domestic 25c. per 1,000 c. f.; industrial, 10c. to 5c.
 Sells gas at wholesale to Cushing Gas Co.; also to 6 refineries and 1 oil mill.
 Value of gas supplied for year, \$225,000.

Cushing Gas Co., Cushing.

Capital stock, \$50,000.
 President and mgr., R. C. Jones.
 Pur. agent, J. J. McNeill.
 Supt., J. J. McNeill.
 Wells drawn from, 2. Miles of pipe line, 20.
 Gas purchased from Creek County Gas Co.
 Gas purchased, 180,000,000 c. f.

No. dom. consumers, 950; manufactories, 6.
 Price gas, gross, domestic, 25c. per 1,000 c. f.; industrials, 10c.
 Value of gas supplied, for year, \$30,000.
 Supplies Cushing.

The Shaffer County Gas Co., Drumright.

Capital stock, \$100,000.
 President, J. G. Bennett.
 Manager and pur. agent, J. G. Bennett.
 Miles pipe line, 20.
 Pop. dist. supplied, 10,000.
 No. dom. consumers, 1,600.
 Manufacturing supplies, 9.
 Price gas gross, dom., 22c. per 1,000 c. f.; industrial, 10c.
 Supplies Drumright.

Washita Gas and Fuel Co., Duncan.

(Operated by Doherty Organization.)
 Capital stock, \$500,000.
 President, J. C. McDowell.
 Vice-president, A. J. Diescher.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Manager, E. E. Yingling.
 Miles of pipe line, 4.4.
 Annual sales, 174,139,000 c. f.
 Entire output is sold to Southwestern Oklahoma Gas and Fuel Co., Lawton, Okla.

The Western Oklahoma Gas and Fuel Co., Duncan.

(Operated by Doherty Organization.)
 Capital stock, \$100,000.
 President, J. C. McDowell.
 Vice-president, A. J. Diescher.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Manager, E. E. Yingling.
 Gas purchased from Southwestern Oklahoma Gas & Fuel Co.
 Miles of pipe line, 26.26.
 No. domestic consumers, 1,077; indus., 12.
 Price of gas, dom. 35c.; indus. 15c.
 Annual sales, 174,139,000 c. f.
 Supplies Duncan, Lawton, Marlow.

Eastern Oklahoma Gas Co., Dustin.

General office, Tulsa, Okla.
 Capital stock, \$10,000.
 President and gen. manager, G. McFann.
 Secretary and treas., H. H. McFann.
 Purchasing agent, G. McFann.
 Local mgr., A. R. Howard.
 416 acres leased near Dustin, Okla.
 Wells drawn from, 2. Miles pipe line, 4.
 Well pressures, 450 lbs.
 Pop. dist. supplied, 1,000.
 No. domestic consumers, 180; factories, 2.
 Price gas, gross, domestic, 25c. per 1,000 c. f.; industrial, 10c.
 Value of gas supplied, for year, \$6,350.
 Supplies Dustin.

Oklahoma Gas and Electric Co., El Reno.

(Successor to El Reno Gas and Electric Co.)
 President, H. M. Byllesby.
 Vice-pres., (oper.) W. R. Molinard.
 Gen'l manager, J. F. Owens.
 Gen'l auditor, W. R. Emerson.
 Chief acct. and pur. agent, H. Willmering.
 Miles of pipe line, 26.86.

HUNT INDUSTRIAL RAILWAYS are particularly adapted to handling quenched coke from the quenching bins to storage cars, tracks, curves, switches in standard designs and sizes can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Pop. city supplied, 7,460.
 No. consumers, 1,395.
 Price gas basic rate, net, 36c. to 11c.
 Annual sales, approx., 487,636,000 c. f.
 No. ranges, 1,159; heaters, 941; water heaters, 285.
 Supplies El Reno.

ELECTRICAL DEPARTMENT.

System operated: Arc A. C., 60 cycles; incand. A. C., single phase; power, A. C., 2 phase, 60 cycles.
 Generating capacity: Lighting and power, 575 kw.
 Voltage: Arcs, 70; incand., 110; power, 220-440-2,200.
 City lighting contract: Hours lighted per year: Arc, All night and every night; incand., 60 watt, all night; 40 watt, dusk till 11 p. m.
 No. public arcs, 135; 400 c. p. Price per year, \$60.
 No. public incand., 258; 18-60 watt. Price per year, \$25.46 and \$4.08.
 Commercial lighting: No. arcs, 2. No. incand., 24,980.
 Price current per kw. hr., Light, basic rate, net 9.9c. to 2.7c.
 Other lamps used, 1,000 watt, nitrogen on com. circuits.
 Power circuits: No. motors, 101; price per kw. hr., basic rate, 4.5c. to 1.8c.
 Other uses, 734 fan motors; 1,127 elec. irons and appliances; 36 elec. signs; 16 street arches with 240-40 watt lamps.
 Output of station, kw. for year, 1,380,395.
 Generating power used, Steam; rated h. p., 770.

Oklahoma Gas and Electric Co., Enid.

Controlled by Standard Gas & Electric Co., both companies being under management of H. M. Byllesby & Co., Chicago. (For capitalization, bonds, etc., see Appendix.)
 President, H. M. Byllesby.
 Vice-pres. (oper.) W. R. Molinard.
 Gen. manager, J. F. Owens.
 Gen'l auditor, W. R. Emerson.
 Chief acct. and pur. agent, H. Willmering.
 Superintendent, C. E. Rentchler.
 Pop. dist. supplied, 13,500.
 Miles of mains, 50.88.
 Annual prod., (7 mos.), 380,095,000 c. f.; (Natural gas since June, 1916.)
 No. consumers, 2,385.
 Price gas gross, dom., 38c.; net 35c.
 Ranges, 2,050; heaters, 2,199; water heaters, 426.
 No. commercial gas arc lamps, 22.
 Supplies Enid.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C.; power, A. C., single and 3 phase.
 Generating capacity: Lighting and power, 1,500 kw.
 Voltage: Arcs, 72; incand., 110; power, 220-2,300.
 City lighting contract: Hours lighted per year: Arc, 3,850; incand., 3,850.

No. public arcs, 141; 7.5 amp. Price per year, \$66.
 No. public incand., 174; 40 watt, price per year, \$9.
 6 alley lights, 100 watt, price per year, \$21.
 Commercial lighting: No. arcs, 41. No. incand., 29,843.
 Price current per kw. hr., gross, 11c. to 3.5c.; disc., 10 p. c.
 Other lamps used, 5,257 in signs.
 Power circuits: No. motors, 234; price per kw. hr., 6c. to 2c.; disc., 10 p. c.
 Other uses, 1,816 flat irons; 507 other appliances. Consumers, 2,435.
 Output of station, kw. for year, 2,104,655.
 Generating power used, Steam; rated h. p., 1,235.
 Cost of station boiler fuel, gas, per 1,000 c. f., 10.3c.
 Also supplies local street railway company with power.

Whitewater Oil and Gas Co., Gotebo.

Capital stock, \$500,000.
 President, R. G. Kirkwood.
 Manager, W. D. Bagget.
 Purchasing agent, M. F. Pierce.
 Wells drawn from, 6. Miles of pipe line, 5.
 Annual prod., 1,496,000 c. f.
 Price of gas, domestic, 75c. to 30c. per 1,000 c. f.
 No. domestic consumers, 90.
 Value gas supplied, for year, \$966.55
 Supplies Gotebo.

Guthrie Gas Light, Fuel and Improvement Co., Guthrie.

Capital stock, \$250,000.
 President, M. B. Madden.
 Vice-pres., mgr. and pur. agt., W. J. Dibbens.
 No. domestic consumers, 2,400.
 Manufactories supplied, 17.
 Price gas: domestic, gross, 25c. per 1,000 c. f.; industrial, 15c. and 10c.
 Value gas supplied, for year, \$123,000.
 Distributing company for Oklahoma Natural Gas Co.
 Supplies Guthrie.

Smith and Swan, Henryetta.

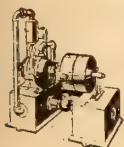
(A partnership.)
 Manager and pur. agent, J. B. Swan.
 Wells drawn from, 4.
 Gas purchased.
 No. dom. consumers, 550; manufactories, 3.
 Price gas, gross, domestic, 25c. per 1,000 c. f.; industrial, 10c.
 Value of gas supplied, for year, \$12,000.
 Supplies Henryetta.

Harris Oil and Gas Co., Hominy.

Capital stock, \$20,000.
 President, P. H. Harris.
 Sec'y and treas., Carl Mullendore.
 Gen'l mgr. and pur. agent, Carl Mullendore.
 Superintendent, W. M. Randolph.
 Gas wells drawn from, 1.
 Well pressure, 325 lbs.
 Miles of gas pipe line, 2.

Hominy Light and Gas Co., Hominy.

Capital stock, \$25,000.
 Annual dividend, 10 p. c.
 Bonds, \$13,000; due, 1919; int., 6 p. c.
 President, L. D. Edgington.



YOUR GREATEST ASSET IN SELLING INDUSTRIAL

GAS. The Efficiency of the NEEDHAM HIGH PRESSURE GAS SYSTEM is now holding many of the largest industrial gas consumers where earlier experiences with less efficient methods were compelling them to consider other fuels.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Vice pres. and pur. agt., Carl Mullendore.
 Secretary and treas., Carl Mullendore.
 Manager, Carl Mullendore.
 Field, seven miles northwest of Hominy.
 Gas wells drawn from, 8.
 Miles of pipe line, 7.
 Gas purchased, 161,600,700 c. f.
 Pop. dist. supplied, 2,000.
 No. domestic consumers, 417; factories, 11.
 Price gas, gross, domestic, 27c.; discount, 2c.
 industrial, 7c., 8c. and 10c.
 Value of gas supplied, for year, \$26,556.77.
 Supplies Hominy.

Jennings Gas Co., Jennings.

Capital stock, \$10,000.
 President, M. C. Nelson.
 Manager and supt., E. L. Clark.
 Secy., treas. and pur. agent, M. A. Liscum.
 Wells drawn from, 2 gas.
 Well pressure, 700 lbs.
 Miles of pipe line, 8.
 Annual prod., gas, 1,000,000 c. f. per day.
 Gas purchased, 365,000,000 c. f.
 Pop. dist. supplied, 1,800.
 No. dom. consumers, 235; factories, 11.
 Price gas gross, dom., 25c. per 1,000 c. f.;
 industrial, 8c.
 Value of gas supplied for year, \$300,000.
 Supplies Jennings.

Kiefer Light and Fuel Co., Kiefer.

(No report.)

Lawton Natural Gas Co., Lawton.

Capital stock, common, \$100,000.
 President, E. E. Shipley.
 Purchasing agt. and mgr., F. M. Marple.
 Wells drawn from, 2.
 Miles pipe line, 13.
 Price of gas, gross, domestic, 35c.
 No. domestic consumers, 300.
 Value gas supplied, for year, \$8,500.
 Supplies part of Lawton.

Southwestern Oklahoma Gas and Fuel Co., Lawton.

(Operated by the Doherty Organization.)
 Capital stock, \$500,000.
 President, J. C. McDowell.
 Vice-pres., A. J. Diescher.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russell.
 Manager, E. E. Yingling.
 Miles of pipe line, 18.
 Sells to Western Oklahoma Gas and Fuel Co.

Choctaw Natural Gas Co., McAlester.

Capital stock, \$150,000.
 Bonds, \$150,000; due, 1928; int., 6 p. c.
 President, Wm. Bertles.
 Secretary and treas., F. A. Willard.
 Manager and pur. agent, F. A. Willard.
 Superintendent, T. H. Veith.
 Acres leased, 8,000; in Pittsburg Co., Okla.
 Wells drawn from, 14.
 Well pressures, 600 lbs.
 Miles pipe line, 33.
 Annual prod., 1,825,000,000 c. f.
 Gas purchased, 1,000,000,000 c. f.
 Pop. dist. supplied, 20,000.
 No. dom. consumers, 2,000; factories, 20.

Price of gas gross, dom., 35c.; industrial,
 sliding scale.
 Value gas supplied for year, \$111,888.58.
 Supplies McAlester (through McAlester Gas
 and Coke Co.) Quinton and Featherstone,
 Okla.

McAlester Gas and Coke Co., McAlester.

Controlled by Howe, Snow, Corrigan &
 Bertles, Grand Rapids, Mich.
 Capital stock, pref. auth., \$500,000; issued,
 \$75,000; com. auth. and issued, \$250,000.
 Annual dividend, pref., 6 p. c.
 Bonds, \$125,000; due 1937; int., 6 p. c.
 President, Burton A. Howe.
 Secretary, Wm. M. Bertles.
 Treasurer, Warren H. Snow.
 Engineer, F. A. Willard.
 Gen'l mgr. and pur. agent, F. A. Willard.
 Supt. and new bus. mgr., T. Veith.
 Gas purchased from Choctaw Natural Gas Co.
 High pressure mains, 35 miles; pressure, 20
 lbs. max.; 10 lbs. min.
 Pop. city, 12,954; dist. supplied, 15,000.
 No. consumers and meters, 1,400.
 Price gas: Light and fuel, gross, 35c. Disc.
 10 p. c.
 Supplies McAlester and North McAlester.

Consumers' Gas Co., Miami.

(See report under Bartlesville, Okla.)

Bellevue Gas and Oil Co., Mounds.

General office, Henryetta, Okla.
 Capital stock, \$10,000.
 President, John Smith.
 Manager, John Smith.
 Pur. agent, J. W. Swan.
 Treasurer, L. A. Wheeler.
 Wells drawn from, 3. Miles pipe line, 3.
 Annual production, 20,000,000 c. f.
 Gas purchased, 50,000,000 c. f.
 No. domestic consumers, 200.
 Price gas, gross, domestic, 25c. per 1,000 c. f.
 industrial, 10c.
 Value of gas supplied, for year, \$5,500.
 Supplies Mounds.

Boynton Oil, Gas and Fuel Co., Muskogee.

(See report under Boynton.)

Consumers Service Co., Muskogee.

(Controlled by Peoples Service Co.)

Grand River Gas Co., Muskogee.

(Controlled by People's Service Co.)
 Office, Barnes Building.
 Capital stock, \$200,000.
 Bonds, \$85,000; due 1925; int., 6 p. c.
 President, H. C. Blackwell.
 Manager and pur. agent, G. W. Fry.
 Wells drawn from, 11. Miles pipe line, 40.
 Annual prod., 25,000,000 c. f.
 Gas purchased, 100,000,000 c. f.
 No. dom. consumers, 1,500; factories, 75.
 Price gas, gross, dom., 30c.; industrial sliding
 scale.
 Supplies Pryor, Choteau Wagoner, Vian and
 Sallisaw, Okla; Alma, Ark.

City Gas Plant, Muskogee.

(No report.)

GAS EXHAUSTERS

Simple



GAS BOOSTERS

*For Industrial
 Appliances*

Muskogee Gas and Electric Co., Muskogee.

Controlled by Okla. Gas and Elec. Co. which is controlled by Standard Gas and Elec. Co., all companies being under management of H. M. Byllesby & Co., Chicago.
 Capital stock, com., \$765,500; pref., \$1,543,600.
 Bonds, \$1,326,500; \$309,500 due 1924; \$1,017,000 due 1926; int. rate, 5 p. c.
 President, H. M. Byllesby.
 Sec'y and treas., H. R. Frost.
 Gen'l manager, Geo. H. Wilmarth.
 Superintendent, L. A. White.
 Auditor and pur. agent, J. H. Schmidt.
 Distributes for Oklahoma Natural Gas Co., Tulsa, Okla.
 Miles of pipe line, 110.24.
 Pop. dist. supplied, 40,000.
 Price of gas, gross, 30c. per 1,000 c. f.; for first 50,000 c. f., net, 25c.; next, 450,000 c. f., 11c.-10c.; next, 500,000 c. f.; 10c.-9c.; next, 1,000,000 c. f., 9c.-8c.; next, 1,000,000 c. f., 8c.-7c.; next, 2,000,000 c. f., 7c.-6c.; next 5,000,000 c. f., 6c.-5c.; all over 10,000,000 c. f., 5c.-4c.
 No. domestic consumers, 5,920; manufacturing supplied, 69.
 Value gas supplied, for year, \$294,417.81.
 Supplies Muskogee.

ELECTRICAL DEPARTMENT.

System, A. C., 3 phase, 60 cycle.
 Power A. C. and D. C.
 Generating capacity: 4,600 kw.
 Voltage: Incand., 110; power, 110-220-440-2,080.
 City lighting contract: Lamps lighted, all night and every night.
 No. public arcs, 422; 6.6 amp. Price per year, 144 at \$55; 278 at \$43.
 No. public incand., 32. Price per year, \$24.
 Commercial lighting: No. incand., 67,703.
 Other lamps, 7,193.
 Price current per kw. hr., gross, 10c. to 2c.; discount, 10 p. c.
 Power circuit; No. motors, 405; price per kw. hr., 5c. to 2c. discount, 10 p. c.
 Other uses, 1,102 fan motors; 1,544 flat-irons and appliances; 57 signs; 3,761 consumers.
 Output of station, kw. hrs. per year, 7,905,003.
 Cost of station fuel, gas, 8c. per 1,000 c. f.

Mussellem Oil and Gas Co., Muskogee.

Gen'l office, 244 Raymond Bldg.
 Capital stock, \$30,000.
 President, M. S. Mussellem.
 Sec'y and treas., P. H. Stein.
 Pur. agent, P. H. Stein.
 1,250 acres leased near Muskogee, Okla.
 Wells drawn from, 3.
 Miles of pipe line, 10; (owned by city.)
 Sell to City of Muskogee at well at 3c. per 1,000 c. f.

Citizens Gas Co., Nowata.

Succeeded by Nowata County Gas Co.

Nowata County Gas Co., Nowata.

Office, 1116 Commerce Bldg., Kansas City, Mo.
 Capital stock, \$100,000.
 Bonds, \$77,500; due, 1927; int., 6 p. c.
 President, Charles A. Loomis.

Secretary, J. A. Tillotson.

Treasurer and pur. agent, S. J. Mattocks.
 Superintendent, Wm. A. Boss.
 Miles of gas pipe line, 39.
 Gas supplied by Quapaw Gas Co.
 Amount gas purchased, 412,840,000 c. f.
 Pop. dist. supplied, 6,160.
 No. domestic consumers, 1,180. No. industrial consumers, 10.
 Price of gas, gross, domestic, 25c.
 Value of gas supplied for year, \$58,272.
 Supplies Nowata and Delaware, Okla.

Water and Gas Dept., Ochelata.

(Municipal plant.)
 Bonds, \$11,000.
 Superintendent, G. E. Schwartz.
 Wells drawn from, 3.
 Miles pipe line, 15.
 No. dom. consumers, 150; factories, 3.
 Price gas, flat rate, \$2 per mo. for heaters; 15c. for lights.
 Value of gas supplied, for year, \$2,500.
 Supplies Ochelata.

Oklahoma Gas and Electric Co., Oklahoma City.

Office, 112 No. Broadway.
 (Controlled by Standard Gas and Electric Co., both companies being under management of H. M. Byllesby Co., Chicago.)
 For capitalization, bonds, etc., see Appendix.
 President, H. M. Byllesby.
 Vice-pres., (charge oper.), W. R. Molinard.
 Gen'l manager, J. F. Owens.
 Secretary, H. L. Frost.
 Treasurer, R. J. Graf.
 Gen'l auditor, W. R. Emerson.
 Chf. acct. and pur. agt., H. Wilmering.
 Superintendent, W. H. Crutchers.
 Gas purchased from Oklahoma Natural Gas Co., 8,581,565,000 c. f.
 Miles of dis. pipe line, 202.77.
 Price of gas, basic rate (net), 25c. to 10c.
 No. consumers, 14,918.
 Supplies Oklahoma City, Capitol Hill, Britton, Bethany and Yukon.

ELECTRICAL DEPARTMENT.

System operated: Arc and incand., A. C. 3 phase, 60 cycles; power A. C., 3 phase, 60 cycles and D. C.
 Generating capacity: lighting and power, 5,650 kw. hrs.
 Voltage: Primary, 2,300; incand., 110; power, 220-2,300; D. C., 220-440.
 City lighting contract: Hours lighted per year, all night, every night.
 No. public arcs, 433; 6.6 amp. Price per year, \$60.
 No. public incand., 397, 80 c. p., \$16 per year each; 407, 100 c. p., \$18 each.
 No. commercial arcs, 68. No. incand., 221,136.
 Other lamps, 24,764 in signs.
 Price current per kw. hour, basic rate (net), Light, 8.1c. to 1.57c.
 Power circuits; No. motors, 2,101; 12,897 h. p.; price per kw. hour., basic rate (net), Power, 4.05c. to 1.57c.
 Other uses, 3,099 fan motors; 3,932 flat-irons and appliances; 409 signs. 13,235 consumers.

BLOWERS

For Industrial Appliances Universally Used



P.H. & F.M. ROOTS CO.

Connersville
 Indiana

New York

Chicago

Output of station, per year, 17,678,675 kw. h.
Generating power used, Steam; rated h. p.,
4,500 h. p. (boiler).
Cost station boiler, fuel (natural gas), 10c.
per 1,000 c. f. net.

Reserve Gas Co., Oklahoma City.

(Operated by the Doherty Organization).
Capital stock, \$1,000,000.
President, L. G. Coleman.
Vice-pres., H. L. Harrell.
Secretary, E. E. McWhiney.
This company owns the right to drill
throughout a well-defined gas belt in
Oklahoma.

Okmulgee Gas Co., Okmulgee.

Capital stock, \$100,000.
President, C. N. Payne.
Manager, J. S. Clarke.
Wells drawn from, 7. Miles pipe line, 75.
Price gas, domestic, gross, 25c. per 1,000 c. f.;
industrial, 3c. to 10c.
No. consumers, 1,300.
No. manufactories supplied, 10.
Value gas supplied, for year, \$82,000.
Supplies Okmulgee.

Watchorn Oil and Gas Co., Otoe.

Office, Herskowitz Bldg., Oklahoma City,
Okla.
Capital stock, \$100,000.
President, Robert Watchorn.
Sec'y and treas., Frank Harper.
Manager and pur. agent, Frank Harper.
Superintendent, A. D. Krow.
480 acres owned; 7,000 acres leased.
Fields in Pawnee, Kay, Carter and Creek
Counties.
Wells drawn from, 2.
Well pressures, 765 lbs.
Annual prod. gas, 21,900,000,000. c. f.
Pop. dist. supplied, 200,000.
Producers only. Sell to Oklahoma Natural
Gas Co.
Price of gas, 4c. per 1,000 c. f.

Pawhuska Oil and Gas Co., Pawhuska.

Capital stock, \$250,000.
President and treas., Thos. F. Gorman.
Secretary, S. M. Gilkey.
Manager and supt., S. M. Gilkey.
Pur. agent, O. L. Rose.
Field, Osage County.
Wells drawn from, 2 oil; 12 gas.
Pop. dist. supplied, 5,000.
No. dom. consumers, 900; industrial, 6.
Price of gas, gross, 25., 20c., 16c., 13c. and 10c.
Supplies Pawhuska.

Kay County Gas Co., Ponca City.

Capital stock, \$200,000.
Annual dividend, 5 p. c.
Bonds, \$20,000; due, 1918; int., 6 p. c.
President and mgr., Geo. L. Miller.
Sec'y and treas., J. J. McGraw.
Supt. and pur. agent, D. W. Kygar.
800 acres leased northeast of Ponca.
Wells drawn from, 5.
Miles pipe line, 40.
Annual prod., 47,244,000 c. f.
Gas purchased, 614,977,000 c. f.

Pop. dist. supplied, 9,500.
No. domestic consumers, 2,070; indus., 15.
Price gas, domestic, gross, 25c. at Ponca;
25c. at Cross; 30c. at Newkirk, Kildare
and Tonkawa per 1,000 c. f.; industrial,
25c. scale down, as amount consumed.
Value of gas supplied, for year, \$97,735.
Supplies Ponca City, Tonkawa, Newkirk,
Cross and Kildare.

Marland Refining Co., Ponca City.

Capital stock, \$1,000,000.
Annual dividend, 1 p. c.
President, J. G. McCoskey.
Gen'l supt. and pur. agent, J. B. Hinkle.
Wells drawn from, 11. Miles of pipe line, 20.
Annual prod., est. 100,000,000 c. f.
No. domestic consumers, 10.
Price of gas, gross, domestic, 25c.; industrial,
6c. per 1,000 c. f.
Value of gas supplied for year, \$2,820.97.
Supplies Whiteagle.

Peoples Fuel Supply Co., Ponca.

(Consolidated October 4, 1917, with Oklahoma
Natural Gas Co.

Le Flore County Gas and Electric Co., Poteau.

Capital stock, \$250,000.
Bonds, \$250,000; due, 1932; int. 5 p. c.
President, F. M. Fauvre.
Sec'y and treas., Howard N. Cassel.
Manager and pur. agent, Howard N. Cassel.
Acres leased, approx. 12,000, in Poteau, Okla.
Wells drawn from, 10.
Well pressures, 350 lbs.
Annual prod., 1,218,790,944 c. f.
Pop. dist. supplied, 34,000.
Number domestic consumers, 507; manufac-
tories, 14.
Price gas, gross, domestic, 30c. per 1,000 c. f.;
industrial sliding scale 4c. to 20c.
Value of gas supplied, for year, \$60,000.
Supplies Poteau and Cameron; sells to South-
western General Gas Co. of Ft. Smith,
Ark.

Quinton Oil and Gas Co., Quinton.

Manager, D. Nottage.
No. gas wells, 6.
Will supply McAlester in part, and Quinton
Smelter.

Latimer County Gas Co., Red Oak.

General office, Bartlesville, Okla.
Capital stock, \$25,000.
President, L. A. Rowland.
Manager and pur. agent, Alex. Calvert.
Wells drawn from, 1. Miles pipe line, 3.5.
Annual production, 5,500,000 c. f.
No. dom. consumers, 80; manufactories, 1.
Price gas, gross, domestic, 25c. per 1,000 c. f.;
industrial, 10c.
Value of gas supplied for year, \$1,200.
Supplies Red Oak.

Silver Crow Oil and Refining Co., Ripley.

General office, Stillwater, Okla.
Capital stock, \$50,000.
New company; drilling operations now un-
derway.
(No report, 1918.)

SPECIAL WELDED PIPE FITTINGS simplify pipe line work.
Submit your design and we shall be glad to quote.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Sand Springs Gas Co., Sand Springs.

General office, Tulsa, Okla.
 Capital stock, \$50,000.
 President, Charles Page.
 Secretary, C. F. Tingley.
 Manager, Geo. W. Kinney.
 Pur. agent, C. F. Tingley.
 Miles of pipe line, 12.
 Gas purchased, 3,128,818,000 c. f.
 Pop. dist. supplied, est., 6,000.
 No. dom. consumers, 1,192; factories, 21.
 Price gas, gross, domestic, 20c. per 1,000 c. f.; industrial, 3c. to 10c.
 Value of gas supplied for year, \$181,836.49.
 Supplies Sand Springs.

Central Light and Fuel Co., Sapulpa.

Capital stock, common, \$200,000.
 Bonds, \$200,000; due, 1924; int., 8 p. c.
 President, S. S. Bryan, Titusville, Pa.
 Manager, W. W. Jenkins.
 Purchasing agent, W. W. Jenkins.
 Gas purchased.
 Miles of pipe line, 15.
 Price of gas, gross, domestic, 25c. per 1,000 c. f.; industrial, 14c. to 25c.
 No. domestic consumers, 2,450; manufactories supplied, 10.
 Value gas supplied, for year, \$129,296.86.
 Supplies Sapulpa.

Shawnee Gas and Electric Co., Shawnee.

General office, Oshkosh, Wis.
 Capital stock, pref. auth., \$150,000; issued, \$13,000; common, \$850,000.
 Bonds, \$896,000; due 1927; int. rate, 5 p. c.
 President, Wm. Mainland, Oshkosh, Wis.
 Secretary and treasurer, Sinclair Mainland.
 Gen. mgr. and pur. agt., C. S. Thompson.
 Pop. dist. supplied, 20,000; of city, same.
 Gas bought from Oklahoma Natural Gas Co., Tulsa.
 Gas purchased, 692,872,000 c. f.
 No. consumers, 2,745. No. manufactories supplied, 10.
 High pressure mains, 33.5 miles; 25 lbs. pressure.
 Price of gas, gross, domestic, 30c. for first 200,000 c. f.; 21c. for next 300,000 c. f.; 13.5c. for next 1,000,000 c. f.; 12.5c. for all over 1,500,000, with 5c. disc. on 1st 500,000 c. f. and 2.5c. disc. on balance.
 Min. service charge, \$1. Min. on gas engines, \$1 for first 15 h. p.; for next 15 h. p., 75c. per h. p.; for all over 30 h. p., 50c. net.
 Value gas supplied, for year, \$123,191.57.
 Supplies Shawnee.

ELECTRICAL DEPARTMENT.

System operated: A. C., 1 and 3 phase, 7,200 alt.
 Generating capacity: Lighting, 2,160 kw.
 Voltage: at arcs, 72; incand., 110; power, 220.
 City lighting contract, hours lighted per year: Arc, 3,600; incand., 3,600.
 No. public arcs, 133; 500 watt. Price per year, \$72.00.
 Commercial lighting: No incand., 18,615; (16-c. p.)
 Price current per kw. hr. gross, 10c. to 1.75c. sliding scale.

Power circuits: Motors, 281. 891 h. p. Price per kw. hr., 4c. gross; 3.5c. net, for first 1,000 kw.; 3c. net for next 2,000 kw.; 2.5c. for next 2,000 kw.; 2c. net for next 5,000 kw.; 1c. for excess.

Other uses, carry street railway load; average cons., 50,000 kw. per mo.; rate, 1.5c.

Output of station, kw. per year, 3,261,161.

Generating power used, steam; rated h. p., 1,665.

Cost of station boiler fuel, natural gas. (see rates above.)

The Skiatook Gas Co., Skiatook.

General office, Tulsa, Okla.
 Capital stock, \$12,500.
 President, Jno. O. Mitchell.
 Pur. agent, Jno. O. Mitchell.
 Superintendent, O. P. Prinkwater.
 Wells drawn from, 2.
 Miles of pipe line, 10.
 Gas purchased, 40,000,000 c. f.
 Price of gas, gross, domestic, 25c.
 No. domestic consumers, 300.
 Value gas supplied, for year, \$10,000.
 Supplies Skiatook.

Commonwealth Oil & Gas Co., Spiro.

Capital stock, \$100,000.
 Annual dividend, 20 p. c.
 President, L. J. Rees.
 Manager and pur. agent, R. V. Smith.
 Wells drawn from, 2.
 Price gas gross, dom., 25c.; industrial 4c. to 20c.

Mullendore Gas Co., Stillwater.

Capital stock, \$75,000.
 President, E. C. Mullendore.
 Secretary, O. F. Mayfield.
 Treasurer, K. F. Mullendore.
 Wells drawn from, 2.
 Miles of pipe line, 11.

Stillwater-Pawnee Gas Co., Stillwater.

(Under construction.)
 Capital, stock, \$60,000.
 Bonds, \$30,000; due 1921; int., 7 p. c.
 President, S. P. Render.
 Secretary, Fred. S. Liscum.
 Manager, O. A. Brewer.
 No. dom. consumers, 1,600; manufactories, 7.
 Price gas, gross, dom., 30c. per 1,000 c. f.; industrial, 5c. to 15c.
 Will supply Stillwater and Pawnee.

Galbreath Gas Co., Tulsa.

(Sold out and consolidated with Oklahoma Natural Gas Co.)

The Grafeman Crude Oil and Gas Co. of St. Louis, Mo., Tulsa.

Gen'l office, Title Guar. Bldg., St. Louis, Mo.
 Capital stock, \$125,000.
 President, William Grafeman.
 Manager and pur. agent, A. O. Archer, St. Louis, Mo.
 Wells drawn from, 3.
 Daily production, 4,000,000 c. f.
 Price of gas, 3c. per 1,000 c. f.
 Gas sold at well, to Indianola Refining Co.



Tycos Temperature Instruments for Gas Works
 INDICATING—CONTROLLING—RECORDING
 To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Henry Gas Co., Tulsa.

General office, 1420 Marquette Bldg., Chicago, Ill.

(See report under Bartlesville, Okla.)

Oklahoma Natural Gas Co., Tulsa.

General office, Union Bank Bldg., Pittsburg, Pa.

Capital stock, \$4,000,000.

Dividend paid, annual rate, 5 p. c.

Bonds, \$600,000, 1st 6s, redeemed \$200,000 each year; \$400,000 1st refund 6s, redeemed \$100,000, each year beginning 1919.

President and gen. mgr., G. T. Braden.

Treasurer and asst. to pres., R. H. Bartlett.

Secretary and asst. treas., John C. Bartlett.

Asst. mgr. and asst. sec'y, R. E. Alexander.

Wells drawn from, 22. Miles pipe line, 263.

Price of gas, gross, domestic, 25c.; industrial, 10c. to 20c. per 1,000 c. f.

No. domestic consumers and manufactories supplied, 19,592.

Value gas supplied, for year, \$831,310.81.

Supplies Kellyville, Depew, Stroud, Davenport, Chandler, Wellston, Luther, Arcadia, Edmond, Bristow, Oklahoma City, Guthrie, Midlothian, Meeker, Sapulpa, and Shawnee.

Oklahoma Fuel Supply Co., Tulsa.

(Consolidate with Oklahoma Natural Gas Co.)

Osage & Oklahoma Co., Tulsa.

General office, Union Bank Bldg., Pittsburg, Pa.

Capital stock, \$1,500,000.

Div. paid, annual rate, 6 p. c.

President, E. P. Whitcomb.

Vice-pres. and gen. mgr., G. T. Braden.

Purchasing agent, A. A. Armstrong.

Secy. and treas., R. H. Bartlett.

Asst. sec'y and asst. treas, John C. Bartlett.

Wells drawn from, 19.

Miles pipe line, 46.5.

Price of gas, gross, domestic, 16c.; industrial, 6c. per 1,000 c. f.

No. domestic and indus. consumers, 7,692.

Value gas supplied, for year, \$350,205.95.

Supplies Tulsa.

Western Natural Gas Co., Tulsa.

Office, Calumet Bldg.

Distributing centers Checotah and Eufaula.

Capital stock, \$110,000.

Bonds, \$80,000; due, 1927; int., 6 p. c.

President, O. K. Eysenbach.

Secretary, treas., and pur. agt., E. T. Tucker.

Local manager, Eufaula, J. H. Schuler.

Local manager, Checotah, H. G. Newcomb.

Acres leased, 4,000, in McIntosh and Pittsburg Counties, Okla.

Wells drawn from, 12. Miles of pipeline, 52.

Daily prod., 6,000,000 c. f.

Pop. dist. supplied, 8,000.

No. dom. consumers, 1,020; manufactories supplied, 14.

Price of gas, gross, domestic, 30c. per 1,000 c. f.; industrial, 25c. to 15c. per 1,000 c. f.

Value of gas supplied for year, \$138,000.

Supplies Eufaula, Checotah and Cathay.

Vinita Gas Co., Vinita.

Office, Bartlesville.

Capital stock, common, \$150,000.

Bonds, \$20,000; due \$10,000 ann.; int. rate, 6 p. c.

President, Geo. C. Priestley.

Manager, D. W. Bottenfield.

Purchasing agent, Chas. E. Jennings.

Gas purchased, 146,787,000 c. f.

Price of gas, 35c. for first 50,000 c. f.; 25c. for 2d 50,000, c. f.; and further discounts for quantity.

No. domestic consumers, 976; manufactories supplied, 8.

Value gas supplied, for year, \$36,000.

Supplies Vinita.

PENNSYLVANIA

Dunn Station Oil and Gas Co., Aleppo.

(R. D., No. 2, Cameron, W. Va.)

Capital stock, \$200,000.

President, Timothy Ross.

Manager and pur. agent, E. J. Lesser.

Wells drawn from, 15. Miles of pipe line, 10.

Annual prod., 80,646,905 c. f.

No. dom. consumers, 25.

Price gas, gross, dom., 25c. per mo.; to Mfrs.

Light & Heat Co., 4.5c. per 1,000 c. f.

Value gas supplied, for year, \$484.15 dom.

Sold to Mfrs. Light & Heat Co., \$3,807.14.

Supplies, Aleppo.

Peoples Natural Gas Co., Altoona.

(See report under Pittsburg.)

Ambridge Gas Co., Ambridge.

Capital stock, \$55,000.

Secretary, F. C. Schroeder.

Miles pipe line, 10.

No. domestic consumers, 1,008.

Price gas, domestic, 30c. net.

Supplies Ambridge.

City of Bradford Gas and Power Corp., Bradford.

Capital stock, \$400,000.

President, Walter L. Burrett.

Manager, P. M. Berwald.

Secretary and pur. agent, Lee S. Meyer.

Wells drawn from, 20.

Miles pipe line, 30.

Supplies Bradford, Pa., and Red House, N. Y.

Bradford Gas Co., Bradford.

Office, 43 Main St.

Capital stock, \$290,000.

Annual dividend, 10 p. c.

President, Lewis Emery, Jr.

Manager, William Ditto.

Treas. and pur. agent, C. E. McCafferty.

Miles of pipe line, 75.

Annual prod., 275,000,000 c. f.

Pop. dist. supplied, 30,000.

No. dom. consumers, 200.

No. manufactories supplied, 30.

Price of gas, gross, dom., 35c.; net, 33c.; industrial, 22 to 33c., net.



Williams' "Agrippa" Turning-Tool Holder

CAM LOCK, Rapid and Positive

J. H. WILLIAMS & CO., 74 Richards St., Brooklyn, N. Y.

Value gas supplied, for year, \$58,000.
Supplies Bradford, Roulette, Port Allegany,
Burtville and rural districts.

Hoffman Natural Gas Co., Bradford.

Capital stock, \$100,000.
President, John Carruthers.
Manager and pur. agt., E. H. Hollingshead.
Secy. and treas., C. M. Brooks.
Wells drawn from, 3.
Miles pipe line, 10.
Price of gas, industrial, 12c. per 1,000 c. f.

Manufacturers Gas Co., Bradford.

General office, Union Bank Bldg., Pittsburgh.
Capital stock, \$350,000.
President, E. P. Whitcomb.
Pur. agent, A. A. Armstrong.
Secretary, W. R. Hadley.
Manager, E. P. Whitcomb.
Treasurer, W. R. Hadley.
Supplies Bradford Pa., and Limestone, N. Y.
Controlled by Union Natural Gas Corporation,
Pittsburgh, Pa., whose report covers
operations of above company.

Wyckoff Oil and Gas Co., Bradford.

Distributing center Ridgway.
Capital stock, \$32,000.
President and pur. agent, J. E. Healy.
Manager, D. S. Littlefield.
Wells drawn from, 14.

Dewey Trust Estate, Brady's Bend.

(Formerly Armstrong County Gas and Oil
Co.)
General manager, Edward R. Dewey.
4,000 acres owned in Perry, Bradys Bend and
Sugar creek Twps., Armstrong County.
Wells drawn from, 7. Miles pipe line, 9.
Pop. dist. supplied, 1,000.
No. domestic consumers, 140.
No. industrial consumers, 2.
Price gas, gross, 27c. per 1,000 c. f.
Value gas supplied, for year, \$4,600.
Supplies Brady's Bend, Roseville, Dewey.

Elk and Jefferson Gas Co., Brockport.

General office, St. Marys.
Capital stock, \$60,300.
Annual dividend, 2 p. c.
President, Louis Streuber, Erie, Pa.
Secretary and treas., D. J. Driscoll, St. Marys.
Manager and pur. agt., Charles H. Brennan.
Wells drawn from, 4.
Miles pipe line, 7.
No. domestic consumers, 350.
Price gas, gross, domestic, 22c. and 27c. per
1,000 c. f.
Value of gas supplied, for year, \$4,366.86.
Supplies Brockport, Shawmut, Mead Run
Elbon and Hyde, through distributing
company.

Henderson Gas Co., Brookville.

Capital stock, \$10,000.
President, E. B. Henderson.
Sec'y and treas., Fred B. Henderson.
Manager and pur. agent, Fred B. Henderson.
500 acres leased in Jefferson and Clarion
Counties.
Wells drawn from, 6.

Miles of pipe line, 2.
Well pressures, 200 lbs.
Annual prod., 54,411,166 c. f.
Price gas, gross, industrial 9c. and 10c.
Value gas supplied, for year, \$5,612,80.
Sells to Manufacturers' Gas Co.

Indian Gas Co., Brookville.

President, Frank B. Christ.
Sec'y, treas. and pur. agent, L. B. Shannon.
500 acres leased in Warsaw and Pinecreek
Townships, Jefferson County, Pa.
No. producing gas wells, 4.
Well pressure, 650 th 725 lbs.
Miles of gas pipe line, 2.
Annual prod., gas, 60,000,000 c. f.
Value of gas supplied for year, \$6,000.
All gas is sold to a distributing Company.

Dunlap Gas and Oil Co., Brownsville.

Price gas, gross, domestic, 20c. per 1,000 c. f.

Turner Oil and Gas Co., Bruin.

(Not incorporated.)
Manager and pur. agent, P. G. Turner.
200 acres owned, 150 leased, in Parker Twp.,
Butler Co., Pa.
Wells drawn from, 13. Miles of pipe line, 6.
Annual prod., gas, 30,000,000 c. f.
Pop. dist. supplied, 500.
No. dom. consumers, 100; factories, 5.
Price gas, gross, dom. 25c.; indus., 15c. per
1,000 c. f.
Value gas supplied, for year, \$6,500.
Supplies Bruin.

Independent Natural Gas Co., Butler.

Office, 117 E. Jefferson St.
Capital stock, \$10,000.
President, Geo. C. Stewart.
Manager, Jno. G. Weeks.
Wells drawn from, 70.
Miles pipe line, 100.
No. domestic consumers, 1,100.
Price gas, gross, domestic, 27c. Discount,
2c., 10 days.
Value gas supplied, for year, \$36,000.
Supplies Butler.

T. W. Phillips Gas and Oil Co., Butler.

(Data also covers plant at Punxsutawney.)
Capital stock, auth., \$2,000,000; issued,
\$1,500,000.
Bonds, \$400,000, 1st mtge. 6s. due serially to
1920; \$520,000 gen'l mtge. 6s due 1921-1923.
President, T. W. Phillips, Jr.
Manager, T. W. Phillips, Jr.
Secretary and treas., B. D. Phillips.
217,261 acres leased.
Wells drawn from, 1,070 gas; 182 oil.
Miles pipe line, 1,230.
No. domestic consumers, 17,500; including 42
industrials.
Price gas, gross, per 1,000 c. f., domestic, 30c.
disc. 2.5c. per 1,000; industrial, sliding
scale.
Annual sales, gas, 11,801,666,000 c. f.
Annual sales, oil, 50,791 bbls.
Supplies Butler, Punxsutawney, Kittan-
ning, New Kensington, Parnassus, Free-
port, Bakerstown, East Butler, Coopers.
town, Monorville, Wickboro, Bracken.



HOLDERS, PLATE WORK, PIPE

R. D. Wood & Co., Phila., Pa.



ridge, Brachburn, Valley Camp, Glassmere, Cheswick, Tarentum, Natrona, Springdale, Worthington, Plumville and other small towns.

West Penn., Oil and Gas Co., Butler.

Capital stock, auth., \$750,000; issued \$200,000.
President, E. H. Smith, Cleveland, O.
Vice-pres., and gen'l. supt., C. C. Strance, No., Washington, Pa.
Secretary, Curtis L. Webb, Meadville, Pa.
Treasurer, John W. Brandon, Butler, Pa.
Pur. agent, Alfred A. Schenck, Butler, Pa.
820 acres owned in Butler Co., Pa. and 1,500 acres in Irvine field, Ky.
No. wells drawn from, 24 oil; 38 gas.
Max. days out-put, crude-oil 28 bbls., in Pa.
Average price per bbl., \$3.10.
By-products; gasoline from 2 plants; capacity 1,000 gallons daily.

Godfrey L. Cabot, Cabot.

Gen. office, 940 Old South Bldg., Boston, Mass.
Owner, Godfrey L. Cabot.
Fields: Roane, Calhoun, Kanawha, Fayette, Jackson and Wirt Counties.
Wells drawn from, 11 oil; 74 gas. Miles pipe line, 200.
Annual prod., crude oil, 1,533 bbls.
Average price oil per gal. 7.5c.
Oil storage tanks; Steel 14; capacity, 100 bbls.
Annual sales, crude oil; Shipments, 1,533 bbls.
No. domestic consumers, 963.
No. manufactories supplied, 14.
Price gas, gross, per 1,000 c. f., domestic, 15 to 27c.; industrial, 1st 150,000 c. f. 16; next 150,000 c. f. 14c.; all over 300,000 c. f. 11c.
Supplies, Grantsville, Brooksville, Big Bend, Elizabeth, Palestine, Creston, Cedar Grove, Newark, Alvord, Mt. Zion, Spencer Mammoth, East Bank, W. Va.

Cadogan Gas Co., Cadogan.

Gen'l office, P. O. Bldg., Kittanning, Pa.
Capital stock, \$13,850.
President, Dwight C. Morgan.
Vice-pres., W. A. Loudon.
Sec'y and treas., F. A. Schmidt.
Wells drawn from, 1 in Buffalo Township, Armstrong Co., Pa.
Miles pipe line, 1.67.
Well pressure, 25 lbs.
Annual prod., 6,000,000 c. f.
Pop. dist. supplied, 1,000.
No. dom. consumers, 100.
Price gas, gross, dom., 25c. per 1,000 c. f.
Value gas supplied for year, \$1,500.
Supplies village of Cadogan.

Carrolltown Gas Co., Carrolltown.

Capital stock, \$11,000.
Annual dividend, 20 p. c.
President, C. A. Sharbaugh.
Manager and pur. agt., F. J. Huber.
Annual production 22,000,000 c. f.
Population city, 1,500.
Wells drawn from, 6. Miles pipe line, 5.5.
No. consumers, 190.
Price gas: Light and fuel, 32c. per 1,000 c. f.
Value gas supplied, for year, \$4,600.
Supplies Carrolltown.

Hock Brothers Natural Gas Co., Chicora.

Supplies Homer, Bolivar and Sugar Creek.

Clarion Gas Co., Clarion.

General office, Oil City, Pa.
Capital stock, \$125,000.
President, Raymond Cross.
Manager, Raymond Cross.
Secretary, L. L. Graham.
Treasurer, F. Sartorius.
Superintendent, W. P. Craig.
Wells drawn from, 120.
Miles pipe line, 240.
No. domestic consumers, 2,955; manufactories supplied, 35.
Price gas, gross, per 1,000 c. f., domestic, 30c.
Value of gas supplied, for year, \$260,000.
Supplies Clarion, Corsica and Summerville, Bullion and Mechanicsville, Pa. Also through distributing companies supply Greenville, Fredonia, Jamestown, Hadley and Osgood, Pa.

Home Gas Co., Clarion.

Capital stock, \$40,000.
President, F. J. Maffett.
Vice-pres., H. H. Arnold.
Treasurer, Abe Kaufman.
Secretary, M. M. Kaufman.
Manager, and pur. agt., Abe Kaufman.

Tri County Natural Gas Co., Clarion.

(See report under Pittsburgh.)

Lund Gas Co., Colegrove.

(Began operations in December 1916.)
Capital stock, \$12,000.
President, E. A. Studholme.
Manager and pur. agent, Charles Hull.
Wells drawn from, 3. Miles of pipe line, 1.
Annual prod., 50,000,000 c. f.
Price gas, gross, indus., 10c. per 1,000 c. f.

Potato Creek Gas Co., Colegrove.

Capital stock, \$50,000.
President, E. A. Studholme.
Manager and pur. agent, Chas. Hull.
Wells drawn from, 5. Miles of pipe line, 4.
Annual prod., 30,000,000 c. f.
Price gas, gross; indus., 10c. per 1,000 c. f.
Value gas supplied, for year, \$3,000.
Sells at wholesale, at well.

Pennova Natural Gas Co., Coraopolis.

General office, 402 Mill St.
Capital stock, \$15,000.
President, W. P. McCabe.
Manager and pur. agent, Geo. Williams.
Sec'y and treas., E. L. Keiser.
Superintendent, Geo. Williams.
Acres leased, 250; field in Moon Township, Allegheny Co., Pa.
Wells drawn from, 2.
Miles pipe line, 3½.
Well pressures 48 and 64 lbs., rock pressure.
Annual prod., approx., 30,000,000 c. f.
Pop. dist. supplied, 600.
No. domestic consumers, 36.
Price gas, gross, dom., 32c. per 1,000 c. f.
Supplies Stoops Ferry and Thorn Run Heights.

RELIABLE

HOT SPOT

COPPER REFLECTOR

GAS HEATERS

Let the "HOT SPOT" heater intensify the rays of golden returns which the sun of gas heater popularity spreads over your fall sales campaign. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

South Branch Gas and Oil Co., Coudersport.

Capital stock, \$71,300.
President, E. L. Dodd.
Manager, Alvin J. Quimby.
Purchasing agent, L. S. Newton.
Wells drawn from, 8. Miles pipe line, 5.
Annual prod., 24,035,600 c. f.
Value of gas supplied, for year, \$2,403.56.
Gas sold to Potter Gas Co.

Heinmann Gas Co., Crosby.

(A co-partnership.)
Manager and pur. agent, W. H. Gallup.
No. manufactories supplied, 1.
Price gas, gross, ind., 10c. per 1,000 c. f.

Ross King, East Brady.

Capital, stock, \$1,000.
President and manager, Ross King.
Wells drawn from, 1; miles pipe line, 0.5.
No. domestic consumers, 9.
Price gas, gross, domestic, 15c. per 1,000 c. f.

C. N. Royce, East Brady.

(Private plant.)
Wells drawn from 3. No. consumers, 3.
Miles of mains, 1.5.
Value of gas supplied, \$75.

Eldred-Home Gas and Fuel Co., Eldred.

Capital stock, \$120,000.
Bonds, \$32,000; due yearly to 1917; int., 6 p. c.
President, E. A. Barden.
Secretary and treas., F. E. Barden.
Pur. agt. and manager, E. A. Barden.
Population, 1,500.
Wells drawn from, 56. Miles pipe line, 55.
No. domes. consumers, 750; manufactories, 2.
Price gas, gross, per 1,000 c. f., domestic, 27c.; industrial, 12c.
Value gas supplied, for year, \$38,000.
Supplies Eldred, Duke Center, Larabee, Coryville and surrounding farming districts.

Windfall Gas Co., Eldred.

Capital stock, \$20,000.
President, Geo. M. Spaulding.
Manager and pur. agent, W. H. Carey.
Wells drawn from, 45. Miles pipe line, 16.
Annual prod., 40,000,000 c. f.
Gas purchased, 30,000,000 c. f.
No. dom. consumers, 8; factories, 1.
Price gas, gross, dom., 30c. per 1,000 c. f.; indus., 12c.
Value gas supplied, for year, \$4,750.
Supplies Eldred.

Union Heat and Light Co., Emlenton.

Capital stock, auth., \$120,000; issued, \$97,200.
Bonds, \$63,000; year due, 1921; int., 6 p. c.
President, T. B. Gregory.
Purchasing agt. and manager, T. B. Gregory.
Wells drawn from, 40. Miles pipe line, 65.
Gas purchased, 308,946,000 c. f.
Annual prod., 14,000,000 c. f.
Price gas, gross, domestic and industrial, 32c. per 1,000 c. f.; disc., 2c., 10 days.
No. domestic consumers, 2,042; manufactories and power plants supplied, 118.
Value of gas supplied, for year, \$84,093.
Supplies Grove City, Sandy Lake, Stoneboro, Harrisville, Forestville, oil well powers in Clintonville Oil Field, Venango Co., Pa.

Fairview Gas Co., Fairview.

Capital stock, auth., \$20,000; issued, \$6,165.
Annual div., 8 p. c.
President, J. Exley.
Manager, and pur. agent, C. G. Johnson.
Wells drawn from, 7. Miles pipe line, 7.
No. domestic consumers, 76; factories, 1.
Price gas, gross, domestic, 35c. per 1,000 c. f.
Value of gas supplied, for year, \$1,259.82.
Supplies Fairview.

Cumberland Gas Co., Freeport.

Capital stock, \$48,000.
President, A. L. Iseman.
Manager and pur. agent, Beynard Way.
Wells drawn from, 38.
Annual prod., 236,918,000 c. f.
Miles of pipe line, 8.
No. dom. consumers, 18; factories, 1.
Price of gas, gross, dom. 20c. per 1,000 c. f.; indus., 7c. per 1,000 c. f.
Sells by meter, in field, to the Equitable Gas Co. and Pittsburgh Plate Glass Co.
Value of gas supplied for year, \$17,370.58.
In addition to production mentioned above, 7,038,000 c. f. was furnished free for domestic use under clause of leases.

Fryburg Gas Co., Fryburg.

Capital stock, \$12,000.
President, A. Hufnagel.
Wells drawn from, 7. Miles pipe line, 5.
Annual prod., 1,500,000 c. f.
No dom. consumers, 70.
Price gas, gross, dom., 20c.; and by contract.
Value gas supplied, for year, \$1,800.
Supplies Fryburg and Marble.

Daly Gas Co., Gibsonton.

Capital stock, \$8,000.
President and manager, T. L. Daly.
Wells drawn from, 8. Miles pipe line, 3.
Pop. dist. supplied, 400.
No. dom. consumers, 33; factories, 1.
Price gas, gross, dom., 25c. per 1,000 c. f.; indus., 12c.
Supplies Gibsonton.

Foster Brook Gas Co., Gilman.

Gen'l office, Bradford, Pa.
Capital stock, \$3,000.
President and mgr., F. M. Johnston.
Pur. agent F. M. Johnston.
Wells drawn from, 116 (oil). Miles pipe line, 2.
No. dom. consumers, 37.
Price gas, gross, dom., \$3 per mo.
Value gas supplied for year, \$1,203.

Girard Gas and Power Co., Girard.

Capital stock, \$20,000.
President, George W. Kibler.
Treasurer, H. H. Nichols.
Manager and pur. agent, H. H. Nichols.
Secretary, J. C. Murphy.
Wells drawn from, 24. Miles pipe line, 15.
Pop. dist. supplied, 1,200.
No. domestic consumers, 155.
Price gas, gross, domestic per 1,000 c. f., 35c.
Value of gas supplied for year, \$2,400.
Supplies Girard.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

Glen Hazel Gas Co., Glen Hazel.

Office, 1024 Prudential Bldg., Buffalo, N. Y.
 Capital stock, \$25,000.
 President, J. T. Jones.
 Manager and pur. agt., F. M. Walker.
 Auditor, K. B. Hassard.
 Wells drawn from, 10. Miles pipe line, 4.
 No. domestic consumers, 25.
 Price gas, gross, domestic, per 1,000 c. f., 25c.
 Value of gas supplied for year, \$900.
 Supplies part of Glen Hazel.

Glenshaw Natural Gas Co., Glenshaw.

Capital stock, \$2,000.
 President, Anthony Leight.
 Secretary, J. C. Titzel.
 Manager and pur. agent, J. C. Titzel.
 Wells drawn from, 50. Miles pipe line, 200.
 No. domestic consumers, 1,120.
 Price gas, gross, per 1,000 c. f., domestic, 32c.
 Value of gas supplied for year, \$35,000.
 Supplies Glenshaw, Allison Park, Valencia and Bauerstown.

Grand Valley Natural Gas Co., Grand Valley.

General office, Oil City.
 Capital stock, \$12,500.
 Annual dividend, 10 p. c.
 President and pur. agent, J. B. Forker.
 Secretary, J. H. Chickering.
 Treasurer, H. H. James.
 Manager, D. K. Johnston.
 1,200 acres leased Warren County.
 Wells drawn from, 5 oil; 13 gas.
 Miles of gas pipe line, 10.
 Annual prod., 7,000,000 c. f.
 Gas purchased, 1,000,000 c. f.
 Pop. dist. supplied, 600.
 No. domestic consumers, 50.
 Price gas, gross, domestic, 35c. per 1,000 c. f.
 Value of gas supplied for year, \$2,500.
 Supplies Grand Valley.

Greenville Natural Gas Co., Greenville.

(Gas is supplied to this company at the city line by the Clarion Gas Co.)
 Capital stock, \$67,500.
 Annual dividend, 8 p. c.
 Bonds, \$32,500; due 1925; int., 5 p. c.
 President, E. S. Templeton.
 Manager and pur. agent, F. W. Stone.
 Secretary, J. W. Vaughn.
 Treasurer, A. C. Hartzell.
 Pop. dist. supplied, 8,000.
 No. domestic consumers, 2,500.
 Price gas, per 1,000 c. f.; gross, domestic, 37c.; net 35c.
 Value gas supplied, for year, \$97,000.
 Supplies Greenville.

Mercer County Gas Co., Greenville.

Capital stock, \$10,800.
 Annual dividend, 10 p. c.
 President, L. W. Orr.
 Manager, S. J. Orr.
 Supt. and pur. agent, F. W. Stone.
 (Purchase gas from Clarion Gas Co.)
 Amt. gas purchased, 46,677,000 c. f.
 No. domestic consumers, 523; factories, 4.
 Price gas, gross, 1,000 c. f., 33c.; net 30c.
 Value of gas supplied, for year, \$14,000.
 Supplies Jamestown, Hadley and Fredonia.

Hazelhurst Gas Co., Hazelhurst.

Capital stock, \$3,000.
 President, Mrs. Della Merrick.
 Manager, S. C. Beers.
 Purchasing agent, S. C. Beers.
 Miles pipe line, 2.
 No. domestic consumers, 250.
 Price gas, gross, domestic, 25c.; industr'l, 10c.
 Value of gas supplied for year, \$23,805.
 Supplies Hazelhurst.

Laurel Oil and Gas Co., Indiana.

(Wells at Sapulpa, I. T.)
 Capital stock, \$100,000.
 President, Harry W. Wilson.
 Manager, H. H. McFann.
 Treasurer, Joseph W. Clements.
 Purchasing agent, H. H. McFann.
 Population, 7,000.
 Wells drawn from, 4. Miles of pipe line, 26.
 No. domestic consumers, 1,500.
 Price gas, gross, dom., 25c.; industr'l, 10c. and 12.5c.
 Value of gas supplied for year, \$60,000.
 Supplies Indiana and Homer.

Duff City Gas Co., Ingomar.

Gen'l office, 551 Second St., Butler, Pa.
 Capital stock, pref. \$30,000, com. \$5,000.
 President, C. M. Heeter.
 Secretary, Annie M. Heeter.
 Treasurer, V. E. Parks.
 Manager and pur. agent, C. M. Heeter.
 Superintendent, A. W. Harkless.
 800 acres leased in Franklin Township, Allegheny Co., Pa.
 Wells drawn from, 11 oil; 9 gas.
 Miles gas pipe line, 60.
 Well pressures, 100 lbs.
 Annual prod. crude oil 157,171 bbls.
 Oil storage tanks steel, 7; capacity 100 bbls.
 Gas purchased, 134,200,000 c. f.
 No. dom. consumers, 211.
 Price gas, gross, 33c. per 1,000 c. f.
 Value of gas supplied, 1917, \$24,325.60.
 Supplies Ingomar, Highland and Melwood;
 sells wholesale to a glass company and
 furnishes gas for drilling wells.

Westmoreland Gas Co., Jeannette.

Capital stock, \$100,000.
 President, Morris Kelly.
 Manager, Perry Dunlop.
 Treas. and pur. agent, S. R. Hall.
 Wells drawn from, 12. Miles pipe line, 2.

Johnetta Gas Co., Johnetta.

Gen'l office, 1203 Chamber of Commerce Bldg.,
 Pittsburg, Pa.
 Capital stock, \$5,000.
 President, J. E. Stewart.
 Secretary, Isaac J. Jenkins.
 Treasurer, D. C. Eaton.
 Manager and pur. agent, J. E. Stewart.
 Wells drawn from, 5. Miles pipe line, 3.
 Well pressures, 40 lbs.
 No. domestic consumers, 50.
 Price gas, gross, dom., per mo., \$1.25 for
 first stove and lights in each house,
 and \$1.00 additional for extra stoves.
 Value of gas supplied, for year, \$1,568.71.
 Supplies Johnetta.

Progressive companies use the GOODMAN STOPPER. It does its bit and does it well.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Beaver Natural Gas Co., Johnsonburg.

Capital stock, \$50,000.
 President and pur. agent, F. O. Schriener.
 Sec'y and treas., G. C. Smith.
 Acres leased, 150; in Ridgeway Twp., Elk Co., Pa.
 Wells drawn from, 7.
 Well pressure, 100 lbs.
 Annual prod., 50,000,000 c. f.
 Sells gas to Consumers Gas and Heat Co., distributing company.

Consumers Gas and Heat Co., Johnsonburg.

Capital stock, \$105,500.
 President, A. G. Paine, New York, N. Y.
 Manager and pur. agent, W. D. Clearwater.
 Population, 3,894.
 Wells drawn from, 50; miles pipe line, 41.
 No. domestic consumers, 1,000; manufactories supplied, 5.
 Price of gas, domestic, per 1,000 c. f., 25c.
 Value gas supplied for year, \$25,000.
 Supplies Johnsonburg and Rolfe.

Johnstown Fuel Supply Co., Johnstown.

Capital stock, \$400,000.
 President, H. D. Walbridge.
 Vice-pres., F. T. Hepburn.
 Secretary, W. A. Reiber.
 Treasurer, K. W. Hamilton.
 Asst. sec'y and asst. treas., L. A. Wood, I. B. Sellers.
 General auditor, F. E. Haag.
 Gen'l manager, P. J. Morrissey.
 Gas purchased from Peoples Natural Gas Co., Pittsburg.
 Pop. dist supplied, 71,450.
 Number dom. consumers, 10,000; factories, 3.
 Price gas, gross, 35c. per 1,000 c. f.
 Value of gas supplied, for year, \$280,000.
 Supplies Johnstown, Westmont, Franklin, Oakhurst, Ferndale and Dale and townships of Lower Yoder, Upper Yoder and Stony Creek.

Citizens Gas Co. of Kane, Pa., Kane.

Capital stock, \$15,000.
 President, Elisha K. Kane.
 Secretary, C. C. Davis.
 Treasurer, Zella E. Kane.
 Purchasing agent, C. C. Davis.
 Manager, Thos. L. Kane.
 Gas purchased, 107,115,000 c. f.
 Pop. dist. supplied, 8,000.
 No. domestic consumers, 425; manufactories supplied, 3.
 Price gas, gross, domestic, 27c. per 1,000 c. f.; industrial, 22c.; net, dom., 25c.; indus., 20c.
 Value gas supplied for year, \$28,572.05.
 Supplies Kane Borough and Wetmore Township.

James City Gas Co., Kane.

No. dom. consumers, 100.

Kane Gas Light and Heating Co., Kane.

Capital stock, \$80,000.
 Annual dividend, 8 p. c.
 President, Elisha K. Kane.
 Treasurer, W. H. Davis.
 Purchasing agent, C. C. Davis.

Manager, Thos. L. Kane.

Wells drawn from, 39.

Miles pipe line, 30.

Annual production, 131,069,894 c. f.

Gas purchased, 15,251,060 c. f.

Pop. dist. supplied, 8,000.

No. domestic consumers, 600.

No. manufactories supplied, 5.

Price gas, per 1,000 c. f., domestic, 27c; industrial, 22c.

Value of gas supplied for year, \$37,871.84.

Supplies Kane Borough in part.

Mountain Gas Co., Kane.

(Successor to Keystone United Oil & Gas Co.)

Capital stock, \$20,000.

Annual dividend, 10 p. c.

President, James McDade.

Sec'y and treas., R. A. Hill.

Manager and pur. agent, H. J. Walter.

1,100 acres leased in McKean and Elk Counties.

Wells drawn from, 53.

Miles pipe line, 45.

Well pressures, 90 to 150 lbs.

Annual prod., 203,047,492 c. f.

Amt. gas purchased, 407,906,533 c. f.

No. manufactories supplied, 9.

Price of gas, gross, indus., 18c. per 1,000 c. f.

Value of gas supplied for year, \$26,436.88.

Supplies manufacturers in Kane.

McDade Gas Co., Kane.

Capital stock, \$28,500.

President, James McDade.

Manager and pur. agent, W. W. McDade.

Miles pipe line, 12.

Gas purchased, 116,508,000 c. f.

No. domestic consumers, 627; manufactories supplied, 1.

Price gas, gross, domestic, 30c; industrial, 22c.

Value of gas supplied, for year, \$20,377.21.

Supplies Kane and vicinity.

Midland Gas Co., Kane.

Capital stock, \$250,000.

President and mgr., Franklin E. Ulf.

Wells drawn from, 25. Miles pipe line, 5.

Annual prod., 50,000,000 c. f.

Value gas supplied, for year, \$40,000.

Gas sold to United Natural Gas Co. and Consumers Gas and Heat Co., Johnsonburg, Pa.

Troutman Oil and Gas Co., Karns City.

President, Geo. E. McGill.

Manager and pur. agt., Geo. E. McGill.

Wells drawn from, 30.

Miles pipe line, 100.

Price gas, gross, domestic, 25c. per 1,000 c. f. industrial, 15c.

No. domestic consumers, 500; manufactories supplied, 50.

Supplies Karns City, Whiskerville, Hilliards, Troutman, Buena Vista and Hooker.

B. L. Barnhart, Kaylor.

Manager, B. L. Barnhart.

Wells drawn from, 20.

Miles pipe line, 25.

Annual prod., 20,000,000 c. f.

Metropolitan No. 2 Argand Burners, specified for candlepower test use by the London Gas Referee. The only burner which approaches perfect combustion of any kind of gas, whether coal gas, enriched coal gas or coal gas mixed with carburetted water gas. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

No. domestic consumers, 165.
 Price gas, gross, domestic, per 1,000 c. f., 15c.
 Value gas supplied for year, \$3,000.
 Supplies Kaylor and surrounding country.

Kellettville Gas Co., Kellettville.

See report under Tionesta, Pa.

The Manufacturers Natural Gas Co. of Armstrong County, Kittanning.

Capital stock, \$7,200.
 President, Tyson Heilman.
 Manager, James T. Heilman.
 Purchasing agent, James T. Heilman.
 Wells drawn from, 4.
 Miles pipe line, 2.
 Price gas, gross, domestic, 25c. per 1000 c. f.;
 industrial, 10c.
 Value of gas supplied for year, \$10,000.
 Sell only to distributing companies.

McNickle Natural Gas Co., Kittanning.

(Company reported out of business.)

Edenburg Oil and Gas Co., Knox.

(Co-partnership.)
 Manager, James Bell.
 Wells drawn from, 40.
 Annual prod., 450,000,000 c. f.
 Price of gas, gross, 7c. per 1,000 c. f.
 Value of gas supplied for year, \$30,000,
 Sells at wholesale to Alum Rock Gas Co.

Elk Oil and Gas Co., Knox.

(Co-partnership.)
 Manager, James Bell.
 Wells drawn from, 4.
 Annual prod., 18,000,000 c. f.
 Price of gas, gross, 7c. per 1,000 c. f.
 Value of gas supplied for year, \$1,260.
 Sells at wholesale to Alum Rock Gas Co.

Toby Oil and Gas Co., Knox.

(Distributing center, Sligo, Pa.)
 (Not incorporated.)
 Manager and pur. agent, J. H. Mannos.
 Wells drawn from, 3. Miles pipe line, 2.
 No. manufactories supplied, 1.
 Price gas, gross, indus., 12c. per 1,000 c. f.
 Value of gas supplied for year, \$1,052.
 Supplies Sligo Brick Works.

Mount Jewett Gas Co., Kushequa.

Capital stock, \$60,000.
 Div. paid, annual rate, 8 p. c.
 President, E. K. Kane.
 Manager, E. K. Kane.
 Purchasing agents, Elisha K. Kane and Geo.
 V. Thompson.
 Wells drawn from, 140. Miles pipe line, 52.
 No. domestic consumers, 375; manufactories
 supplied, 4.
 Price gas, gross, domestic, 25c. cash; indus-
 trial, 10c. to 18c.
 Value gas supplied, for year, \$36,463.87.
 Supplies Mount Jewett and Kushequa.

Lawrence Park Realty Co., Lawrence Park.

President, J. M. Sherwin.
 Secretary, M. Griswold.
 Manager, B. J. Holmes.

Wells drawn from, 11.
 Pop. dist. supplied, 650.
 No. domestic consumers, 100.
 Price gas, gross, dom., 30c. per 1,000 c. f.

Acme Natural Gas Co., Leechburg.

Capital stock, \$5,000.
 President, James A. Wally, Kittanning.
 Vice-president and supt., J. W. Crosby.
 Sec'y and treas., S. J. McMains.
 Wells drawn from, 3.
 Miles of pipe line, 2.
 Price gas, indus., 8c. per 1,000 c. f.
 Supplies American Natural Gas Co. only

Bole Bros., Gas Co., Leechburg.

Manager and pur. agent, S. C. Bole.
 Wells drawn from, 3.
 Annual prod., 14,000,000 c. f.
 Price gas, gross, indus., 8c.
 Value gas supplied, for year, approx., \$1,140.
 Sells to Amer. Nat. Gas Co., Pittsburgh, Pa.

Eureka Natural Gas Co., Leechburg.

(Private company.)
 Capital stock, \$1,000.
 President, James S. Gallagher, Saltsburg.
 Vice-president, S. R. Sanders.
 Sec'y, treas., and pur. agent, S. J. McMains.
 Manager, J. W. Crosby.
 Wells drawn from, 5. Miles pipe line, 2.25.
 Annual prod., 600,000 c. f.
 Price of gas, 6c. per 1,000 c. f.
 Field in Indiana County.
 Supply sold to Peoples Natural Gas Co
 Pittsburg.

Good Luck Gas Co., Leechburg.

President, S. C. Bole.
 Manager, G. M. Riggle.
 Secretary, C. J. Nieman.
 Wells drawn from, 3.
 Annual prod., 12,000,000 c. f.
 Price gas, gross, indus., 8c. per 1,000 c. f.
 Value gas supplied, for year, \$1,440.
 Sells to American Natural Gas Co.

Leeper Gas and Oil Co., Leeper.

Capital stock, common, \$6,400.
 Annual dividend, 7 p. c.
 President, C. M. Ott.
 Treasurer, S. J. Foy.
 Secretary, J. F. Moore.
 35 acres leased near Leeper, Pa.
 Wells drawn from, 2. Miles pipe line, 1.
 Annual production, 1,934,000 c. f.
 Gas purchased, 687,000 c. f.
 No. domestic consumers, 23.
 Price gas, gross, 18c. per 1,000 c. f.
 Value gas supplied for year, \$836.90.
 Supplies part of Leeper.

Poor Oil and Gas Co., Leeper.

Capital stock, \$1,600.
 President and mgr., J. H. Walter.
 Secretary and pur. agent, J. F. Moore.
 Wells drawn from, 1. Miles pipe line, 0.25.
 Annual production, 7,300,000 c. f.
 Value of gas supplied, for year, \$584.
 Gas sold to National Transit Co. at 8c. per
 1,000 c. f.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
 and 29th Street

Ludlow Gas and Electric Co., Ludlow.

Capital stock, \$10,000.
 President, J. A. Connelly.
 Manager and pur. agent, G. W. Olmsted.
 Miles of pipe line, 2.
 Gas purchased, 14,505,000 c. f.
 Pop. dist. supplied, 1,500.
 No. dom. consumers, 145.
 Price gas, gross, dom., 25c. and 35c.
 Value gas supplied, for year, \$3,310.79.
 Supplies Ludlow.

Masontown Gas Co., Masontown.

Capital stock, \$25,000.
 President, E. W. Sterling.
 Field manager, F. L. Sterling.
 Pur. agent, Wm. L. Graham or L. G. Sterling.
 Wells drawn from, 7. Miles of pipe line, 6.
 Annual prod., 60,000,000 c. f.
 No. dom. consumers, 300; manufactories, 2.
 Price gas, gross, domestic, 25c per 1,000 c. f.; industrial, 15c. and 20c.
 Value of gas supplied, for year, \$16,000.
 Supplies Masontown.

McMurray Bros., McMurray.

R. D. No. 2, Canonsburg, Pa.
 (A co-partnership.)
 Investment, \$5,000.
 Manager, J. A. McMurray.
 Pur. agent, W. J. McMurray.
 Wells drawn from, 2. Miles pipe line, 10.
 Annual prod., 12,000,000 c. f.
 Pop. dist. supplied, 400.
 No. dom. consumers, 75.
 Price gas, gross, dom., 22c. per 1,000 c. f.
 Value gas supplied, for year, \$2,640.
 Supplies part of Peters Township, Washington County, Pa.

Mercer Gas Light and Fuel Co., Mercer.

Capital stock, \$12,500.
 President, B. Magoffin.
 Manager, W. R. Miller.
 Purchasing agent, W. R. Miller.
 Gas purchased, 106,828,000 c. f.
 Miles pipe line, 12.
 No. domestic consumers, 650; manufactories supplied, 5.
 Price gas, gross, domestic and industrial 32c. per 1,000 c. f.
 Value of gas supplied for year, \$30,000.
 Supplies Mercer.

Elk Pipe Line Co., Middlefork.

(Out of business.)

Millport Gas Co., Millport.

Distributing center, Sharon Center, Pa.
 (Not incorporated.)
 Owners, Geo. W. Dodge and J. B. Donovan.
 Manager and pur. agent, J. B. Donovan.
 640 acres leased in Sharon.
 Wells drawn from, 18. Miles pipe line, 10.
 Well pressures, 70 to 90 lbs.
 Annual prod., 54,836,840 c. f.
 Pop. dist. supplied, 200.
 No. dom. consumers, 43; industrial, 1.
 Price gas, gross, dom., 25c. and 30c. per 1,000 c. f.; industrial, 11c. and 18c.
 Value gas supplied, for year, \$8,548.
 Supplies Millport and part of Sharon Center.

Crescent Oil and Gas Co., Monaca.

Gen'l office, Arrott Bldg., Pittsburgh, Pa.
 Capital stock, \$60,000.
 Annual dividend, 25 p. c.
 President, P. O. Langbund.
 Manager, Frank Lackey.
 Sec'y, treas., & pur. agent, A. V. Langbund.
 Wells drawn from, 45.
 Miles pipe line, 30.
 Annual prod., 180,000,000 c. f.
 Gas purchased, 2,000,000 c. f.
 Pop. dist. supplied, 10,000.
 No. dom. consumers, 1,500.
 No. manufactories supplied, 6.
 Price gas, gross, dom., 32 c. per 1,000 c. f.; industrial, 17c. to 30c.
 Value gas supplied, for year, \$50,000.
 Supplies Sheffield, Colona, Monaca, Monaca Heights, South Heights, Winton and Glenwillard.

Bellwood and Monongahela Natural Gas Co., Monongahela City.

Capital stock, \$26,375.
 President, R. Eugene Byers.
 Secretary, R. H. Palmer.
 No. dom. consumers, 750.
 Price of gas, gross, 30c. per 1,000 c. f.
 Supplies Monongahela.

West Monongahela Natural Gas Co., Monongahela City.

Capital stock, \$4,950.
 President, R. Eugene Byers.
 Secretary and treasurer, Theo. M. Byers.
 No. dom. consumers, 850.
 No. manufactories supplied, 2.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Supplies Monongahela and W. Monongahela.

Clover Leaf Gas Co., Mosgrove.

Office, Kittanning.
 Capital stock, \$5,000.
 President, Jno. H. Rebold.
 Manager, Jno. H. Rebold.
 Sec'y and pur. agt., James F. Heilman.
 Wells drawn from, 10.
 Miles pipe line, 9.
 No. domestic consumers, 100.
 Price gas, gross, domestic, per 1,000 c. f., 15c.; industrial, 5 to 8c.
 Value of gas supplied for year, \$50,000.
 (Greater part of gas sold to other companies.)
 Supplies Mosgrove.

Bingham Estate, Mt. Alton.

General Manager, John Bartley.
 587 acres owned; 318 acres leased, in Bingham, Pa.
 Wells drawn from, 13 gas, 10 oil.
 Miles oil pipe line, 4; gas, 6.
 Well pressures, 45 lbs.
 Annual prod., gas 9,000,000 c. f.
 Annual prod., oil, 4,712 bbls.
 Max. day's output, crude oil 10.91 bbls.
 Average price, oil, per gal. 8.5c.
 Oil storage tanks, wooden 10; capacity 60 to 80 bbls.
 Annual sales, crude oil, shipments, 4,712 bbls.
 Pop. dist. supplied, 275.
 No. domestic consumers, 29; 1 factory.

COST METERS

American Meter Company

561 W. 47th St., New York, N. Y.

AND LARGE DIAL DEMONSTRATION DRY METERS

Both these meters should be in the gas sales and demonstration rooms of every gas company in the country. The Cost Meter shows the hourly cost in cents and tenths of a cent to operate gas appliances. The Large Dial Demonstration Dry Meter is used to show the comparative consumption between flat flame and mantle burners.

Price of gas, gross; domestic, 30c. per 1,000 c. f.; industrial, 12c.

Value gas supplied for year, \$883.19.

Supplies part of Mt. Alton and two consumers at Taintors.

Boyd Fuel Co. and Valley Gas Co., Mount Jewett.

Distributing center, Hazelhurst, Pa.

Capital stock, \$125,000.

Annual dividend, 7 p. c.

President, B. N. McCoy.

Manager and pur. agent, F. F. Willman.

Population, 1,800.

Wells drawn from, 25.

Miles pipe line, 18.

Annual prod., 125,000,000 c. f.

Price gas, gross, industrial, 10c.

Value of gas supplied, for year, \$12,500.

Supplies McCoy Window Glass Co.

Mahoning Gas and Oil Co., Mount Jewett

Capital stock \$50,000.

President, J. F. George.

Secretary, J. C. Moorhead.

Treasurer, W. A. Andorfer.

Acres leased 4,000, in Indiana and Jefferson Counties, Pa.

Annual prod. gas, 15,000,000 c. f.

Home Gas Co., Mt. Morris.

(Co-partnership.)

President and mgr., M. B. Clovis.

Secretary, Robt. Shear.

Treasurer and pur. agt., M. B. Clovis.

4 acres owned in Greene Co., Pa. and Monongalia Co., W. Va.

Wells drawn from, 12. Miles pipe line, 3.

Well pressure, 35 lbs.

Wells (3) in Greene County, Pa. supply Mt. Morris; wells (10) in West Va. supply Eureka Pipe Line Pump Station at Morgantown.

Annual prod. gas, 137,000,000 c. f.

Gas purchased 200,000,000 c. f.

Pop. dist. supplied, 450.

No. domestic consumers, 175.

No. manufactories supplied, 1.

Price of gas, gross, dom., 20c. per 1,000 c. f.; pump station, 10c. per 1,000 c. f.

Value of gas supplied for year, \$3,550.

Supplies Mt. Morris.

Long Run Fuel Co., New Bethlehem.

(Owned by the Climax Fire Brick Co.)

Capital stock, \$10,000.

President, H. Y. Haws.

Sec'y, treas. and mgr., Ralph T. Haws.

350 acres leased in Armstrong and Clarion Counties.

Wells drawn from, 11. Miles pipe line, 14.

Annual prod., 120,000,000 c. f.

No. manufactories supplied, 1.

Price gas, gross, indus., 8c.

Value of gas supplied, for year, \$8,464.86.

All gas used by Climax Fire Brick Co.

The New Freeport Natural Gas Co., New Freeport.

Capital stock, \$5,000.

President, Dr. H. C. Rice.

Sec'y and treas., Peter Bradley.

Pur. agent, Peter Bradley.

Gen'l manager, L. Boggess.

100 acres leased, near New Freeport, Greene Co., Pa.

Wells drawn from 3. Miles pipe line, 20.

Well pressures, 100, 300 and 350 lbs.

Annual prod., gas, approx., 100,000,000 c. f.

Pop. dist. supplied, 750.

No. dom. consumers, 110.

Price gas, gross, dom., 22.5c.; net, 20c.

Value gas supplied, for year, \$3,000.

Supplies New Freeport and vicinity.

New Wilmington Gas Co., New Wilmington.

General office, Mercer, Pa.

Capital stock, \$40,000.

President and mgr., W. N. Hovis, Mercer.

Sec'y and treas., Virgil L. Johnson.

Pur. agent, W. N. Hovis.

Field in Mercer and Lawrence Counties, Pa.

Wells drawn from, 16.

Miles pipe line, 35.

No. domestic consumers, 400; industrial, 6.

Price gas, gross, dom. and indus., 35c.

Value of gas supplied, for year, \$15,000.

Supplies Volant, New Wilmington, Blacktown, Leesburg and sells surplus to Union Light and Heat Co., Grove City.

Miles Grove Gas Co., Ltd., North Girard.

Capital stock, \$7,800.

President, E. H. Williamson.

Secretary and treas., Elmer D. Getz.

Manager and pur. agent., E. H. Williamson.

Wells drawn from, 16. Miles pipe line, 5.

No. domestic consumers, 123; 4 gas engines.

Price gas, gross, per 1,000 c. f., domestic, 60c.

Value gas supplied, for year, \$3,150.

Supplies North Girard.

Norwich Oil & Gas Co., Norwich.

General office, Mt. Jewett, Pa.

Capital stock, \$18,000.

President, C. C. Choate.

Vice-pres. and mgr., H. S. Rogers.

Wells drawn from, 9. Miles of pipe line, 2.

No. dom. consumers, 125; factories, 4.

Price of gas, gross, dom., 25c. net per 1,000 c. f.; industrial, 12c.; wholesale, 13.5c. to a distributor.

Supplies Norwich and Betula.

Alum Rock Gas Co., Oil City.

Office, 52 Seneca St.

Capital stock, \$400,000.

Annual dividend, 12 p. c.

Bonds, \$15,000; due, 1918; int., 6 p. c.

President, G. S. Hamm, Knox, Pa.

Vice-president, H. R. Merritt, Oil City.

Secretary and treas., Claude Slicker, Oil City.

Mgr. and pur. agent, H. J. Slicker, Knox Pa.

Superintendent, H. K. Dietterich.

284 acres owned; 27,000 acres leased in Clarion and Venango Counties, Pa.

Wells drawn from, oil, 62; gas, 327.

Well pressures 5 to 800 lbs. per sq. in.

Miles gas pipe line, 60.

Annual prod., crude oil, 5,500 bbls; gas, 2,100,000,000 c. f.

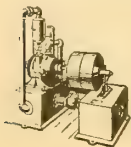
Gas purchased, 742,000,000 c. f.

Max. day's output crude oil, 15,164 bbls net.

Average price per bbl \$3.305.

Pop. dist. supplied, 1,000.

No. dom. consumers, 172.



THE LARGEST INDUSTRIAL GAS CONSUMERS are getting wonderful results in economy and increasing the efficiency of their industrial furnaces by the aid of the **NEEDHAM HIGH PRESSURE GAS SYSTEM.**

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Price of gas, gross, domestic, 24c. per 1,000 c. f.; wholesale, 15.4c.
 Value gas supplied, for year, \$286,281.99.
 Deliver to United Natural Gas Co.
 Supplies Callensburg and villages of Easton, Church and Richmond.

Dempseytown Gas Co., Oil City.

Office, Trust Company Building.
 Capital stock, \$100,000.
 President, H. M. Ernst.
 Manager, H. M. Ernst.
 Secretary, E. O. Bartlett.
 Field in Clarion, Forest and Venango Counties, Pa.
 Gas purchased, 624,000,000 c. f.
 Miles pipe line, 90.
 Manufactories supplied, 7.
 Price gas, gross, 22c. per 1,000 c. f.
 Value of gas supplied, for year, \$121,654.
 Supplies refineries at Oil City, Pa.

McCoy Natural Gas Co., Oil City.

Capital stock auth., \$100,000; issued \$85,800.
 President and mgr., J. B. Forker.
 Treasurer, H. H. James.
 2,500 acres owned in Clarion Co., Pa.
 Wells drawn from, 33. Miles pipe line, 25.
 Annual prod., 240,000,000 c. f.
 (Sells gas to a company who wholesales it.)
 Value of gas supplied, for year, \$27,000.

Meter Gas Co., Oil City.

Office, 33 Main St.
 Investment, \$75,000.
 Owner, C. H. Weaver.
 Manager and pur. agent, Earl Weaver.
 Wells drawn from, 33. Miles pipe line, 20.
 Annual prod., 72,000,000 c. f.
 No. manufactories supplied, 1.
 Price gas, gross, indus., 8.5c. per 1,000 c. f.
 Value gas supplied, for year, \$6,000.
 Sells to Dempseytown Gas Co.

United Natural Gas Co., Oil City.

Office, 308 Seneca St.
 Capital stock, \$15,000,000.
 President, Raymond Cross.
 Vice-president, L. L. Graham.
 Secretary, L. L. Graham.
 Treasurer, F. Sartorius.
 General manager, Raymond Cross.
 No. wells drawn from, approx. 1,707.
 Miles pipe line, approx., 2,252.
 Annual production, 8,745,856,000 c. f. (1916.)
 Gas purchased, 6,447,117,000 c. f. (1916.)
 No. domestic consumers, approx. 38,254.
 No. manufactories supplied, approx. 164.
 Price of gas, gross, domestic and industrial, 37c. and 35c.
 Supplies Oil City, Franklin, Titusville, Meadville, Sharon, Du Bois, Reynoldsville, Bradford, Brookville, Tidoute, Youngsville.

Allegheny Heating Co., Pittsburgh.

Office, 435 Sixth Ave.
 Capital stock, \$475,400.
 President, James H. Reed.
 General manager, Joseph F. Guffey.
 Controller, C. S. Mitchell.
 Purchasing agent, J. H. Reed, Jr.
 (Purchase gas from Equitable Gas Co.)

Miles pipe line, 192.89.
 No. domestic consumers, 28,809; manufactories supplied, 56.
 Price gas, gross, domestic, per 1,000 c. f. 30c.; net, 27.5c.; indus., gross, 28½c. for first 1,000,000 c. f.; net, 27.5c.; all over 1,000,000 c. f., gross, 21c.; net, 20c.
 Value of gas supplied, for year, \$1,279,751.38.
 Supplies north side of Pittsburgh.

American Natural Gas Co., Pittsburgh.

Office, 1,511 Park Building.
 Capital stock, \$1,500,000.
 President, Xavier Wittmer.
 Manager and pur. agent, H. Wittmer.
 Population, 321,616.
 Wells drawn from, 600. Miles pipe line, 500.
 Price gas, gross, domestic, per 1,000 c. f., 30c.; industrial, varies.
 No. domestic consumers, 13,000; manufactories, 60.
 Supplies Apollo, Vandergrift, Leechburg, Ford City, Rural Valley, Kittanning, Dayton, Natrona, Zelenope, Evans City, Indiana, Harmony, Callery, Homer City and Manorville.

Big Beaver Gas Co., Pittsburgh.

Office, 2,112 Oliver Building.
 Capital stock, \$10,000.
 President, H. E. Pollock.
 Secretary, H. E. Pollock.
 Treasurer, T. A. Mellon.
 Gen'l mgr. and pur. agt., Geo. B. Galey.
 Superintendent, Geo. B. Galey.
 1,754 acres leased in Beaver County, Pa.
 Gas wells drawn from, 15.
 Well pressures, 125 (rock).
 Annual production, gas, 50,800,000 c. f.
 Gas purchased, 5,479,000 c. f.
 Pop. dist. supplied, 1,000.
 No. dom. consumers, 275; industrial, 5.
 Price of gas, net, dom., 30c.; indus. 1st 250,000 c. f., 30c.; next 2,000,000 c. f., 26c.; next 7,000,000 c. f., 25c.
 Value of gas supplied, for year, \$13,937.73.
 Supplies Geneva Hill, New Galilee and Darlington.

Carnegie Natural Gas Co., Pittsburgh.

(Controlled by U. S. Steel Corporation.)
 Capital stock, \$300,000.
 President, D. M. Clemson.
 Vice-president, Norwood Johnston.
 Secretary, Wm. W. Blackburn.
 Treasurer, H. E. Jeffries.
 Pur. agent, J. M. Taylor.
 Miles of pipe line, about 805.
 No. gas wells, about 649.

Dominion Natural Gas Co., Pittsburgh.

(For report, see Hamilton, Ontario, Canada.)

Elk Natural Gas Co., Pittsburgh.

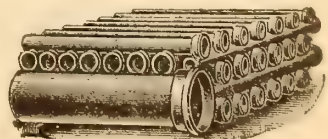
Controlled by Universal Oil & Gas Co.
 Capital stock, \$300,000.
 Dividend, 4 p. c. paid Dec. 22, 1914.
 Bonds, \$60,300, due 1929; interest, 6 p. c.
 President, H. S. Glenn.
 Vice-president, C. J. Crawford.
 Secretary and treas., John Read Miner.
 Wells drawn from, 10.
 Miles of pipe line, 8.

PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO., Philadelphia, Pa.



Line from near Ridgway, Pa. to connection with United Natural Gas Co. lines in Jones Township, Elk County, Pa. Sells at wholesale only to United Natural Gas Co., operate in Clarion County field also.

Equitable Gas Co., Pittsburgh.

Office, 435 Sixth Ave.
Capital stock, com., \$700,000; pref., \$300,000.
(Philadelphia Co. owns entire capital stock.)
President, Carroll Miller.
Vice-president, J. H. Reed.
Gen. manager, Joseph F. Guffey.
Controller, C. S. Mitchell.
Purchasing agent, J. H. Reed, Jr.
(Purchases gas from Philadelphia Company and Pittsburgh & West Virginia Gas Co.)
No. domestic consumers, 106,686; manufactories supplied, 265.
Price gas, per 1,000 c. f., gross, domestic, 28½c., first 1,000,000 c. f.; net, 27.5c.; all over 1,000,000 c. f. gross, 21c.; net, 20c.
Value gas supplied, for year, \$8,531,451.62.
Supplies Pittsburgh and adjacent territory, including Carnegie, Duquesne, East Pittsburgh, Etna, Verona, Aspinwall, Braddock, Homestead, No. Braddock, West Homestead Wilmerding, McKees Rocks, Pitcairn, Sharpsburg, McKeesport, Oakmont, Crafton.

Greensboro Gas Co., Pittsburgh.

Capital stock, common, \$1,100,000.
President, George L. Craig.
Vice-president, J. W. Shay.
Secretary and treas., C. W. Baker.
Price of gas, 30c. net.
Supplies Allenport, Brownsville, California, Carmichael, Centerville, Charleroi, Coal Center, Collinsburg, Cowansburg, Donora, Dunlevy, Elco, Granville, Grapeville, Greensboro, Herminie, Irwin, Fredericktown, Jacksonville, Jeanette, Jefferson, Lippincott, Lock 4, Masontown, Merrittstown, Millsboro, Newell, New Geneva, Rica Landing, Roscoe, South Brownsville, Speers, Stockdale, Suter-ville, Vesta, West Brownsville, West Newton, all in Penna.

Hope Natural Gas Co., Pittsburgh.

General Office, 424 Sixth Avenue.
Capital stock, \$20,000,000.
President, A. C. Bedford.
Vice-president and gen'l mgr., Jno. G. Pew.
Pur. agent, R. A. Johnson.
Supplies Parkersburg, Williamstown, St. Marys, Sistersville, Friendly, Paden City, Pine Grove, Smithfield, Mannington, Fairview, Littleton, Metz, Glovers Gap; all in West Virginia.

Imperial Oil and Gas Products Co., Pittsburgh.

Office, Union Bank Building.
Distributing center, Hannahdale, W. Va.
Capital stock, \$500,000.
President and mgr., Joseph Hartman, Jr.
Sec'y and treas., J. H. Mann.

Superintendent, J. H. Mann.
Pur. agent, Jos. Hartmann, Jr.
Operate in Ritchie and Doddridge Co., W. Va.
Uses gas from its own wells in manufacture of carbon black and gasoline and produces oil from its own wells.

Manufacturers Light and Heat Co., Pittsburgh.

(See Parent Companies for list of controlled companies.)
Office, Columbia Bank Building.
Capital stock, authorized, \$25,000,000; issued, \$23,000,000.
Annual dividend, 7 p. c.
Bonds, \$1,051,000; annually; interest, 6 p. c.
President, John E. Gill.
Vice-pres., L. A. Meyran and J. I. Buchanan
Secretary and asst. treas., H. E. Seibert.
Treasurer, G. W. Ratcliffe.
Auditor, F. C. Leslie.
General manager, T. O. Sullivan.
Asst. mgr., M. B. Layton.
336,577.866 acres leased in Penna., Ohio, W. Va., Ky. and Kas.
Wells drawn from, 1,129 gas; 373 oil.
Miles of pipe line, 1,756.036 field; 1,027.386 city.
Annual prod., crude oil 261,321.09 bbls.
Gasoline plants, 4; daily output, avg. 10,000 gals.
No. domestic consumers, 108,457.
No. manufactories supplied, 914.
Price gas, dom., 32c. gross; indus., avg., 16c.
Value gas supplied, for year, \$7,855,251.13.
Value of oil supplied, \$967,554.35.
Supplies Pittsburg, Allegheny, Washington, Canonsburg, Waynesburg, Avalon, Bellevue, Coraopolis, Glenfield, Sewickley, Rochester, Beaver Falls, New Castle, and other towns in Beaver valley; practically all towns in Southwestern Pennsylvania; Bridgeport, Steubenville, East Liverpool, Bellaire Toronto, Mingo Junction and Wellsville, O.; Wheeling, Wellsburg, New Martinsville, New Cumberland, Proctor, Cameron, Wellsburg, W. Va.

Monongahela Natural Gas Co., Pittsburgh.

Office, 435 Sixth Avenue.
Capital stock, \$1,000,000.
Pittsburgh & West Virginia Gas Co. owns entire capital stock.
President, J. F. Guffey.
Vice-pres., J. H. Reed.
Purchasing agent, J. H. Reed, Jr.
Controller, C. S. Mitchell.
No. domestic consumers, 1,042; manufactories supplied, 9.
Price gas, domestic, per 1,000 c. f., gross, 28.5c., first 1,000,000 c. f.; net, 27.5c.; all over 1,000,000 c. f., gross, 21c., net, 20c.
Value of gas supplied, for year, \$383,371.76.
Supplies south side of Pittsburgh and boroughs of Deemston, Finleyville, Gastonville, Carrick, Bruceeton, Gill Hall, Hackett, Courtney, Snowden, Venitia, Monongahela and Clarksville, in Penna., Ponetown and Pentress, and Metz in W. Va.

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Ohio Fuel Supply Co., Pittsburgh.

Offices, Farmers' Bank Building, Pittsburgh, and 52 West Gay St., Columbus, O.
 (For capitalization and bonds, see Parent Companies.)

President, G. W. Crawford, Pittsburgh, Pa.
 Asst. to pres. and sec'y, L. B. Denning.
 Vice-president, F. W. Crawford, Columbus, O.
 2d Vice-president, J. M. Garard.
 Treasurer, J. B. Wikoff.
 Manager, J. M. Garard, Columbus, O.
 Wells drawn from, 1,000.
 Miles pipe line, 2,850.
 No. domestic consumers, 185,000.

Price gas, net, domestic, per 1,000 c. f., 25 to 35c.; industrial, 16.5 to 25c.

Value of gas supplied, for year, \$7,129,785.

Supplies Columbus, Zanesville, Mt. Vernon, Cambridge, Barnesville, Fredericks-town, Gambier, Bylesville, Pleasant City, Hartford, Caldwell, Quaker City, Senecaville, Miamisburg, Franklin, Mid-dletown, London, Xenia, Norwood, Read-ing, Carthage, Dresden, Frazeyburg, Trin-way, Logan, Canal Winchester, Worth-ington, Groveport, Carroll, Linden, Milo-Grogan, Arlington, Springfield, Johns-town, Croton, Appleton, Martinsburg, Alexandria, New Lexington, Corning, Hemlock, Glouster, Jacksonville, Trim-ble, Shawnee, New Straitsville, Murray City, Roseville, Crooksville, Fultonham, Nelsonville, Somerset, Bremen, Rush-ville and about 25 smaller towns; also Toledo—all in Ohio.

Pennsylvania Fuel Supply Co., Pittsburgh.

Office, Farmers' Bank Building.
 President, C. E. Crawford.
 Vice-presidents, F. L. Andrews and H. J. Crawford.
 Gen. manager, G. I. Hughes.
 Sec'y and treas., H. C. Reeser.
 Wells drawn from, 100. Miles pipe line, 270.
 No. domestic consumers, 3,000.
 Price gas, gross, domestic, per 1,000 c. f., 25c.
 Supplies New Bethlehem, Oakland, Fair-mont City, Oak Ridge, Hawthorn, Marysville, Salem, Rimersburg, Collins-burg, So. Bethlehem, Emlenton, Parker-Foxburg, St. Petersburg, Monterey, Clin-tonville, Bruin, Baldwin, North Hope and vicinity.

The Peoples Natural Gas Co., Pittsburgh.

Office, 424 Sixth Ave.
 Capital stock, \$11,000,000.
 President, John G. Pew.
 Secretary, Christy Payne.
 Treasurer, Thomas Nicoll.
 Gen'l manager, John G. Pew.
 Pur. agent, R. A. Johnson.
 Superintendent, M. H. Henning.
 393,390 acres leased in western Penna.
 Wells drawn from, 25 oil; 945 gas.
 Miles pipe line, 1,867.
 Annual prod., 9,382,830,000 c. f.; gas pur-chased, 19,938,890,000 c. f. (1916.)
 Pop. dist. supplied, over 1,100,000.
 No. domestic consumers, 73,636.
 No. manufactories supplied, 175.

Price gas, gross, domestic, 30c.-32c.-37c. per 1,000 c. f.; industrial dom. rates for 1st 2,000,000 c. f. less dom. discount; 26c. per 1,000 c. f. for next 98,000,000 c. f.; 23c. per 1,000, for all over 100,000,000 c. f. less discount of 1c. per 1,000 c. f.

Value gas supplied for year, \$5,000,000 (1916.)

Supplies Adamsburg, Altoona, Ardmore, Arnold, Avonmore, Belle Vernon, Blairs-ville, Bolivar, Boston, Buena Vista, Burgettstown, Candor, Carnot, Clarks-burg, Cresson, Delmont, Derry, East Mc-Keesport, Edgewood, Eldersville, Eldora, Enon Valley, Export, Fair Hope, Fayette City, Florence, Glendale, Greenock, Greensburg, Haffey (or Milltown), Har-pers Corners, Harrison City, Heidelberg, Imperial, Industry, Jeannette, Juniata, Kingsville, Larimer, Latrobe, Ligonier, Livermore, Logans Ferry, Loretta-Manor, Midland, Monessen, Monroe, ville, Murraysville, New Florence, New Kensington, North Bessemer, North Irwin, Pittsburgh, Portage, Rankin, Salina, Saltsburg, Sankertown, South-west Greensburg, Spring Church, Sum-mit, Swissvale, Turtle Creek, Unity, Valley Station, Vanport, Verona, Web-ster, Westmoreland City, Wilkinsburg and Woodlawn.

Philadelphia Co., Pittsburgh.

(See Parent Companies.)

Office, 435 Sixth Ave.

Capital stock, com., auth., \$44,900,000; issued, \$42,943,000; cum. pref., auth., \$25,000,000; issued, \$6,763,550; non-cum. pref., auth., \$2,033,400; issued, \$1,442,450 (Jan. 1, 1918.)
 Ann. div., pref., 5 p. c.; com., 7 p. c.; cum. pref., 6 p. c.

For data regarding Bonds, see Appendix.

President, J. H. Reed.

Vice-pres., Jas. D. Callery.

Secretary, W. B. Carson.

Treasurer, C. J. Braun, Jr.

General manager, Carroll Miller.

Controller, C. S. Mitchell.

Purchasing agent, J. H. Reed, Jr.

Wells drawn from, 1,740.

Entire production of gas is sold to Equitable Gas Co. at the wells.

Pittsburgh and West Virginia Gas Co., Pittsburgh.

(See report under Grafton, W. Va.)

Potter Gas Co., Pittsburgh.

Gen'l office, Farmers Bank Bldg.

Capital stock, com., \$2,200,000; pref., \$300,000.

Bonds, \$400,000; due 1919; int., 6 p. c.

President, Robert Law, Jr.

Vice-pres., E. B. Reeser.

Secretary, J. H. Healey.

Treasurer, W. H. Richards.

Gen'l mgr. and pur. agent, E. B. Reeser.

Wells drawn from, 537.

Miles pipe line, 504.

Annual prod., 2,550,632,000 c. f.

Gas purchased, 1,571,583,000 c. f.

No. domestic and indus. consumers, 18,089.

Price gas, gross, per 1,000 c. f., domestic, 30c. to 40c.

SMOKE STACK AND CHIMNEY PAINTS

We have different kinds of smoke stack and chimney paints depending upon the temperature to be met with and on other conditions; write and we will submit specifications. For most service we recommend our No. 750 Smoke Stack Black.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York



Value of gas supplied, for year, approx., \$628,495.

Supplies Coudersport, Knoxville, Westfield, Harrison Valley, Mills, Ulysses, Galetton, Genesee, Oswayo, Austin, Nelson, Lawrenceville, Costello, Elkland, Gaines, Osceola, Shingle House, Port Allegany, Pa.; Addison, Corning and Elmira, in New York State, through distributing companies.

Rock Run Fuel Gas Co., Pittsburgh.

Office, 906 House Bldg.
Capital stock, pref., \$394,500; com., \$400,000.
President and mgr., T. B. Foley.
Secretary and treas. W. V. Powell.
Superintendent, Benj. F. Jones.
Field; Jefferson, Mifflin, Lincoln, Forward and Elizabeth Twps., Pa.
Wells drawn from, 42.
Miles of pipe line, 56.
Annual prod., 334,507,000 c. f.
Gas purchased, 210,965,000 c. f.
No. dom. consumers, 2,500; factories, 2.
Price gas gross, dom., 30c. per 1,000 c. f.; industrial, 33c.
Value gas supplied, for year, \$141,054.65.
Supplies Glassport, West Elizabeth, Elizabeth, Blair, Wilson, Clairton, Coal Valley and McKeesport, Pa.

South Hills Oil and Gas Co., Pittsburgh.

Office, 223 Fourth Ave.
Capital stock, \$650,000.
President and mgr., A. B. Dally, Jr.
Purchasing agent, W. H. Young.
Wells drawn from, 32.
Annual prod., 800,000,000 c. f.
(Producers only.)

Taylorstown Natural Gas Co., Pittsburgh.

Capital stock, \$10,000.
President, J. I. Buchanan.
Vice-pres., Geo. H. Jones and D. Buchanan.
Secretary and treasurer, J. G. Burford.
Superintendent, G. C. Jolly.
Wells drawn from, 21.
Price gas, gross, domestic, 25c. per 1,000 c. f.
No. domestic consumers, 539.
Value of gas supplied, for year, \$22,957.28.
Supplies Taylorstown and Claysville.

Tri-County Natural Gas Co., Pittsburgh.

(Co. in hands of Receiver.)
Distributing center, Clarion, Pa.
Capital stock, \$1,200,000.
Bonds, \$600,000; due 1922; int., 6 p. c.
Receiver, Peoples Savings and Trust Co.
Wells drawn from, 150. Miles pipe line, 114.
Annual prod., 1,200,000,000 c. f.
Value of gas supplied for year, \$254,278.25.
Co. selling all present production to Pennsylvania Gas Co., Warren, Pa., who distribute the same.

Union Natural Gas Corporation, Pittsburgh.

General office, 1607 Union Bank Bldg.
For capitalization, bonds, etc., see Appendix.
President, and gen. mgr., E. P. Whitcomb.
Sec'y and treas., W. R. Hadley.
Asst. sec'y and treas., Geo. R. Brink.
Asst. gen. mgr. and pur. agt., A. A. Armstrong.

Auditor, A. J. Newman.

631,429.23 acres leased in Ohio, Pa. and W. Va. and $\frac{1}{2}$ interest in 137,669.90 acres in W. Va.
Oil wells drawn from, 150.
Gas wells drawn from, 959 in Ohio and Pa.; owns one-half interest in 645 wells in W. Va.

Miles gas pipe line, 2,988.23.

No. domestic consumers, 164,509.

No. manufactories supplied, 2,349.

Price gas, domestic, per 1,000 c. f., 30c. to 35c.; industrial, 25c. to 35c., sliding scale.

Value of gas supplied for year, \$7,148,433.75.
Supplies Bradford and Warren, Pa., through its underlying companies; also following towns in Ohio:

LOGAN GAS CO. TOWNS.

Athens, Amanda, Amherst, Ashland, Ashville, Adelphi, Avery, Bucyrus, Bellvue, Bellville, Berlin Heights, Birmingham, Butler, Carey, Cardington, Centerburg, Chillicothe, Chicago Junction, Clyde, Crestline, Chauncey, Circleville, Dover, Edison, Elyria, Findlay, Florence, Fremont, French Creek, Fostoria, Galion, Galena, Hallsville, Homer, Hebron, Jacksontown, Kingston, Lorain, Laurelville, Logan, Lakeside, Lexington, Litchfield, Lorain, Marion, Mansfield, Millersport, Montoeville, Mt. Gilead, Milan, Mt. Liberty, Norwalk, Newark, New Riegel, Pavonia, Polk, Plymouth, Rockbridge, Stoutsville, Shelby, Sugar Grove, Sunberry, Spencer, Sycamore, Thornville, Tiffin, Tiro, Upper Sandusky, Utica, Wellington, Westerville.

Also supplies gas through distributing systems owned by other companies, in Sandusky, Delaware, Dayton, Lancaster, Eaton, Greenville, West Alexander, Lewisburg, Euphemia, West Manchester, Brookville, Eldorado, Fairfield, Jeromeville, New Madison, New Paris, Osborne, Yellow Springs, Castine, Ohio; and the following towns in Indiana: Muncie, Marion, Anderson, Alexandria, Elwood, Hartford City, Richmond, New Castle, Fairmont, Lynn, Normal City, Riverside

Venture Oil Co., Pittsburgh.

Office, 248 Fourth Ave.
(Controlled by Wheeling Natural Gas Co.) which is owned and controlled by Manufacturers Light and Heat Co., Pittsburgh., whose report covers operations of above company.)
Capital stock, \$10,000.
President, John E. Gill.
General manager, T. O. Sullivan.
Treasurer, G. W. Ratcliffe.
Sec'y and asst. treas., H. E. Seibert.

Wilksburg Oil and Gas Co., Pittsburgh.

Office, 223 Fourth Ave.
Capital stock, \$10,000.
President and mgr., A. B. Dally, Jr.
Purchasing agent, W. H. Young.
Wells drawn from, 1.
Annual prod., 24,000,000 c. f.
(Producers only.)



THE SCIENTIFIC SAFETY GARAGE HEATER
The Standard Garage Heater of North America.
Because of the basic patents and pending patents.
THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Point Marion Natural Gas Co., Point Marion.

Capital stock, \$25,000.
 President, Jules J. Quertinmont.
 Mgr. and pur. agent, Jules J. Quertinmont.
 Wells drawn from, 18.
 Miles of pipe line, 10.
 Annual prod., 285,000,000 c. f.
 No. domestic consumers, 161; manufactories supplied, 2.
 Price gas, gross, domestic, 18c. per 1,000 c. f.; industrial, 10c.
 Value of gas supplied for year, \$29,000.
 Supplies Point Marion in part.

Dolley Gas Co., Port Allegany.

Capital stock, \$8,000.
 President, C. A. Dolley.
 Secretary, W. J. Barrho.
 Treasurer, J. A. Weinman.
 Manager and pur. agent, J. A. Weinman.
 Superintendent, Dexter Barrett.
 800 acres leased near Port Allegany.
 Wells drawn from, 8.
 Miles of pipe line, 7.
 Well pressures, avg. 200 lbs.
 Annual prod. gas, 10,319,000 c. f.
 No. domestic consumers, 60.
 Price gas, gross, dom; 30c. per 1,000 c. f.
 Value of gas supplied for year, \$2,866.33.
 Supplies part of Port Allegany.

King Gas Co., Port Allegany.

(Company has gone out of business.)

Perry R. Smith, Ridgway.

(Sells at wholesale to Elk Natural Gas Co., Pittsburgh, Pa.)
 Annual production, 75,000,000 c. f.

Port Allegany Gas and Oil Co., Port Allegany.

(Reported out of business.)

Ridgway Light and Heat Co., Ridgway.

Capital stock, \$385,000. Annual div., 17 p. c.
 President, O. B. Grant.
 Secretary, John G. Whitman.
 Treasurer, H. S. Thayer.
 Manager and pur. agent, C. H. Law.
 16,000 acres owned; 3,200 leased in Elk Co., Pa.
 Wells drawn from, oil, 2; gas, 110.
 Well pressures, 160 to 800 lbs.
 Miles pipe line, oil, 2.5; gas, 135.
 Gas purchased, 209,477,458 c. f.
 Annual prod., gas, 599,999,755 c. f.
 Annual prod., crude oil, 508 bbls.
 Max. day's output, 1.5 bbls.
 Average price per bbl. \$2.40.
 No. of storage tanks, 2, wood, capacity 500 bbls.
 Annual shipments, crude oil, 508 bbls.
 Pop. dist. supplied, 14,000.
 No. dom. consumers, 2,440.
 Price gas, 25c. net per 1,000 c. f.
 Value gas supplied, for year, \$124,836.98.
 Supplies Ridgway, Johnsonburg, Hallton, Arroyo, Portland Mills, Shawmut, Brockport, New Town, Hydes, Brandy Camp, Cartwright, Elbon, No. Eight, Keystone, Carman, Croyland, Mead Run, Horton City, Tile Works.

Beaver-Butler Gas Co., Rochester.

(Owned by H. C. Fry Glass Co.)
 Capital stock, \$35,000.
 President, H. C. Fry.
 Manager, Jos. H. Ambrose.
 Purchasing agent, Herbert Ailes.
 Wells drawn from, 15. Miles of pipe line, 19
 Annual prod., 120,000,000 c. f.
 No. domestic consumers, 12.
 No. manufactories supplied, 1.
 Price gas gross, dom., 31c.; industrial, 26c.
 Supplies H. C. Fry Glass Co. and a few domestic consumers along the line.

Mountain Gas Co., Roulette.

(Successor to Roulette Gas Co.)
 Capital stock, \$50,000.
 Bonds, \$35,000; annually to 1923; int 6 p. c.
 President, John F. Stone.
 Treasurer, W. G. Van Kuren.
 Manager, W. G. Van Kuren.
 Sec'y and pur. agent, John C. French, Jr.
 Wells drawn from, 60. Miles pipe line, 10.
 Annual prod., 75,000,000 c. f.
 Pop. dist. supplied, 1,500.
 No. domestic consumers, 225; factories, 1.
 Price gas, per 1,000 c. f., gross, domestic, 27c. less 2c. discount; industrial, 10c.
 Value gas supplied, for year, \$100,000.
 Supplies Roulette; sells surplus gas to Potter Gas Co.

St. Marys Gas Co., St. Marys.

Capital stock, \$250,000.
 President, Wm. Kaul.
 Treasurer, J. A. Hanhauser.
 Sec'y and gen'l mgr., G. C. Simons.
 Supt. and pur. agent, Philip Dixon.
 Wells drawn from, 100. Miles pipe line, 69.
 Annual production, 700,000,000 c. f.
 Pop. dist. supplied, 20,000.
 No. dom. consumers, 2,500; factories, 25.
 Price gas, dom., 25c. per 1,000 c. f.; indus., 18c. per 1,000 c. f. over 100,000 c. f.
 Value of gas supplied, for year, \$125,000.
 Supplies St. Marys and Emporium and outlying farms.

Saxonburg Heat and Light Co., Saxonburg.

Capital stock, \$5,000.
 President, J. B. Patterson.
 Secretary and treas., W. H. Knock.
 General manager, W. H. Knock.
 Supt. and pur. agent, W. H. Knock.
 11 acres owned; 250 acres leased in Jefferson and Clinton Twps., Butler Co., Pa.
 Gas wells drawn from, 5; pressure, 80 lbs.
 Miles of gas pipe line, 8.
 Annual production, gas, 10,000,000 c. f.
 Gas purchased, 2,000,000 c. f.
 Pop. dist. supplied, approx. 2,000.
 No. domestic consumers, 200; industrial, 1.
 Price of gas, gross, 25c. per 1,000 c. f.
 Value of gas supplied, for year, \$4,000.
 Supplies Saxonburg.

St. Petersburg Speechly Oil and Gas Co., St. Petersburg.

Capital stock, common, \$19,200.
 Annual div. 12 p. c.
 President, E. O. Jones.

MacDONALD-MANN COKE QUENCHING CHUTES quench the coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Secretary, J. A. Bissell.
 Treasurer and pur. agent, Peter Klingler.
 Wells drawn from, 13.
 Miles of pipe line, 12.5.
 Annual prod., 19,000,000 c. f.
 Pop. dist. supplied, 900.
 No. domestic consumers, 210.
 Price gas, per 1,000 c. f., domestic, 20c.
 Value gas supplied for year, \$3,800.
 Supplies St. Petersburg and vicinity.

Brown Oil and Gas Co., Sheffield.

Capital stock, \$4,000.
 President, H. Slesnick.
 Manager, J. T. Phillips.
 Wells drawn from, 3. Miles of pipe line, 1.
 No. dom. consumers, 44.
 Value of gas supplied, for year, \$1,064.
 Supplies Mills Street, Sheffield.

Citizens' Gas Co., Sheffield.

President, C. G. Frick.
 Manager and pur. agent, L. J. Hall.
 Wells drawn from, 5. Miles pipe line, 5.
 No. domestic consumers, 188; factories, 1.
 Price gas, gross, domestic, 8, 12, 20, 23c. per 1,000 c. f.
 Value of gas supplied for year, \$5,000.
 (A mutual company.)

Sheffield Oil Co., Sheffield.

(Sold to Interior Oil Co. of Clarendon, Pa.)

Star Gas Co., Sheffield.

Capital stock, \$3,000.
 President, Edw. O'Donnell.
 Manager, Eugene Hinkley.
 Pur. agent, E. O'Donnell.
 Sec. and treas. W. O. Skelton.
 Wells drawn from, 2. Miles pipe line, 1.5.
 No. domestic consumers, 10.
 Price gas, gross, domestic, 12c.
 Value gas supplied, for year, \$219.48.
 Supplies part of Sheffield, Pa.

G. A. Crooks, Shingle House.

Post office address, Ceres, N. Y.
 Investment, \$5,000.
 Manager and purchasing agent, G. A. Crooks.
 Wells drawn from, 2.
 Price gas, gross, domestic, 7c. per 1,000 c. f.
 Value of gas supplied for year, \$1,000.
 Supplies Shingle House.

Wolcott Gas Co., Shinglehouse.

Capital stock, \$26,500.
 President, C. A. Wolcott.
 Sec'y and treas., R. M. Walcott.
 Manager, G. D. Appleby.
 Pur. agent, G. D. Appleby.
 Field Potter and McKean Co., Pa.
 No. wells drawn from, 27.
 Well pressures, 30 to 40 lbs.
 Annual prod., 80,000,000 c. f.
 Gas purchased, 36,000,000 c. f.
 Miles of pipe line, 15.
 Price of gas, industrial, 15c. per 1,000 c. f.
 Value of gas supplied, for year, \$16,000.
 Supplies Puritan Glass Bottle Co., Harbred
 Silk Co. and sells surplus to Empire
 Glass Co.

Sandy Oil and Gas Co., Shippensburg.

(A co-partnership.)
 President, A. B. Collner.
 Sec'y and treas., J. M. McLaughlin.
 Manager, J. W. Clark.
 Pur. agent, J. M. McLaughlin.
 70 acres owned; 1,400 acres leased in Elk,
 Twp., Clarion Co., Pa.
 Wells drawn from, oil 8; gas 16.
 Well pressures, from 40 to 600 lbs.
 Miles gas pipe line, 12.
 Annual prod., gas, 120,000,000 c. f.
 Annual prod., crude oil, about 3,000 bbls.
 Max. day's output, crude oil, 10 bbls.
 Average price per bbl. \$3.50.
 No. oil storage tanks, 7 steel; capacity 400
 bbls.
 Gasoline made in 1917, 10,000 gals.
 Price gas gross, industrial, 12.46c.
 Value of gas supplied, for year, \$15,000.
 All gas sold to Dempseytown Gas Co., at
 wells; and oil sold to South Penn Oil Co.

Slippery Rock Heat and Light Co., Slippery Rock.

Capital stock, \$10,000.
 President and pur. agent, J. C. Kerr.
 Manager, C. W. Kaufman.
 Wells drawn from, 15. Miles pipe line, 10.
 Pop. dist. supplied, 1,000.
 No. domestic consumers, 325.
 Price gas gross, dom., 30c. per 1,000 c. f.
 Value of gas supplied for year, \$7,000.
 Supplies Slippery Rock.

Smethport Gas Co., Smethport.

Capital stock, \$100,000.
 President, Jas. A. McKean.
 Sec'y. and treas., F. D. Gallup.
 Manager and pur. agent, H. L. Hockenberry.
 Superintendent, John Peeler.
 Field in McKean Co., Pa.
 Wells drawn from, 50. Miles of pipe line, 30.
 No. domestic consumers, 600; manufactories
 supplied, 4.
 Price gas, gross, domestic, per 1,000 c. f., 32c.;
 industrial, 17c.
 Value of gas supplied, for year, \$65,000.
 Supplies Smethport.

Straight Gas Co., Straight.

Office, Olean, N. Y.
 Distributing center, Norwich, Penna.
 Capital stock, \$50,000.
 Div. paid, annual rate, 6 p. c.
 President, John Troy.
 Manager and pur. agent, John Troy
 Wells drawn from, 32.
 Annual production, 360,000,000 c. f.
 Gas purchased, 84,000,000 c. f.
 Miles pipe line, 28.
 Pop. dist. supplied, 500.
 No. domestic consumers, 140; manufactories
 supplied, 5.
 Price gas, gross, domestic, 20c.; industrial, 10c.
 and 15c.
 Value of gas supplied, for year, \$33,415.
 Supplies Straight and Instantan.

Empire Gas Company, Tionesta.

(Property has been sold to J. B. Forker, Oil
 City. Tionesta Gas Co. receives all out-
 put of the Empire Gas Co.)



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Kellettville Gas Co., Tionesta.

Distributing center, Kellettville.
 Capital stock, \$5,000.
 President, O. W. Proper.
 Manager and pur. agent, L. Behrens.
 Wells drawn from, 7.
 Miles pipe line, 4.
 Annual prod., 15,000,000 c. f.
 No. domestic consumers, 100.
 Price gas, gross, domestic, 30c. per 1,000 c. f.
 Value of gas supplied, for year, \$3,000.
 Supplies Kellettville.

The Proper Natural Gas Co., Tionesta.

Capital stock, \$5,000.
 President, F. C. Proper.
 Manager, F. C. Proper.
 Pur. agent, F. C. Proper.
 Population, 815.
 Wells drawn from, 5. Miles of pipe line, 8.
 Price gas per 1,000 c. f., dom. 20c.
 No. domestic consumers, 50.
 Supplies town of Tionesta.

Tionesta Gas Co., Tionesta.

Gen'l office, Oil City, Pa.
 Capital stock, \$20,000.
 Annual dividend, 6 p. c.
 President, J. B. Forker.
 Treasurer, H. H. James.
 Manager, J. R. Clark.
 Purchasing agent, J. R. Clark.
 Wells drawn from, 17. Miles pipe line, 12.
 Annual prod., 40,000,000 c. f.
 Pop. dist. supplied, 1,000.
 No. domestic consumers, 245; manufactories supplied, 4.
 Price gas, gross, domestic, per 1,000 c. f., 25c. gross; industrial, 15c. gross.
 Value of gas supplied, for year, \$7,505.97.
 Supplies Tionesta and vicinity.

Tylersburg Home Gas Co., Tylersburg.

Capital stock, \$7,000.
 Annual div., 6 p. c.
 President C. E. McCloskey.
 Manager and pur. agent, W. A. Wray.
 Wells drawn from, 11.
 Miles pipe line, 12.
 Annual prod., 8,726,000 c. f.
 No. domestic consumers, 100.
 Price, gas, gross, domestic, 25c. per 1,000 c. f.
 Value of gas supplied for year, \$2,181.50.
 Supplies Tylersburg, Lickingville, Leeper.

Fayette County Gas Co., Uniontown.

(General Office, Farmers Bank Building, Pittsburg.)
 Capital stock, \$1,600,000.
 President, Geo. W. Crawford.
 Vice-president and mgr., John M. Garard.
 Secretary and treasurer, Harry C. Reeser.
 Asst. sec'y and treas., J. B. Wikoff.
 Superintendent, Jos. E. Angle.
 Price of gas, gross, 35c. per 1,000 c. f.
 Supplies Uniontown, Connellsville, Mt. Pleasant, Scottdale and other towns.

Jefferson County Gas Co., Warren.

Capital stock, \$250,000.
 Div. paid, annual rate, 27 p. c.
 President, F. von Tacky.
 Vice-pres., S. Peterson.
 Secretary, C. J. Frantz.
 Treasurer, F. Eugene Smith.
 Manager and pur. agt., A. W. Richards.
 Wells drawn from, 145.
 Miles pipe line, 100.
 Annual prod., crude oil, est., 15,000 bbls.
 Price gas, per 1,000 c. f., gross, domestic, 30c.; industrial, 26c.
 No. dom. consumers, 40; factories, 30.
 Value gas supplied, for year, \$216,000.
 Supplies Warren and Clarendon.

Pennsylvania Gas Co., Warren.

Capital stock, \$7,200,000.
 Annual dividend, 10 p. c.
 President, Raymond Cross.
 Secretary and treas., H. H. McConnell.
 General manager, Raymond Cross.
 Wells drawn from, 386.
 No. meters, 39,246.
 Price gas, gross, domestic, per 1,000 c. f., 37c.; net 35c.
 Value of gas supplied, for year, \$1,631,209.39.
 Supplies Erie, Corry, Warren, Sheffield, Pa., and Jamestown, N. Y.

Warren and Chautauqua Gas Co., Warren.

Gen. office, Union Bank Bldg., Pittsburgh.
 Capital stock, \$200,000.
 President, E. P. Whitcomb.
 Secretary, W. R. Hadley.
 Manager, E. P. Whitcomb.
 Treasurer, W. R. Hadley.
 Purchasing agent, A. A. Armstrong.
 Supplies Warren.
 Controlled by Union Natural Gas Corporation, Pittsburgh, Pa., whose report covers operations of above company.

The Monroe Gas Co., Washington.

Owner, W. E. Walsh, Pittsburgh.
 Manager and pur. agent, W. F. Borchers.
 Wells drawn from, 2. Miles pipe line, 11.
 No. domestic consumers, 135; manufactories supplied, 5.
 Price gas, gross, domestic, per 1,000 c. f., 30c., industrial, 25c.
 Value gas supplied for year, \$3,000.
 Supplies Beallsville, Monroe County, Ohio, and Newcastle, Belmont County, Ohio.

Waynesburg Home Gas Co., Waynesburg.

Capital stock, \$50,000.
 Annual dividend, 20 p. c.
 President, Jesse L. Ross.
 Manager and pur. agt., C. E. Dittman.
 Secretary, L. M. Waddell.
 Wells drawn from, 15. Miles of pipe line, 45.
 Annual production, 883,430,046 c. f.
 Price of gas, gross; domestic, 25c. per 1,000 c. f.; industrial, 25c. to 10c.
 No. domestic consumers, 1,300; factories, 5.
 Value gas supplied for year, \$92,000.
 Supplies Waynesburg and East Waynesburg.

1803

1918


R. D. WOOD & CO., PHILA., PA.


Clarion Natural Gas Co., Wilcox.

Capital stock, common, \$35,000.
 Annual dividend, 12 p. c.
 President and pur. agent, F. W. Aldrich.
 Secretary and treas., Arthur L. Johnson.
 Manager and supt., W. F. Johnson.
 2,400 acres leased in Jones Twp., Elk Co., Pa.
 Wells drawn from, 58; pressures, 300 lbs.
 Miles pipe line, 9.
 Annual prod., 264,026,753 c. f.; gas purchased, 21,314,528 c. f.
 No. manufactories supplied, 2.
 Price gas, per 1,000 c. f., gross, industrial, 12c. and 15c. per 1,000 c. f.
 Value gas supplied, for year, \$34,926.42.

Sergeant Gas Co., Williamsport.

Distributing center, Sergeant, Pa.
 Capital stock, \$100,000.
 Annual dividend, 30 p. c.
 President and mgr., C. H. Heim.
 Purchasing agent, C. H. Heim, Kane, Pa.
 Sec'y and treas., N. B. Bubb.
 Wells drawn from, 71.
 Miles pipe line, 20.
 Annual prod., about 429,805,000 c. f.

Gas purchased, 20,000,000 c. f.
 Pop. dist. supplied, 600.
 No. domestic consumers, 50; manufactories 5.
 Price gas, per 1,000 c. f., gross, industrial, 12c.; domestic, 20c.
 Value of gas supplied, for year, \$54,840.73.
 Supplies Straights, Dahoga and Sergeant.

Peter Graeff & Co., Worthington.

Use all gas in their own mills.

Mutual Gas Co., of Marianna, Pa., Zollarsville.

Gen'l office, Marianna, Pa.
 Capital stock, \$5,000.
 President, J. G. Horn.
 Sec'y and treas., W. I. Horn.
 Manager and pur. agent, W. I. Horn.
 Wells drawn from, 1. Miles pipe line, 1.5.
 Well pressures, 40 lbs.
 Annual production, 3,324,000 c. f.
 No. domestic consumers, 37; manufactories, 1.
 Price gas, gross, domestic, 24c. per 1,000 c. f. industrial, 14c.
 Value of gas supplied for year, \$665.38.
 Supplies Zollarsville and vicinity.

TEXAS.**Abilene Gas and Electric Co., Abilene.**

Office, Dallas, Texas.
 Capital stock, \$275,000.
 Bonds, \$250,000; due 1942; int. 7 p. c.
 President, F. A. Matthes.
 Vice-president, A. Hardgrave.
 Gen'l manager, A. Hardgrave.
 Pur. agent, J. E. Meadors.
 Secretary, J. M. Dickie.
 Superintendent, F. A. Matthes.
 Miles of pipe line, 32.9.
 Gas piped from Moran fields.
 Pop. dist. supplied, 14,000.
 No. domestic consumers, 1,513; factories supplied, 11.
 Price gas, gross, domestic, 50c. per 1,000 c. f.; industrial 12.5c.
 Value of gas supplied, for year, \$71,809.96.
 Supplies Abilene.

ELECTRICAL DEPARTMENT.

System operated: incand. A. C., single phase, 7,200 alt.; power, A. C., 60 cycles, 3 phase.
 Generating capacity: Lighting, 1,225.
 Voltage: Arcs, series; incand., 110; power, 220-440.
 City lighting contract: Hours lighted per year, incand., 4,200.
 No. public incand., 240; 60 c. p. Price per year, \$18.
 Commercial lighting:
 Price current per kw. hr., gross, 12c. com.; 15c. res. lighting; 10.5c. first 10 kw. hr., balance 2.5c. for cooking.

Power circuits: price per kw. hr., 6c. Discounts, sliding scale.
 Output of station kw. hrs. total for year, 1,547,536.
 Generating power used: Oil and steam; rated 1,275 h. p.
 Cost of station fuel, gas, per 1,000 c. f., 12.5c.

Atlanta Gas Co., Atlanta.

Capital stock, \$20,000.
 Bonds, \$8,750; due 1929; int., 6 p. c.
 President, J. S. Connelly.
 Manager and pur. agent, V. I. Sipe.
 Sec'y and treas., E. S. Ellis.
 Gas purchased from Southwestern Gas and Electric Co., 46,038,000 c. f.
 Miles pipe line, 18.
 Pop. dist. supplied, 3,000.
 No. dom. consumers, 355; manufactories, 5.
 Price gas, gross, domestic, 30c. per 1,000 c. f.; industrial, 10c. per 1,000 c. f.
 Value gas supplied, for year, \$11,000.
 Supplies Atlanta and Queen City.

County Gas Co., Dallas.

Capital stock, \$100,000.
 President, C. W. Bertch.
 Vice-pres., C. A. Caldwell.
 Sec'y and treas., R. G. Soper.
 Manager and pur. agent, H. C. Morris.
 Gas purchased from Lone Star Gas Co.
 Pop. dist. supplied, 15,000.
 No. domestic consumers, 3,150; factories, 6.
 Price gas, gross, domestic and industrial, sliding scale, 14c. to 45c.
 Supplies Arlington, Grand Prairie and Eagle Ford.

Williams' "AGRIPPA" Cutting-Off and Side-Tool Holder

a tool that performs both cutting off and side work by the mere substitution of suitable cutters tells its own story of economy.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

Dallas Gas Co., Dallas.

Capital stock, pref., \$500,000; com., \$350,000.
 Bonds, \$1,000,000; due 1925; int., 5 p. c.
 President, H. D. Walbridge.
 Vice-president, H. C. Morris.
 Manager, H. C. Morris.
 Pur. agent, J. W. Wrede.
 Secretary, R. G. Soper.
 Treasurer, C. W. Bertch.
 Asst. secy. and asst. treas., L. A. Wood.
 Gen. auditor, F. E. Haag.
 Gas purchased from Lone Star Gas Co.
 Miles of pipe line, approx., 250.
 Population (estimated) 125,000.
 No. consumers, approx., 22,490; manufacto-
 ries, 100.
 Price gas, gross, 50c. per 1,000 c. f.
 Value gas supplied, for year, \$585,000.
 Supplies Dallas and suburbs.

North Texas Gas Co., Denison.

General office, Denison, Tex.
 Capital stock, \$500,000.
 Bonds, \$307,000; due serially; int., 6 p. c.
 President, Fred M. Lege, Jr.
 Vice-pres. and manager, C. B. McKinney.
 Sec'y., treas. and pur. agt., J. B. McCabe.
 Gas purchased from Lone Star Gas Co.
 Annual purchase, 2,411,971,000 c. f.
 Pop. dist. supplied, 90,000.
 No. consumers, 12,500.
 Price gas, gross, domestic, 50c., 45c., 40c., 35c.,
 30c., 25c. per 1,000 c. f. McKinney, Tex.
 has also \$1. min. and 25c. readiness to
 serve charge.
 Value of gas supplied, for year, \$512,760.31.
 Supplies Byers, Petrolia, Wichita Falls,
 Bellevue, Bowie, Decatur, Bridgeport,
 Corsicana, Whitesboro, Denton, Denison,
 Sherman, Electra, Sunset, Alvord and
 McKinney.

Texas Power and Light Co., Denison.

(For capitalization, officers, etc., see Appen-
 dix.)
 Local mgr., P. A. Rogers.
 Miles of pipe line, 19.
 No. domestic consumers, 894.
 Price of gas, gross, dom., 50c. to 16c. per 1,000
 c. f.; disc., 10 p. c., 10 days; indus., 10c.
 to 9c.
 Annual sales, 42,000,000 c. f.
 Supplies Denison.

ELECTRICAL DEPARTMENT.

System operated: arc, incand. and power,
 3 ph., 60 cycle, A. C.
 Voltage: arcs, 70; incand., 110; power, 110-220.
 City lighting contract: Hours lighted per
 year: Incand., 4,000.
 No. public incand., 453; 75 watt. Tungsten.
 Price per year, \$12.60.
 Commercial lighting: No. incand., 1,825 kw.
 equiv.
 Price current per kw. hr., gross, 15c. and 8c.
 Discounts 10 p. c.
 Power circuits: motors, 2,067 h. p.; price \$1.50
 and 6c. to 1c. with 10 p. c. discount.
 Output of branch, kw. hrs., per year,
 3,838,000.

Generating power used, Steam; rated h. p.,
 1,500.

Cost of station fuel, oil, 2.02 per bbl.

Fort Worth Gas Co., Fort Worth.

Capital stock, \$800,000.
 Bonds, \$800,000.
 Receiver, Geo. Beggs, Jr.
 President, Geo. W. Armstrong.
 Manager and pur. agent, O. K. Shannon.
 Secretary, J. L. McCown.
 Purchase gas from Lone Star Gas Co.
 No. dom. consumers, 14,000.
 Price gas, gross, domestic, 50c. per 1,000 c. f.,
 1st 10,000; next 10,000 45c.; next 10,000,
 40c.; next 70,000, 35c.; next 150,000, 21.86c.;
 all over 250,000, 14.72c.; industrial, 9c.

Lone Star Gas Co., Fort Worth.

Office, First Nat'l Bank Bldg.
 Capital stock, \$5,000,000.
 Annual dividend, 8 p. c.
 Bonds, \$500,000; due, 1919; int., 8 p. c.
 President, L. B. Denning.
 Vice-pres. and mgr., F. M. Lege, Jr.
 Vice-pres. and mgr. oil dept., W. P. Gage.
 Secretary and treas., D. L. Cobb.
 Pur. agent, R. W. Sterritt.
 Mgr. natural gas dept., F. L. Chase.
 Wells drawn from, 50.
 Miles pipe line, main line, 350; field and
 branch line, 200.
 Annual prod., 10,000,000,000 c. f.
 Pop. dist. supplied, 400,000.
 No. dom. consumers, 50,000.
 Price of gas, dom., 45c. to 18c. per 1,000 c. f.;
 indus., 13c. to 18c.
 Value gas supplied, for year, \$2,200,000.
 Deliver gas to the Dallas (Tex.) Gas Co.,
 Fort Worth, (Tex.) Gas Co. and to the
 North Texas Gas Co., at the following
 towns: Byers, Petrolia, Wichita Falls,
 Bellevue, Bowie, Sunset, Alvord, Decatur,
 Bridgeport, Rhome, Irving, Denton, Deni-
 son, Sherman, McKinney and Whites-
 boro; also to County Gas Co., in Arling-
 ton, Dalworth and Grand Prairie and to
 the Gainesville (Tex.) Gas and Elec-
 tric Co.

Gainesville Gas and Electric Co., Gainesville.

Capital stock, pref., \$100,000; com., \$150,000.
 Bonds, \$184,000; due, 1931; int., 5 p. c.
 President, E. C. Beach.
 Secretary, H. T. Holtz.
 Treasurer, R. C. Dawes.
 Manager, W. E. Milne.
 Pur. agent, W. E. Milne.
 Pipe line of Lone Star Gas Co.
 Miles of mains, 22.
 Pop. dist. supplied, 7,624; of city, same.
 No. consumers and meters, 1,498.
 Price gas, domestic, 45c. to 30c. net; indus-
 trial, 13.25c.
 Supplies Gainesville.

Herring Oil and Gas Co., Groesbeck.

Capital stock, \$100,000.
 President, C. T. Herring.
 Vice-pres., J. E. Bradley.
 Manager and pur. agent, R. L. Underwood.
 Wells drawn from, 3.

RELIABLE**"ANGLIRON"****RANGES**

They are giving satisfactory service to thousands of house-
 wives, and gas companies sell them with SUCCESS, PROFIT
 AND SATISFACTION. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Miles of pipe line, 21.
 Annual prod. 60,000,000 c. f.
 No. domestic consumers, 319; factories supplied, 7.
 Price of gas, gross, dom., 30c. per 1,000 c. f.; industrial, 7c.
 Value of gas supplied, for year, \$12,000.
 Supplies Groesbeck and Tehaucana.

Henrietta Oil and Gas Co., Henrietta.

Capital stock, \$50,000.
 President, S. J. Slade.
 Manager and pur. agent, M. A. Eaton.
 Secretary, T. H. Marberry.
 Wells drawn from, 4.
 Miles pipe line, 15.
 Annual prod., 360,000,000 c. f.
 No. domestic consumers, 500; manufactories supplied, 5.
 Price gas, gross, domestic, 20c. per 1,000 c. f.; industrial, 5c.
 Value of gas supplied, for year, \$25,000.
 Supplies Henrietta.

Border Gas Co., Laredo.

Capital stock, \$500,000.
 Bonds, \$250,000; due 1922; int., 6 p. c.
 President, M. P. Cullinan.
 Manager, M. P. Cullinan.
 Asst., sec'y., and asst. treas., W. W. Stein.
 Purchasing agent, M. P. Cullinan.
 Superintendent, E. H. Kline.
 Field, Zapata County, Texas.
 Wells drawn from, 3. Miles of mains, 100.
 Pop. dist. supplied, 15,000.
 Price of gas, gross, 50c. per 1,000 c. f.
 Supplies Laredo.

Marshall Gas Co., Marshall.

Capital stock, \$300,000.
 Bonds, 200,000; due 1929; int. 5 p. c.
 President, T. J. Donoghue.
 Manager, W. H. Sedberry.
 Pur. agent, W. H. Sedberry.
 Gas supplied from Caddo field.
 No. domestic consumers, 1,800; factories, 17.
 Price gas, gross, domestic, 31.5c. per 1,000 c. f.; industrial, 10 to 16c.
 Value of gas supplied for year, \$100,000.
 Supplies Marshall.

Mart Gas Co., Mart.

Capital stock, \$50,000.
 President, Robert Law, Jr., Pittsburgh.
 Manager, E. B. Reeser.
 Treasurer, E. O. Bartlett.
 Purchasing agent, E. B. Reeser.
 Gas purchased from Texas Gas Co.
 Gas purchased, 87,452,000 c. f.
 No. domestic consumers, 560.
 No. manufactories supplied, 2.
 Value of gas supplied for year, \$22,798.71.
 66 2/3 p. c. of total value paid to Pipe Line Co. for purchase of gas.

Little Giant Oil and Gas Co., Mexia.

Capital stock, \$60,000.
 Annual dividend, 12 p. c.
 President, E. H. Shackelford.
 Sec'y and manager, A. E. Wilder.
 Wells drawn from, 4. Miles of pipe line, 2.
 Annual prod., 60,000,000 c. f.

Gas purchased, 220,000,000 c. f.
 No. domestic consumers, 400; factories, 15.
 Price gas, gross, domestic, 40c. per 1,000 c. f.; industrial, 10c. to 15c.
 Value of gas supplied, for year, \$20,000.
 Supplies Texas Pipe Line and Gas Co., Teague; also sells to Munger Oil & Cotton Co. and Mexia Press Brick Co., Mexia.

Mexia Oil and Gas Co., Mexia.

General office, Mexia Limestone Co.
 Capital stock, \$300,000.
 Annual dividend, 6 p. c.
 President, J. Nussbaum.
 Secretary and treas., Julius Desenberg.
 Manager and pur. agent, Tracy McKenzie.
 Superintendent, Jas. Moore.
 60 acres owned; 3,000 acres leased near Mexia, Texas.
 Wells drawn from, 17.
 Well pressures, 45 lbs.
 Annual prod., 750,000,000 c. f.
 Miles gas pipe line, approx., 3.5.
 Pop. dist. supplied, 60,000.
 No. domestic consumers, 500.
 Price gas, dom., 50c. per 1,000 c. f.
 Value of gas supplied for year, \$45,000.
 Supplies Waco, Mart and Mexia.

Consumers Gas and Fuel Co., Mineral Wells.

Capital stock, \$300,000.
 President, W. H. Gross.
 Secretary and treasurer, F. W. Owen.
 Purchasing agent, F. W. Owen.
 General manager, F. W. Owen.
 Field, 3½ to 5 miles south of Mineral Wells.
 Gas wells drawn from, 4.
 Miles of gas pipe line, 30.
 Annual prod., gas, est., 500,000,000 c. f.
 Pop. district supplied, 15,000.
 No. industrial consumers, approx., 100.
 Supplies Mineral Wells: finishing pipe line to Bennett, Texas.

Santa Anna Gas Co., Santa Anna.

(Formerly operating under name of Robertson & Robertson.)
 Capital stock, \$30,000.
 President, Lewis A. Robertson.
 Vice-pres., T. R. Sealy.
 Sec'y and treas., Lee Woodward.
 Manager and pur. agent, Lewis A. Robertson.
 Wells drawn from, 10. Miles pipe line, 16.
 Price gas, gross, 55c. to 21c.; net, 50c. to 19c.;
 Supplies Santa Anna.

Texas Pipe Line and Gas Co., Teague.

General office, Waco, Tex.
 Capital stock, \$250,000.
 Annual dividend, 12 p. c.
 Bonds, \$150,000; due 1924; int., 7 p. c.
 President, Geo S. McGhee.
 Manager and pur. agent, J. J. Potts.
 Wells drawn from, 6.
 Annual production, 200,000,000 c. f.
 Miles pipe line, 32.
 No. domestic consumers, 500.
 No. manufactories supplied, 12.
 Price gas, gross, domestic, 40c. per 1,000 c. f.; industrial, 10c.
 Value of gas supplied for year, \$30,000.
 Supplies Teague and Limestone.

It is made in the greatest city in the world, and used in almost every part of the world. THE GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Southwestern Gas and Electric Co., Texarkana.

(For capitalization and bonds, see Appendix.)
 General office, Chicago, Ill.
 President, Henry M. Dawes.
 Manager and pur. agent, W. L. Wood, Jr.
 Population city supplied, 25,000.
 Street main pressure, 8 oz.
 No. domestic consumers, 3,779; manufactories supplied, 15.
 Price gas, domestic, net, 24c. per 1,000 c. f.; industrial, 10c.
 Value of gas supplied, for year, \$230,000.
 Supplies Texarkana, Ark., Texarkana, Tex., and Bloomsberg, Tex.

ELECTRICAL DEPARTMENT.

(Operated under same name as gas company.)
 System operated: A. C., 60 cycle.
 Power generators, 2,125 kw. capacity.
 Voltage: incand., 110-112; power, 220 and 440.
 No. public arcs, 100; lighted 4,000 hours.
 Price arc, Public, per year, \$62.50.
 Commercial lighting: No. arcs, 161; incand., 37,361.
 Price incand., Commercial per kw. h., 14c.; sliding scale to 9c. net.
 Power used, Steam; rated, 1,000 h. p.
 Station fuel, natural gas.
 Owns and operates 14 miles railway, standard gauge, 60 lbs. rail, 26 motor cars.

Texas-Pacific Coal Co., Thurber.

Capital stock, \$3,000,000.
 Annual dividend, 6 p. c.
 President, Edgar L. Marston.
 Manager, W. K. Gordon.
 Wells drawn from, 1.
 Capacity, 75,000,000 c. f. per day.
 Will supply Strawn.

Texas Gas Co., Waco.

General office, 1013 Farmers' Bank Bldg., Pittsburgh, Pa.
 Capital stock, \$250,000.
 Bonds, \$200,000; due \$50,000 each year from May 1, 1916; int., 6 p. c.
 President, Robert Law, Jr.
 Manager, E. B. Reeser.
 Secretary and treas., E. O. Bartlett.
 Wells drawn from, 16. Miles pipe line, 40.
 Amt. gas purchased, approx., 1,479,549,000 c. f.
 Annual sales, approx., 1,392,450,000 c. f.
 No. dom. consumers, 5,839; factories, 16.
 Price of gas, gross, dom., 45c. to 22.5c. net per 1,000 c. f.; industrial, 20c. to 10c. net.
 Value of gas supplied, \$233,341.17.
 Gas is purchased in Mexia field and delivered to Texas Power and Light Co., Waco.
 Industrial consumers contract with Texas Gas Co. Also supply Mart, Tex. through Mart Gas Co.

Texas Power & Light Co., Waco.

(Successor to Waco Electric and Gas Co. For capitalization and officers, see Parent Cos. and Appendix.)
 Vice-pres. and gen'l mgr., F. R. Slater, Dallas.
 New bus. mgr., Hartwell Jalonick, Dallas.
 Local mgr., W. S. Booth.
 Natural gas purchased from Texas Gas Co.
 Miles of mains, approximate, 82.
 Street main pres., avg., 4 in.
 Annual sales, approx., 538,600,000 c. f.
 Pop. dist. supplied, 38,000; of city, 45,000.
 No. consumers, 5,780.
 No. meters, reg., 5,485; prepay, 514.
 Price of gas, 50c. to 10c. per 1,000 c. f.; discount, 10 p. c.
 Ranges, 5,755; water heaters, 491.
 Supplies Waco and East Waco.

ELECTRICAL DEPARTMENT.

System operated: A. C., 1 and 3 phase, 60 cycles; power, A. C. and D. C.
 Generating capacity: Lighting and Power, 12,000 kw.
 Voltage: Incand., 110; power, 110-220 and 550.
 City lighting contract: Hours lighted per year: One-half hour after sunset to half hour before sunrise; 4,005 hours.
 No. public arcs, 411; 400 mag. Price per year, \$66.
 No. public incand., 214.
 Price current per kw. hr., gross, 10c. to 7c. Dis., 1c., 10 days.
 Power circuits: Motors, 4,282 kw.; price per kw., 6c. to 1c. and \$1.50. Disc., 10 p. c., 10 days.
 Generating power used, Steam, 12,000 kw.
 Supplies street railway system also.
 Output of branch, kw. hrs., for year, 9,698,000.
 Cost of station fuel, oil per bbl., \$1.63.
 Supplied from transmission system of Texas Power and Light Co.

Driscoll Pipe Line Co., Wortham.

Capital stock, \$200,000.
 President, T. J. Driscoll.
 Mgr. and pur. agent, T. Louis Driscoll.
 Wells drawn from, 15.
 Miles of pipe line, 60.
 Gas purchased, 790,000,000 c. f.
 No. dom. consumers, 260; factories, 8.
 Price gas, gross, dom., 50c. per 1,000 c. f.; industrial, 14c.
 Value of gas supplied, for year, \$90,000.
 Supplies North Texas Gas Co., Corsicana, Tex. and sells at retail in Wortham and Richland.

WEST VIRGINIA.**Berea Heat & Light Co., Berea.**

General office, Auburn, W. Va.
 Capital stock, \$9,900.
 President and mgr., C. Q. Zinn.
 Purchasing agt., C. Q. Zinn.
 Wells drawn from, 2.

Miles of pipe line, 8.
 Annual prod., 900,000 c. f.
 No. domestic consumers, 99.
 Price gas, gross, dom., 20c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,800.
 Supplies Auburn and Berea.

Precision 3-in-1 Gauges for forced-draught indications are of the dead-beat type, and give concentrated control of draught conditions by showing in one instrument conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Bridgeport Natural Gas and Oil Co., Bridgeport.

Capital stock, \$11,010.
 President, S. S. Faris.
 Secretary and treas., D. H. Gawthrop.
 Purchasing agt. and mgr., D. H. Gawthrop.
 Superintendent, D. H. Gawthrop.
 Wells drawn from, 9.
 Well pressures, avg., 75 lbs.
 Miles of pipe line approx., 20.
 Annual prod., 227,192,130 c. f.
 No. domestic consumers, 368; manufactories supplied, 2.
 Price of gas, gross, domestic, 15c. per 1,000 c. industrial, 9c.
 Value gas supplied, for year, \$15,967.41.
 Supplies Bridgeport and vicinity.

Godfrey L. Cabot, Bristol.

(See report under Cabot, Pa.)

Buckhannon Relief Oil and Gas Co., Buckhannon.

Office, 45 Kanawha St.
 Capital stock, auth., \$100,000.
 Bonds, \$20,000; due, 1915; int., 6 p. c.
 President, E. W. Martin.
 Manager and pur. agent, J. J. Singleton.
 Wells drawn from, 3. Miles pipe line, 17.
 No. domestic consumers, 367.
 Price gas, gross, domestic, 17c.
 Value gas supplied, for year, \$13,000.
 Supplies Buckhannon and So. Buckhannon.
 (No report, 1918.)

Loudensville Oil and Gas Co., Cameron.

Capital stock, \$100,000.
 President, Timothy Ross.
 Manager and pur. agent, E. J. Lesser.
 Wells drawn from, 2.
 Annual prod., 70,308,570 c. f.
 Value gas supplied, for year, \$4,254.54.
 Sells gas to Manufacturers' Light and Heat Co. of Pittsburgh, Pa.
 No report, 1918.

The Manufacturers Gas and Electric Light Co., Cameron.

Capital stock, \$15,000.
 Annual dividend, 20 p. c.
 President, S. E. Leech.
 Manager and pur. agent, H. E. Beigle.
 Wells drawn from, 5. Miles pipe line, 6.
 Annual prod., 157,000,000 c. f.
 Pop. dist. supplied, 2,800.
 No. domestic consumers, 300; factories, 5.
 Price gas, gross, domestic, 15c. per 1,000 c. f.; industrial, 8c.
 Value of gas supplied, for year, \$13,000.
 Supplies Cameron and Loudensville.

Centerville Pipe Line and Gas Co., Centerville.

Rural delivery, Wayne, W. Va.
 Capital stock, \$760.
 President, C. B. Riggs.
 Sec'y and treas., Wirt M. Stephens.
 Pur. agent, E. B. Coneway.
 Wells drawn from, 1.
 Miles pipe line, 2.
 Gas purchased, 7,120,000 c. f.
 Number domestic consumers, 65.
 Price gas, gross, domestic, 25c. per 1,000 c. f.
 Value of gas supplied, for year, \$1,220.
 Supplies Centerville and Tyler City.

Hamilton Natural Gas Co., Charleston.

(Property sold to United Fuel Gas Co.)

Kanawha Manufacturers' Gas Co., Charleston.

(Liquidated by The Owens Bottle Machine Co., and Libbey-Owens Sheet Glass Co.)

The Standard Fuel Co., Charleston.

(All gas interests have been sold.)

United Fuel Gas Co., Inc., Charleston.

Office, Quarrier and Dumbars Sts., Charleston, W. Va.
 Capital stock, authorized, \$10,000,000; issued, \$9,000,000.
 Bonds, \$7,950,000; due 1936; int., 6 p. c.
 President, F. W. Crawford.
 Manager, W. Y. Cartwright.
 Pur. agent, C. S. Duffield.
 Wells drawn from, 507. Miles pipe line, 1,213.
 Annual sales, approx., 29,594,673,000 c. f.
 No. dom. consumers, 27,177.
 No. manufactories, 183.
 Price of gas, dom., 16c. to 30c. per 1000 c. f.; indus. various sliding scale rates.
 Sells to Columbia Gas & Electric Co., Louisville Gas & Electric Co., Central Kentucky Gas Co., Ohio Fuel Supply Co., Hope Natural Gas Co., Philadelphia, Co., and Portsmouth (O.) Gas. Co.
 Cities or Towns supplied: In Kentucky—Ashland, Catlettsburg, Louisa, Russell, Worthington, Inez, Pollard, Warfield, Greenup and Chinnville. In Ohio—Ironton, New Boston, Wheelersburg, Sciotoville, Chesapeake, Bradrick, Coalgrove, Proctorville, Corryville. In West Virginia—Cherrytree Bottom, Charleston, Huntington, Williamson, Kenova, Ceredo, Barboursville, Logan, Fort Gay, Ona, Big Creek, East Lynn, Clendenin, Poca, Blue Creek, Elk View, Three Mile, Culloiden, Amma, Lock Seven, Walgrove, McClannahan, Bannister, Jordan Creek, Ravenswood, Ripley, Hurricane, Spencer and Kermit.

Wayland Oil and Gas Co., Charleston.

New York office, 14 Wall St.
 Dist. center, Lincoln, Putnam and Wetzel Counties, W. Va.
 Capital stock, pref., \$300,000; com., \$1,500,000; annual div., pref., 6 p. c.; com. 8 p. c.
 President, Alfred Dryer.
 Treasurer, J. F. Caulfield.
 Vice-pres. and mgr., Geo. E. Miller.
 Wells drawn from, 46. Miles pipe line, 45.
 Annual production, 1,123,235,000 c. f.
 Value of gas supplied, for year, \$59,309.15.
 Gas sold under contract to United Fuel Gas Co.

Clarksburg Light and Heat Co., Clarksburg.

(Successor to West Fork Oil and Natural Gas Co. and Mountain State Gas Co.)
 President, Jno. Kohlegard.
 Vice-president, Jno. Jenkins.
 Secretary and treasurer, H. M. Brown.
 Population, 14,050.
 Price of gas, dom., 18c.; indus., 12c.
 (No 1918 report.)

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
 and 29th Street

PHILADELPHIA, PA.

Comet Oil and Gas Co., Clarksburg.

(See report under Pruntytown, W. Va.)

Eagle District Gas Co., Clarksburg.

General office, Hornor Bldg.

Capital stock, \$10,000.

President, Earnest Hutton.

Manager and pur. agent, Boyd E. Hornor.

Wells drawn from, 14.

Annual prod., 200,000,000 c. f.

Price of gas, 4.5c.

Value of gas supplied, for year, \$9,000.

Gas sold to Hope Natural Gas Co. of Pittsburgh, Pa.

The Grasselli Chemical Co., Clarksburg.

General manager, R. Ziesing.

Natural gas, for manufacturing purposes only.

Home Gas Co., Clarksburg.

(Sold lines to the Clarksburg Light and Heat Co., and gas wells to Hazel Atlas Glass Co., in 1917.)

Hope Natural Gas Co., Clarksburg.

(See report under Pittsburgh, Pa.)

Montezuma Oil and Gas Co., Clarksburg.

Capital stock, \$25,000.

President, G. C. Irvine.

Manager, T. C. White.

Wells drawn from, 1.

Miles pipe line, 0.875.

Value of gas supplied for year, \$500.

(No report, 1918.)

Norwood Gas Co., Clarksburg.

President, L. S. Hornor.

Treasurer, Percy Byrd.

No. manufactories supplied, 1.

Price gas, gross, industrial, 6c. per 1,000 c. f.

Pine Bluff Gas Company, Clarksburg.

(Sold to Hope Natural Gas Co., Pittsburgh, Pa.)

Union Gas and Carbon Co., Clarksburg.

(Wells have been sold to Reserve Gas Co. and Company is going out of business.)

Washington Gas Co. of West Va., Clarksburg.

General office, Horner Bldg.

President, C. A. Hornor.

Manager and pur. agent, L. S. Hornor.

Wells drawn from, 40.

Miles pipe line, 40.

Price gas, gross, 10c. per 1,000 c. f.; industrial, 4c.

Supplies 2 plants of Grasselli Chemical Co. and sells at wholesale to lines furnishing Pittsburgh and other cities.

(No report, 1918.)

White Top Oil and Gas Co., Clarksburg.

Capital stock, \$25,000.

President, Smith Hood.

Manager and pur. agent, Boyd E. Horner.

Wells drawn from, 6.

Annual prod., oil, 5,000 bbls.

Average price per bbl., \$2.90.

Annual prod., gas, 72,000,000 c. f.

Price of gas, gross, 3.5c.

Value of gas supplied, for year, \$2,500.

Supplies Philadelphia Co. of West Va.

Charleston and Clendenin Oil and Gas Co., Clendenin.

General office, Charleston, W. Va.

Capital stock, \$25,000.

President and Manager, Peter Silmon.

Purchasing agent, Peter Silmon.

Wells drawn from, 5. Miles pipe line, 1.25.

Sells gas to United Fuel Gas Co.

Clendenin Oil and Gas Co., Clendenin.

Capital stock, \$6,350.

President, Joshua Davis.

Treas. and mgr., J. A. Osborne.

Secretary and pur. agent, J. O. Jackson.

Lease 500 acres in Clendenin, Kanawha Co.

Wells drawn from, 8. Miles pipe line, 3.

Well pressure, 310 lbs.

Annual prod., crude oil, 800 bbls.

Annual prod., gas, 742,074,666 c. f.

Max. day's output, crude oil, 2 bbls.

Storage tanks; steel, 2; capacity 100 and 60 bbls.

By-products; Gasoline, made 70,000 gals.; sold 50,000 gals.

Annual sales, crude oil: shipped, 730 bbls.

Gas sold at 3c. per 1,000 c. f.

Value gas supplied, for year, \$22,262.34.

Sells gas to Eastern Fuel Co., who make the gasoline.

Rural Gas Co., Crawford.

Capital stock, \$25,000.

Annual dividend, 6 p. c.

President, E. G. Davisson.

Manager and pur. agent, E. G. Davisson.

Supply purchased from Hope Nat'l Gas Co.

No. domestic consumers, 650.

Price gas, gross, domestic, 25c. per 1,000 c. f.

Value of gas supplied for year, \$12,000.

Supplies villages in Eastern part of Lewis and Hannison Counties, Md.

West Virginia and Maryland Gas Co. of W. Va., Davis.

General office, 312 Fidelity Bldg., Buffalo, N.Y.

Capital stock, \$2,000,000.

Bonds, \$150,000; due annually; int., 6 p. c.

President, H. A. Forman.

Manager, H. V. Thomas.

Secretary, Edw. M. Wheeler.

Purchasing agent, F. D. Tracy.

Gas purchased from West Va. Central Gas Co.

Miles of pipe line, 400 (includes main and lateral lines, and town plants).

Pop. dist. supplied, 75,000.

No. consumers, 14,296.

Price gas, gross, domestic, 32c. to 40c. per 1,000 c. f.

Supplies Davis, Thomas, Keyser, Piedmont, in West Va.; Luke, Cumberland, Westernport, Lonaconing, Frostburg and other towns in Md.

Charleston Dunbar Natural Gas Co., Dunbar.

Capital stock, pref., \$200,000; com., \$300,000.

Bonds, \$300,000; due, 1923; int., 6 p. c.

President, Fred. Paul Grosscup.

Manager and pur. agt., Paul B. Grosscup.

Treasurer, W. T. Moore.

Wells drawn from, 22. Miles pipe line, 16.

Annual production, 1,250,000,000 c. f.

No. dom. consumers, 1,050; factories, 9.

Price gas, gross, domestic, 20c. per 1,000 c. f.; industrial, 8c.

Value of gas supplied for year, \$100,000.

Supplies Dunbar, St. Albans, Charleston.

PROVERS**American Meter Company**

561 W. 47th St., New York, N. Y.

Our provers are the most modern and up-to-date now on the market. Our new type bottle, moving tank form has been approved of by the U. S. Bureau of Standards.

CUBIC FOOT BOTTLES

Fidelity Gas and Oil Co., Elkins.

Capital stock, \$94,700.
 President, M. M. Brown.
 Sec'y and treas., Chas. Ritter.
 General manager, Kirk King.
 4,000 acres leased in Wayne Co., W. Va.
 Gas wells drilled in, 4.

West Virginia Central Gas Co., Elkins.

General office, 312 Fidelity Bldg., Buffalo, N.Y.
 Capital stock, \$2,000,000.
 President, Howard A. Forman.
 Vice-pres. and gen. mgr., Howard V. Thomas.
 Treasurer, Edw. M. Wheeler.
 Purchasing agent, F. D. Tracy.
 Wells drawn from, 150.
 Miles of pipe line 250, (includes main and lateral lines and town plants.)
 Pop. dist. supplied, 18,000.
 No. consumers, 5,383.
 Price gas, gross, domestic, 17c. to 30c. per 1,000 c. f.
 Supplies Buckhannon, Elkins, Belington, Phillippi, Parsons and other small towns in W. Va.

Monongahela Valley Traction Co., Fairmont.

(Successor to Fairmont Gas Co.)
 President, Jas. O. Watson.
 Manager, E. B. Moore.
 Pur. agent, A. T. Watson.
 Supt. gas dept., F. B. Pryor.
 22,000 acres leased. Field Marion, Harrison, Monongalia, Lewis and Ritchie Counties.
 Wells drawn from, 100. Miles pipe line, 200.
 Annual production, 3,500,000,000 c. f.
 By-products; Gasoline, 400,000 gals.
 Gas purchased, 1,000,000,000 c. f.
 No. dom. consumers, 5,500; factories, 100.
 Price gas, gross, domestic, 23c. per 1,000 c. f.; industrial, 20c. to 12c. per 1,000 c. f.
 Value of gas supplied, for year, \$400,000.
 Supplies Fairmont, Farmington, Barrackville, Monongah, Ida May, Carolina, Jamison Mines, Wyatt, etc.

Wayland Oil and Gas Co., Fairmont.

(See report under Charleston, W. Va.)

Gassaway Gas Co., Gassaway.

(An auxiliary of Light Fuel and Power Co., of Sutton, W. Va.)
 Capital stock, \$100,000.
 President, John C. Wellwood.
 Manager and pur. agent, A. Wellwood.
 Miles pipe line, 10.
 Gas purchased from Light, Fuel & Power Co.
 No. consumers, 370.
 Price gas, gross, 25c.; net, 20c.
 Value of gas supplied, for year, \$11,149.22.
 Supplies Gassaway and suburbs.

Glenville Natural Gas Co., Glenville.

General office, 312 Fidelity Bldg., Buffalo, N.Y.
 Capital stock, \$100,000.
 President, H. A. Forman.
 Pur. agent, F. D. Tracy.
 Secretary, Edward M. Wheeler.
 Manager, H. V. Thomas.
 Wells drawn from, 1.
 Miles of pipe line, 16 (includes main lines and town plant.)

No. domestic consumers, 250.
 Price of gas, gross, domestic, 22c.
 Supplies Glenville.

Pittsburgh and West Virginia Gas Co., Grafton.

Executive Office, 435 Sixth Ave., Pittsburgh, Pa.
 (Philadelphia Co. owns all capital stock.)
 Capital stock, com., \$3,750,000; pref., \$2,250,000.
 Collateral notes, \$900,000; due each year, to 1923; int., 6 p. c.
 President, Carroll Miller.
 Vice-pres., J. H. Reed.
 Controller, C. S. Mitchell.
 Pur. agent, J. H. Reed, Jr.
 No. domestic consumers, 4,198; manufactures supplied, 82.
 Price gas, per 1,000 c. f., domestic, gross, 23c.; net, 21c.; industrial, gross, first 500,000 c. f., 22.5c.; net, 21c.; all over 500,000 c. f., 15c. gross, 13.5c. net.
 Value gas supplied for year, \$2,922,155. 78.
 Supplies Grafton, Shinnston, Worthington, Enterprise, Haywood and Lumberport, W. Va., and customers in rural districts of West Virginia.

B. F. Gilmore, Greenwood.

130 acres owned; 6 acres leased.
 Wells drawn from, 1.
 Well pressures, 300 lbs.
 Miles of pipe line, 1.5.
 No. dom. consumers, 6.
 Price gas gross, dom., 20c. per 1,000 c. f.
 Value gas supplied for year, \$200.
 Supplies League.

Imperial Oil and Gas Products Co., Hannahdale.
(See Pittsburgh, Pa.)**Hennaghan & Hanlon, Harrisville.**

(Successor to Harrisville Heat & Light Co.)
 Manager and pur. agent, Ed. L. Dearolph.
 Superintendent, Ed. L. Dearolph.
 Wells drawn from, 10.
 Miles pipe line, 3.
 Number domestic consumers, 300; manufactures supplied, 1.
 Price gas, gross, domestic, 15c. per 1,000 c. f.
 Value of gas supplied for year, \$4,500.
 Supplies Harrisville.

Carnegie Natural Gas Co., Hundred.

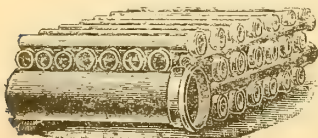
(See report under Pittsburgh, Pa.)

Wetzel Natural Gas Co., Hundred.

Capital stock, \$25,000.
 Annual dividend, 6 p. c.
 President, B. W. Allen.
 Manager and pur. agt., O. C. Arnett.
 Wells drawn from, 2.
 Miles of pipe line, 5.5.
 Annual prod., 19,267,000 c. f.
 Gas purchased, 5,845,000 c. f.
 Pop. dist. supplied, 700.
 No. domestic consumers, 145.
 Price gas, gross, domestic, 15c. per 1,000 c. f.
 Value of gas supplied, for year, \$3,766.80.
 Supplies Hundred.

Cincinnati Gas Transportation Co., Huntington.

(This property is operated under lease by the Columbia Gas and Elec. Co.)

**CAST IRON PIPE**

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

Columbia Gas and Electric Co., Huntington.

(See report under Cincinnati, O.)

Huntington Development and Gas Co., Huntington.

Capital stock, pref., \$1,500,000; com., \$4,000,000.
 Annual div. pref., 6 p. c.
 Bonds, \$3,257,500; due, 1936; int. 6 p. c.
 President, G. L. Estabrook.
 Vice-pres., W. B. Kurtz.
 Vice-pres., E. J. King.
 Secretary, William Lilley, Philadelphia.
 Manager and pur. agent, John J. Nash.
 330,000 acres owned in W. Va.; 6,000 acres leased; 189,500 leased to other companies.
 Wells drawn from, 132 gas; 20 oil.
 Purchase gas from 36 wells owned by other companies.
 Miles pipe line, 168.
 Pop. dist. supplied, 75,000.
 Price gas, gross, domestic, 16c. per 1,000 c. f.; industrial, 6c. to 6.5c.
 No. dom. and indus. consumers, 3,800.
 Sales approx., 6,888,532,000 c. f.
 Gasoline plant, capacity 40,000,000 c. f. per day.
 Supplies Huntington, W. Va. and manufacturing plants in Kenova, W. Va., and Ashland, Ky.

Sovereign Gas Co., Huntington.

(Successor to Monarch Gas Co.)
 Distributing centre, Hurricane, W. Va.
 Capital stock, \$100,000.
 Bonds, \$100,000.
 President, C. T. Taylor.
 Sec'y and pur. agent, G. W. Keller.
 Treasurer, G. D. Miller.
 General manager, W. H. Kertley.
 Superintendent, Ben. Kiff.
 5,000 acres leased in Lincoln, Cabell and Putnam Counties, W. Va.
 Wells drawn from, 32. Well pressure, 605 lbs.
 Annual prod., gas, 3,600,000,000 c. f.
 Gas sold to Huntington Development and Gas Co.

United Fuel Gas Co., Huntington.

(See report under Charleston, W. Va.)

Lost Creek Oil and Gas Co., Lost Creek.

General office, Buckhannon, W. Va.
 Capital stock, \$10,000.
 President, William S. O'Brien.
 Sec'y and treas., E. F. Kummer.
 Manager and pur. agent, E. F. Kummer.
 Superintendent, L. E. Van Horn.
 85 acres leased in Lost Creek, W. Va.
 Wells drawn from, 2.
 Well pressures, 125 to 225 lbs.
 Miles pipe line, 9.
 Annual prod., 29,331,000 c. f.
 Pop. dist. supplied, 1,000.
 No. domestic consumers, 182.
 Price gas, gross, domestic, 14c. per 1,000 c. f.
 Value of gas supplied, for year, \$4,106.34.
 Supplies Lost Creek, Rockford and California Mines.

Hornor Gas Supply Co., Lumberport.

Capital stock, \$25,000.
 President, J. F. Schaffner.
 Manager, V. L. Hornor.

Wells drawn from, 6.

Sells gas at wholesale only.

Price gas gross, 3.5c. and 4c.

Value of gas supplied for year, \$5,000.

Lumberport Gas Co., Lumberport.

Capital stock, \$100,000.
 President, J. F. Schaffner.
 Manager, J. H. Hornor.
 Wells drawn from, 4.
 No. dom. consumers, 475.
 No. manufactories supplied, 2.
 Price gas, dom., 14c. net; industrial, 5c.
 Supplies Lumberport, Haywood, Hepsibah and Erie.

The Shields Oil and Gas Co., Madison.

Capital stock, \$35,000.
 President, J. P. Murphy.
 Manager and pur. agent, A. S. Hutson.
 Sec'y and treas., W. B. Wade.
 Wells drawn from, 4.
 Miles pipe line, 10.
 Production, 5,000,000 c. f. per day.
 Number domestic consumers, 185.
 No. furnaces supplied, 4.
 Price gas, gross, domestic, 25c. per 1,000 c. f.
 Supplies Danville and Madison.

Bingamon Oil and Gas Co., Mannington.

(Sold to Fairmont Gas Co.)

Criss Oil and Gas Co., Mannington.

Capital stock, \$10,000.
 Annual dividend, 20 p. c.
 President and manager, James T. Criss.
 Secretary and pur. agent, B. E. Mitchell.
 Treasurer, L. H. Boor.
 25 acres leased in Lincoln Dist., Marion Co., W. Va.
 Wells drawn from, 1.
 Well pressures, 90 lbs.
 Annual production, 40,000,000 c. f.
 Gas is sold to Philadelphia Co. of Pittsburg, for 4c. per 1,000 c. f., at the well.
 Value of gas sold for year, \$1,800.

Hope Natural Gas Co., Mannington.

(See report under Pittsburgh, Pa.)

Consumers Gas Co., of Middlebourne, Middlebourne.

Capital stock, \$25,000.
 President, E. A. Sweeney.
 Manager and pur. agent, J. D. Sweeney.
 Auditor, O. D. McPherson, Marietta, O.
 Wells drawn from, 2.
 Miles pipe line, 8.
 No. domestic consumers, 200.
 No manufactories supplied, 2.
 Price gas, gross, domestic, 13c. per 1,000 c. f.; industrial, sliding scale.
 Supplies Centreville and Middlebourne.

Middleburne Gas Co., Middleburne.

(Sold to Manufacturers Lt. & Heat Co., Pittsburg, Pa.)

Harshbarger Oil and Gas Co., Milton.

Capital stock, \$60,000.
 President and mgr., I. J. Harshbarger.
 Sec'y and treas., C. L. Harshbarger.
 Pur. agent, C. L. Harshbarger.
 Superintendent, J. B. Kline.

**FOR GAS HOLDERS IN EXPOSED POSITIONS**

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for
 Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York

3,000 acres leased 3 miles from Milton.
 Annual prod., crude oil, 10,000 bbls.
 Annual sales, gas, 60,000,000 c. f.
 Max. days out-put, crude oil, 30 bbls.
 Average price per bbl., \$2.51.
 No. oil wells, 12; Gas wells drawn from, 9.
 Miles pipe line, oil, 2; gas 14.
 Well pressures, 342 lbs. (rock.)
 No. dom. consumers, 350; factories, 5.
 Price gas, gross, domestic, 15c. and 20c. per
 1,000 c. f.; industrial, 5c. and 10c.
 Value of gas supplied for year, \$8,500.
 Supplies Milton and vicinity.

Globe Fuel Co., Morgantown.

Capital stock, \$100,000.
 President, J. S. Kennedy.
 Vice-Pres., L. S. Brock.
 Secretary, M. T. Sisler.
 Treasurer, J. H. McGrew.
 Pur. agent, D. H. Courtney.
 Wells drawn from, 4.
 Wholesalers only.

Pentress Gas Co., Morgantown.

Capital stock, \$400,000
 Bonds, \$200,000; due 1930; int., 6 p. c.
 Pres. and mgr, J. H. McDermott.
 Purchasing agent, J. Read Miner.
 Wells drawn from, 17. Miles of pipe line, 14.
 Annual prod., 700,000,000 c. f.
 Value of gas supplied, for year, 42,000.
 Sells gas at wells.
 (No report, 1918.)

Randall Gas Co., Morgantown.

(Successor to Randall Gas and Water Co.)
 Capital stock, \$105,800.
 Annual dividend, 8 p. c.
 Bonds, \$60,000; due, 1920; int., 6 p. c.
 President, D. H. Courtney.
 Manager, Walter H. South.
 Purchasing agent, Walter H. South.
 Wells drawn from, 35. Miles pipe line, 62.
 Annual prod., 704,894,141 c. f.; gas purchased,
 203,188,194 c. f.
 Pop. dist. supplied, 15,000.
 No. domestic consumers, 1,279; manufac-
 tories supplied, 7.
 Price gas, per 1,000 c. f.; gross, domestic, 20c.
 industrial, 10c. per 1,000 c. f.
 Value of gas supplied, for year, \$113,346.35.
 Supplies Morgantown and Star City, W. Va.,
 and Taylortown, Dunkard, P. O., Pa.

West Virginia Traction and Electric Co., Morgantown.

Controlled by Eastern Power and Light Corp.
 (For capitalization, etc., see Appendix.)
 President, W. S. Barstow.
 Secretary, C. N. Wilson.
 Treasurer, A. P. Taliaferro.
 Manager, J. D. Whittemore.
 Superintendent, D. F. Dusenbury.
 69 acres owned; 16,850 acres leased in Greene
 Co. Pa., Monongalia and Marion Cos.,
 W. Va.
 Population, 18,000.
 Wells drawn from, 80 gas; 2 oil.
 Miles pipe line, 55.
 Annual prod., gas, 1,644,040,000 c. f.
 Gas purchased, 524,566,000 c. f.
 Max. days output crude oil, 5 bbls.

2 oil storage tanks, (wood); capacity, 250 bbls.
 No. domestic consumers, 2,730; manufac-
 tories supplied, 15.
 Price gas, gross, per 1,000 c. f., domestic,
 20c.; industrial, 10 to 15c.
 Value gas supplied, for year, \$261,059.28.
 Supplies Morgantown, W. Va., Point Marion,
 Pa.

Godfrey L. Cabot, Mt. Zion.

(See report under Cabot, Pa.)

New Cumberland Water and Gas Co., New Cumberland.

(Controlled by Manufacturers Light & Heat
 Company, whose report covers opera-
 tions of above company.
 Capital stock, auth., \$50,000; issued, \$25,000.
 President John E. Gill.
 Secretary and asst. treas., H. E. Seibert.
 Treasurer, G. W. Ratcliffe.
 Gen'l manager, T. O. Sullivan.
 Supplies New Cumberland.

D. B. Travis, New Milton.

General office, Blandville, W. Va.
 Manager, D. B. Travis.
 Wells drawn from, 1. Miles of pipe line, 2.5.
 Annual prod., gas, 2,657,000 c. f.
 No. domestic consumers, 27.
 Price of gas, gross, dom. 23c.; net, 21c.
 Value of gas supplied for year, \$557.97.
 Supplies New Milton.

Bills Oil and Gas Co., Parkersburg.

Office, 205 Fourth St.
 Capital stock, \$25,000.
 President, R. E. Bills.
 Manager, J. W. Roberts.
 Purchasing agent, R. E. Bills.
 Wells drawn from, 9. Miles pipe line, 5.

Chapman Oil and Gas Co., Parkersburg.

Capital stock, \$25,000.
 Annual dividend, 4 p. c.
 President, J. B. Chapman.
 Manager, and pur. agent, John B. Hofmeier.
 Wells drawn from, 1. Miles pipe line, 2.
 Annual prod., 50,000,000 c. f.
 No. domestic consumers, 25.
 Price of gas, gross, 5c.; net, 3c.
 Value of gas supplied, for year, \$1,500.
 Supplies Big Isaacs.

County Oil and Gas Co., Parkersburg.

Office, 505 Union Trust Bldg.
 Distributing center, Washburn P. O.
 Capital stock, \$10,000.
 President, C. E. Van Devener.
 Manager and pur. agent, J. M. Senseman.
 Treasurer, J. M. Senseman.
 Wells drawn from, 2.
 Sells to the Hope Natural Gas Co. at 3c. per
 1,000 c. f.
 Value of gas supplied, for year, \$360.68.

Hope Natural Gas Co., Parkersburg.

(See report under Pittsburgh, Pa.)

West Virginia Heat and Light Co., Pennsboro.

Capital stock, \$100,000.
 President, Tom G. Strickler.
 Manager and pur. agent, J. Scott.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Treasurer, E. E. Wells.
Wells drawn from, 15.
Miles pipe line, 60.
No. manufactories supplied, 5.
No. domestic consumers, 1,000.
Price gas, dom., per 1,000 c. f., 20c.; indus., 10c.
Value gas supplied, for year, \$22,000.
Supplies Pennsboro, Cairo, Ellenboro, Highland and Pike.

Point Pleasant Natural Gas Co., Pt. Pleasant.

General office, Pittsburg, Pa.
(Owned by the Ohio Fuel Supply Co.)
Capital stock, \$20,000.
President, Geo. W. Crawford.
Manager, J. M. Garard.
Sec'y and treas., H. C. Reeser.
Miles pipe line, 12.
Number domestic consumers, 400.
Price gas, gross, domestic, 27.5c. per 1,000 c. f.; industrial, 15c.
Supplies Pt. Pleasant.

Comet Oil and Gas Co., Pruntytown.

General office, Wheeling, W. Va.
Capital stock, \$100,000.
President, W. S. Brady.
Vice-pres., J. C. Brady.
Secretary, A. L. Metzener.
Treasurer, A. L. Metzener.
Manager and pur. agent, Boyd E. Hornor.
Superintendent, P. H. McGrady.
15,000 acres leased in Loyd, Harrison and Braxter Co., W. Va.
Wells drawn from, 32.
Miles pipe line, 25.
Annual production, 1,200,000,000 c. f.
Gas purchased, 33,000,000 c. f.
No. domestic consumers, 297.
No. manufactories supplied, 2.
Price gas, gross, domestic, 21c. per 1,000 c. f.; industrial, 13.5c.
Value of gas supplied, \$80,000.
Supplies Fetterman and Hazel Atlas Glass Co.

Mill Fork Oil and Gas Co., Rosedale.

Gen'l office, Charleston, W. Va.
Capital stock, \$25,000.
President, W. O. Abney.
Manager, E. J. Lynch.
Wells drawn from, 2.
Annual prod., 2,500,000,000 c. f.
Supplies Diamond Carbon Co., Clarksburg.

Salem Natural Gas Co., Salem.

(Controlled by Eastern Oil Co., Buffalo, N. Y.)
Office, 312 Fidelity Bldg., Buffalo, N. Y.
Capital stock, \$100,000.
President, H. A. Forman.
Manager, H. V. Thomas.
Pur. agent, F. D. Tracy.
Population, 2,000.
Wells drawn from, 7.
Miles of pipe line, 53 (includes main and field lines, and town plants.)
No. consumers, 590.
Price of gas, gross, domestic, 22c.
Supplies Salem and other small towns.

Home Petroleum and Natural Gas Co., Shinnston.

Capital stock, \$15,500.
President, R. R. Hardesty.
Manager and pur. agent, O. L. Nay.
Wells drawn from, 1 Miles pipe line, 18.

Annual prod., 75,000,000 c. f.
No. domestic consumers, 400.
No. manufactories supplied, 3.
Price gas, gross, domestic, 14c.; discount, 2 p. c.; industrial, 8c. and 6c.
Value of gas supplied, per year, \$11,000.
Supplies Shinnston, Wyatt and Peoria.

The Montgomery Gas Co., Shrewsbury.

General Office, Montgomery, W. Va.
Capital stock, \$150,000.
Annual dividend, 4 p. c.
President, Dr. O. J. Henderson.
Sec'y, treas., and mgr., Herman Moore.
Pur. agent, Herman Moore.
Wells drawn from, 5. Miles pipe line, 38.
Annual prod., 300,000,000 c. f.
No. dom. consumers, 800; manufactories, 4.
Price gas, gross, domestic, 25c. per 1,000 c. f.; industrial, 7c.
Value of gas supplied, for year, \$35,000.
Supplies Shrewsbury, Ward, Hinsford, Handley, Smithers, Cannellton, Pratt, Montgomery, Cedar Grove and Longacre.

Hope Natural Gas Co., Sistersville.

(See report under Pittsburgh, Pa.)

Sixteen Gas Co., Sistersville.

Gen'l office, Peoples' Gas Bldg.
Capital stock, \$4,800.
President, Manford Tuel.
Manager, Manford Tuel.
Sec'y and treas., D. E. Thoenen.
Pur. agent, D. E. Thoenen.
Wells drawn from, 2. Miles of pipe line, 4.
Annual prod., 40,000,000 c. f.
No. domestic consumers, 34; manufactories supplied, 1.
Price gas, gross, domestic, 20c; industrial, 14c. per 1,000 c. f.
Value of gas supplied, for year, \$1,200.
Supplies rural lines in Grandview Township, Washington County, O.

Light, Fuel and Power Co. of W. Va., Sutton.

Capital stock, \$250,000.
Bonds, \$100,000; int., 6 p. c.
President, John C. Wellwood, New York City.
Manager and pur. agent, A. Wellwood.
Miles pipe line, 25.
Gas purchased from Hope Natural Gas Co.
Amount purchased for year, 87,498,000 c. f.
No. consumers, 592.
Price of gas, gross, domestic and industrial, 25c. per 1,000 c. f.
Value of gas supplied, for year, \$21,393.45.
Supplies Burnesville, Cogor, Rollyson, Heat ers, Berry Siding, Shaversville, Flatwoods, McNutt and Sutton, and furnishes gas to Gassaway Gas Co.

Troy Oil and Gas Co., Troy.

Capital stock, pref., \$10,000; com., \$5,000.
President, C. M. Bennett.
Mgr. and pur. agent, W. W. Heckert.
Wells drawn from, 1. Miles of pipe line, 1.
Annual prod., 3,000,000 c. f.
No. dom. consumers, 150.
Price gas, gross, dom., 22c. per 1,000 c. f.
Value gas supplied, for year, \$600.
Supplies Troy.

HUNT PIVOTED BUCKET CONVEYORS have been designed for handling coal, coke, etc., with minimum attendance and at minimum expense. Our engineers have made a special study of gas works problems, and will help you select equipment for your individual requirements. Write for Catalogue N15-4.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Belvard Oil and Gas Co., Wayne.

Capital stock, \$150,000.
 President, B. J. Prichard.
 Manager and pur. agent, B. J. Prichard.
 Wells drawn from, 13.
 Annual prod., 600,000,000 c. f.
 Miles pipe line, 6.
 Value of gas supplied, for year, \$15,000.
 All production sold to United Fuel and Gas Co., to supply Louisville, Ky., and Central Kentucky towns and cities.

Central Wayne Oil and Gas Co., Wayne.

Capital stock, \$100,000.
 President, B. J. Prichard.
 Manager and pur. agent, B. J. Prichard.
 Wells drawn from, 5.
 Miles of pipe line, 2.
 Value of gas supplied, for year, \$5,000.
 All production sold to United Fuel Gas Co. to supply Louisville, Ky., and cities and towns in Central Kentucky.

Wayne Light, Heat and Water Co., Wayne.

Capital stock, \$30,000.
 Annual dividend, 10 p. c.
 President, H. H. Johns.
 Manager and pur. agent, B. J. Prichard.
 Wells drawn from, 2.
 Miles pipe line, 4.
 Number domestic consumers, 100.
 Price gas, gross, domestic, 27c. per 1,000 c. f.
 Supplies Wayne.

Keener's Oil, Natural Gas and Fuel Co., Weston.

Capital stock \$300,000.
 President and manager, Geo. I. Keener.
 Purchasing agent, Geo. I. Keener.
 Gas purchased from Clarksburg Light & Heat Co.
 Miles of pipe line, 25.
 No. of domestic consumers, 1,600.
 No. manufactories supplied, 24.
 Price gas gross, domestic, per 1,000 c. f., 12c.; industrial 4.5c.
 Value gas supplied, for year, \$64,000.
 Supplies Weston and suburbs.

Weston Gas Co., Weston.

(Purchased by Keener's Oil, Natural Gas and Fuel Co.)

West Union Gas Co., West Union.

Controlled by Eastern Oil Co.
 Gen. office, 312 Fidelity Bldg., Buffalo, N. Y.
 Capital stock, \$100,000.
 President, H. A. Forman.

Manager, H. V. Thomas.

Purchasing agent, F. D. Tracy.

Wells drawn from, 5.

Miles of pipe line, 18 (includes main and field lines, and town plants.)

No. consumers, 560.

Price of gas, gross, domestic, 20c.

Supplies West Union and Smithburg.

City and Suburban Gas Co., Wheeling.

Controlled by West Virginia Traction and Electric Co.

Capital stock, pref., \$100,000; com., \$50,000

Annual dividend, pref., 7 p. c.

Bonds, 587,000; due, 1932; int., 6 p. c.

President, J. D. Whittemore.

Vice-president, J. B. Taylor.

Secretary, C. N. Wilson.

Treasurer, J. P. Campbell.

Asst. sec'y and treas., E. R. King.

Pur. agent, E. Eberlein.

Manager, J. D. Whittemore.

Chief engineer, G. R. Rinke.

Superintendent, I. Tuttle.

24 acres owned; 9,690 leased in Marshall Co. W. Va. and Greene Co., Pa.

Wells drawn from, 38 gas; 5 oil.

Miles pipe line, 50.

Annual prod. crude oil, 5,597 bbls.

Max. days output, crude oil, 20 bbls.

Annual prod. gas, 685,263,000 c. f.

Gas purchased, 77,112,000 c. f.

Oil storage tanks: 5 wood; 1 steel,

Cadacity of tanks: Wood, 250 bbls.; steel 65 bbls.

Annual sales, crude oil shipments, 5,597 bbls

No. dom. consumers, 1,667.

Price gas, gross, dom. and indus., 25c. per 1,000 c. f.

Value of gas supplied, for year, \$124,993.35.

Supplies Fulton, Leatherwood, Woodsdale,

Edgewood, Pleasant Valley, Elm Grove

Patterson City of Wheeling, W. Va. and

Martins Ferry, Ohio.

Natural Gas Co. of West Virginia. Wheeling.

General office, 323 Fourth Ave., Pittsburgh Pa.

Capital stock, \$2,000,000.

President, G. F. Batchelor.

Secretary and treas., W. A. Sprenkle.

No. dom. consumers, 21,138; indus., 173.

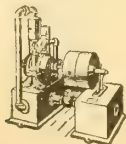
Supplies Wheeling and suburbs in W. Va.; country districts in Pennsylvania; Salem, Leetonia, Lisbon, Sebring, Minerva and other towns in Ohio.

WYOMING**Occidental Oil & Gas Co., Byron.**

Executive office, Williamsport, Pa.
 (Began operations, 1918.)
 President, James McDade.
 Secretary, W. S. Hoskins.
 Treasurer, N. B. Bubb.
 Pur. agent and gen'l mgr., W. S. Hoskins.
 1,200 acres leased near Byron, Wyo.
 Well pressures, 500 lbs.
 Miles gas pipe line, 6.

Utah-Wyoming Consolidated Oil Co., Byron.

Office, McKentyre Bldg., Salt Lake City, Utah
 Capital stock, auth., \$1,000,000; iss'd, \$560,000
 President, F. J. Pack.
 Secretary, T. J. Warlton.
 Fiscal agent, W. T. Lamoureux.
 Superintendent, F. Kohler.
 160 acres owned; 240 acres leased, in Byron Wyo. Miles of pipe line 7.
 Daily sale, gas, approx., 7,000,000 c. f.



INCREASE PRODUCTION BY EFFICIENT APPLICATION. THE NEEDHAM HIGH PRESSURE GAS SYSTEM has demonstrated by high efficiency other fuels can be permanently displaced without increasing manufacturing costs.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

No. prod., gas wells, 3.
Well pressures, 400 to 800 lbs.
Miles gas pipe line, 7.
Annual production, 67,000,000 c. f.
Contract to deliver 7,500,000 c. f. daily, to gasoline and carbon-black plant, when plant is completed.

Lovell Gas and Electric Co., Lovell.

Capital stock, \$100,000.
President, A. B. Cross.
Sec'y and treas, J. M. B. Petriken.

Manager and pur. agent, R. E. Richardson.
120 acres owned in Garland Dome, Big Horn Co., Wyo.
Wells drawn from, 3. Well pressures, 450 lbs.
Miles of pipe line, 20.
Annual prod., gas, 169,000,000 c. f.
Pop. dist. supplied, 2,500.
No. dom. consumers, 309.
No. manufactories supplied, 2.
Price gas, gross, dom., 25c. per 1,000 c. f.; indus., sliding scale.
Supplies Lovell and Byron.

CANADA

Bow Island Gas Plant, Bow Island, Alberta.

(Municipal plant.)
Bonds, \$65,000; due 1943; int. 6 p. c.
Wells drawn from, 1.
Miles of pipe line, 5.
Annual prod., 5,000,000 c. f.
Gas purchased, 37,000,000 c. f.
Pop. dist. supplied, approx., 500.
No. dom. consumers, 150.
Price gas, gross, dom., 20c. per 1,000 c. f.
Value of gas supplied, for year, \$7,400.
Supplies town of Bow Island.

Calgary Gas Co., Ltd., Calgary, Alberta.

(Controlled by The Canadian Western Natural Gas Light, Heat & Power Co., Ltd.)
Capital stock, \$2,000,000.
Debenture obligation, \$1,000,000.
President and managing dir., Eugene Coste.
Secretary, Dillon Coste.
Treasurer, H. S. Tims.
Gen'l superintendent, H. B. Pearson.
Miles of pipe line, 113.
No. dom. consumers, 7,500.
No. power consumers, 34.
Price gas, gross, dom., 35c. per 1,000 c. f.; power price, 20c. to 15c.
Value gas supplied for year, \$845,832.
Gas purchased from the Canadian Western Natural Gas Light, Heat & Power Co.
Supplies Calgary.

Canadian Western Natural Gas, Light, Heat and Power Co., Ltd., Calgary, Alberta.

Head office, 215 Sixth Ave., West.
Capital stock, \$8,000,000.
Debenture bonds, \$4,499,992; due, 1936; int., 5 p. c.
President and managing dir., Eugene Coste.
Secretary, Dillon Coste.
Treasurer, H. S. Tims.
General superintendent, H. B. Pearson.
Wells drawn from, 22.
Miles pipe line, 300.
Annual prod., 3,882,098,000 c. f.
Pop. dist. supplied, 100,000.
No. consumers, 8,800.
No. power consumers, 47.
Price gas, domestic, 35c. per 1,000 c. f.; power, 20c. to 5c.
Value gas supplied, for year, \$991,320.
Supplies Calgary, Lethbridge, Granum, Okotoks, Claresholm, Nanton, Macleod, Dunmore, Sandstone, Tregillus, Bowness and Brooks.

Northern Alberta Natural Gas Development Co., Edmonton, Alberta.

Managing director, Eugene Coste.
Secretary, H. H. Hyndman.
Price gas, gross, dom., 25c. to 15c.; indus., 15c. per 1,000 c. f.
(Company not yet in operation, Feb. 1918.)

City of Medicine Hat Gas Department., Medicine Hat, Alberta.

(Municipal plant.)
Mayor, A. C. Hawthorne.
Supt. gas dept., G. R. Taylor.
Wells drawn from, 14. Miles pipe line, 48.5.
Annual prod. 120,000,000 c. f.
No. domestic consumers, 2,500; manufactories supplied, 20.
Price gas, gross, domestic, 20c. per 1,000 c. f.; industrial, 5c. per 1,000.
Value gas supplied, for year, \$105,000.
Supplies Medicine Hat.

Canadian Western Power and Fuel Co., Redcliff, Alberta.

(Successor to Redcliff Light & Power Co., Ltd.)
President, W. H. McLaws.
Managing director, Geo. A. MacKenzie.
Manager, B. J. Bott.
Wells drawn from, 4. Miles pipe line, 21.
Annual production, 370,000,000 c. f.
No. domestic consumers, 315; factories, 7.
Price gas, gross, domestic, 15c. per 1,000 c. f. net, 13.5c.; industrial, 2.5c.
Value of gas supplied, for year, \$35,000.
Supplies Redcliff.
(Company has franchise for electric plant, but none installed as yet.)

Moncton Tramways Electricity and Gas Co., Ltd., Moncton, New Brunswick.

Gen. office, Farmers Bank Bldg., Pittsburgh, Pa.
Capital stock, auth., \$1,500,000, issued, \$1,125,400.
Bonds, \$371,500; due, 1932; int., 6 p. c.
President, Robt. Law, Jr.
Secretary and treas., E. O. Bartlett.
Manager, E. B. Reeser.
Wells drawn from, 16.
Miles pipe line, 60.
Annual sales, 581,049,000 c. f.
No dom. consumers, 2,399; factories, 50.
Price gas, gross, domestic, 38c. per 1,000 c. f.; industrial, 25c. per 1,000 c. f.
Value of gas supplied for year, \$189,939.98.

SCIENTIFIC TESTING OF NATURAL GAS for gasoline content is very essential to insure the proper plant installation. Consult our Chemical Engineering Department.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Supplies Moncton, N. B. and suburbs; Hillsboro, N. B. Gas is delivered to this Company at the wells, by the Maritime Oil Fields, Ltd.

Medina Natural Gas Co., Ltd., Aylmer, Ontario.

General office, Chatham, Ont.
Capital stock, \$500,000.
Bonds, \$59,100; due, 1922; int., 6 p. c.
President, R. L. Pattinson.
Manager, W. G. Ryan.
Pur. agent, W. G. Ryan.
Wells drawn from, 23. Miles pipe line, 14.
Annual prod., 140,179,000 c. f.
No. domestic consumers, 991; manufactories, 6.
Price gas, gross, 35c. per 1,000 c. f. Disc., 5 p. c.
Value of gas supplied, for year, \$52,000.
Supplies Aylmer, Vienna, Port Burwell.

The Brantford Gas Co., Brantford, Ontario.

(Operated by Doherty Organization.)
Controlled by Dominion Gas Co.
Capital stock, auth., \$200,000.
Annual dividend, 8 p. c.
Bonds, \$85,000; due 1924; int., 5 p. c.
President, Henry L. Doherty.
1st Vice-pres., F. M. Lowry.
2d Vice-pres., F. W. Frueauff.
Sec'y and treas., J. A. Richie.
Gas supplied by the Dominion Nat. Gas Co.
Population district supplied, 26,600.
Miles of pipe line, 58.8.
No. domestic consumers, 5,515; manufactories supplied, 68.
Price of gas, gross, 37.5c.
Annual sales, 365,679,000 c. f.
Supplies Brantford.

Standard Natural Gas Co., Ltd., Cainsville, Ontario.
(Purchased by Dominion Natural Gas Co., Lt.)

Hendee Gas Co., Cayuga, Ontario.

Subsidiary of Dominion Natural Gas Co.
President and mgr., J. V. Fradenburgh.
Wells drawn from, 6. Miles of pipe line, 1.
Annual prod., 24,512,331 c. f.
Value gas supplied, for year, 3,186.56.

Chatham Gas Co., Ltd., Chatham, Ontario.

(Gen'l office, 307 King St., West.)
Capital stock, \$134,400.
Annual dividend, 7 p. c.
Bonds, \$200,000; due, 1927; int., 5 p. c.
President, J. E. Murphy.
Sec'y and treas., P. S. Coate.
Manager, P. S. Coate.
Pur. agt., F. Hayes.
Superintendent, John Head.
Field, Tilbury Twp., Kent County.
Wells drawn from, 60. Miles pipe line, 18.
Pop. dist. supplied, 13,000.
No. domestic consumers, 3,000; manufactories supplied, 50.
Price gas, per 1,000 c. f., domestic, 30c. and 25c.; industrial, 15c., gross; 12c. net.
Value of gas supplied, for year, \$229,000.
Supplies Chatham.

Independent Natural Gas Co., Ltd., Dunnville, Ont.

Capital stock, \$200,000.
President, F. R. Lalor.
Manager and pur. agent, W. J. Aikens.

Wells drawn from, 30. Miles pipe line, 10.
Annual production, 150,000,000 c. f.
Number manufactories supplied, 2.
Price gas, gross, 16c. to 20c.
Value of gas supplied, for year, \$26,000.
Gas sold in Dunnville and St. Catharines.

Glenwood Natural Gas Co., Ltd., Glenwood, Ontario.

Subsidiary of Cities Fuel and Power Co.
(Operated by the Doherty Organization.)
Capital stock, \$750,000.
President, F. M. Lowry.
Vice-president, F. W. Frueauff.
Sec'y and treas., Jas. A. Richie.
Producing company supplying gas to the Southern Ontario Gas Co., Ltd.

Dominion Natural Gas Co., Ltd., Hamilton, Ontario.

Capital stock, auth., and outstanding \$1,250,000.
President, J. C. McDowell.
Vice-presidents, F. M. Lowry, F. W. Frueauff.
Secretary and treas., J. A. Richie.
Assistant secretary, H. W. Braden.
Pop. dist. supplied, 139,950.
Wells drawn from, 510.
Miles pipe line, 659.9.
Price gas, per 1,000 c. f., gross, domestic 24c. to 32c.; industrial, 25c. to 35c.
No. consumers, 29,488.
Supplies Hamilton, Brantford, Galt, Paris, St. George, Dundas, Binbrook, Bartonville, Dunnville, Cayuga, Selkirk, Jarvis Hagersville, Vittoria and Simcoe, Lyndoch, Vienna, Tillsonburg, Delphi Pt. Dover, Pt. Rowan, Walpole, Rainham, Canboro.

The Manufacturers Natural Gas Co., Ltd., Hamilton, Ontario.

Subsidiary of Cities Fuel and Power Co.
(Operated by the Doherty Organization.)
Capital stock, \$200,000.
President, John Milne.
Vice-president, William Southam.
Secretary, F. A. Magee.
Treasurer, W. G. Walton.
Gas purchased from Dominion Natural Gas Co., Ltd.
Miles of pipe line, 5.64.
No. domestic consumers, 331; industrials, 30.
Price of gas, gross, dom. 40c.; indus. varies. 25c. to 30c.
Annual sales, 2,017,108,000 c. f.
Supplies industrial companies in Hamilton and Hagersville.

National Gas Co., Ltd., Hamilton, Ontario.

Office, 503 Bank of Hamilton Bldg.
Capital stock, auth., \$500,000; issued, \$325,000.
President and manager, R. F. Miller.
Secretary and treas. J. W. Sutherland.
Purchasing agent, R. F. Miller.
Wells drawn from, 72.
Miles pipe line, 50.
Annual prod., 133,170,000 c. f.
Pop. dist. supplied, 125,000.
No. dom. consumers, 39; manufactories, 2.
Price gas, gross, domestic, 42.5c. per 1,000 c. f.; net, 37.5; industrial, 25c.
Value of gas supplied, for year, \$25,109.
Supplies Hamilton.

GAS EXHAUSTERS

Greatest Net Output



GAS BOOSTERS

For Industrial Appliances

Producers Natural Gas Co., Ltd., Hamilton, Ontario.
(Merged with Dominion Natural Gas Co.)

Southern Ontario Gas Co., Ltd., Hamilton, Ontario.
(Operated by Doherty Organization.)
Capital stock, \$4,000,500.
Bonds, \$3,984,000; due 1953; interest, 5 p. c.
President J. C. McDowell.
Vice-president and mgr., F. M. Lowry.
Sec'y and treas., James A. Richie.
Miles of mains, 210.59.
No. consumers, 1,623.
Price of gas, gross, dom. 27c.; indus. 18c.
Annual sales, 3,044,178,000 c. f.
Supplies Dominion Nat'l Gas Co., Woodstock
Natural Gas Co., Manufacturers' Natural
Gas Co., Brantford Gas Co., Ingersoll Gas
Co., Paris Gas Co. and Galt Gas Co.
Company has local franchises in Aldbor-
ough, Dunwich, Harwich and Raleigh,
Ontario.

United Gas and Fuel Co. Ltd., Hamilton, Ontario.
General office, 72 James St. N.
Capital stock, \$1,000,000.
Bonds, \$942,600; due, 1918; int., 6 p. c.
President, P. V. Byrnes.
Secretary, F. A. Brevillies, Erie, Pa.
Treas., mgr. and pur. agent, P. V. Byrnes.
Gas purchased from Dominion Natural Gas
Co., 1,222,021,000 c. f.
Miles pipe line, 165 (natural); 62 (artif.)
Population of city, 110,000.
No. domestic consumers, 18,761; factories, 47.
Price gas, gross, domestic, per 1,000 c. f. 45c.;
industrial, 45c.
Value of gas supplied, for year, \$490,031.
Supplies Hamilton.
(See Artificial Gas Dept. also.)

Ingersoll Gas Light Co., Ingersoll, Ontario.
Controlled by Dominion Gas Co.
Operated by Doherty Organization.
Capital stock, \$40,000.
Bonds, \$30,000; due 1926; int. 5 p. c.
President, F. M. Lowry.
Manager, F. M. Lowry.
Secretary and treas., J. A. Richie.
Miles of pipe line, 24.3.
Gas furnished by Southern Ontario Gas Co.,
Ltd.
No. domestic consumers, 1,250.
Price of gas, gross, dom., 37c. per 1,000 c. f.;
industrial, 25c.
Annual sales, approx., 253,756,000 c. f.
Supplies Ingersoll.

Beaver Oil and Gas Co., Ltd., Kingsville, Ontario.
Controlled by Dominion Gas Co.
Operated by Doherty Organization.
Office, Brantford, Ont.
Capital stock, com., auth., \$175,000; issued,
\$162,300; pref., \$75,000.
President, Henry L. Doherty.
Vice-pres., F. M. Lowry.
Wells drawn from, 18. Miles pipe line, 73.2.
No. domestic consumers, 1,315; factories, 32.
Price gas, gross, dom., 24.5c. per 1,000 c. f.;
indus., 17.5c.
Annual sales, approx., 771,216,000 c. f.
Supplies Kingsville, Leamington, Wheatley,
Herrod and Ruthven.

The Northern Pipe Line Co., Niagara Falls, Ontario.
Capital stock, \$300,000.
President, F. E. Ogden.
Manager, D. A. Coste.
Sec'y and treas., D. A. Coste.
Supt., F. W. James.

**The Provincial Natural Gas and Fuel Co., of Ontario,
Ltd., Niagara Falls, Ontario.**
Capital stock, \$600,000.
President, Hon. Peter McLaren.
Manager, D. A. Coste.
Wells drawn from, 225.
Annual production, 675,450,000 c. f.
No. dom. consumers, 5,838; factories, 27.
Price of gas, 42c., gross, 40c. net.
Value of gas supplied, for year, \$246,935.23.
Supplies Bridgeburg, Fort Erie, Niagara Falls
Sherkston and Welland.

Tilbury Town Gas Co., Ltd., Niagara Falls, Ontario.
General office, 20 Erie Ave.
Capital stock, \$40,000.
Bonds, \$20,000; due, 1923; int., 6 p. c.
President, A. S. Rogers.
Sec'y and treas., D. A. Coste.
Manager, D. A. Coste.
Superintendent, F. W. James.
Supplies Tilbury.

The Volcanic Oil and Gas Co., Niagara Falls, Ontario.
Capital stock, \$3,000,000.
President, Eugene Coste.
Sec'y and treas., S. A. Morse.
Manager, D. A. Coste.

**The Union Natural Gas Co. of Canada, Ltd., Niagara
Falls, Ontario.**
Capital, \$6,000,000.
President, A. S. Rogers.
Secretary and treas., S. A. Morse.
Gen'l manager, D. A. Coste.
Supt. F. W. James.
Supplies Windsor, Chatham, Sarnia, Petro-
lia, Ridgetown, Blenheim, Essex, etc.

**Oil Springs Oil and Gas Co., Ltd., Oil Springs,
Ontario.**
Capital stock, \$40,000.
President and treas., A. W. Parks.
Manager, James S. Monroe.
Purchasing agent, James S. Monroe.
1,200 leased in Enniskillen and Down Twps.
Wells drawn from, 5.
Miles pipe line, 7.
Annual prod., 75,000,000 c. f.
Pop. dist. supplied, 1,000.
No. domestic consumers, 204; factories, 14.
Price gas, gross, domestic, 40c. per 1,000 c. f.,
winter, 35c.; industrial, 25c. per 1,000 c. f.,
discount, 5 p. c.
Value of gas supplied, for year, \$14,638.
Supplies Oil Springs.

National Gas Co., Ltd., of Canada, Ottawa, Ontario.
Office, Booth Building.
Capital stock, \$125,000.
President, Andrew Pritchard.
Sec'y and treas., Wellington Bradley.
Manager, Arthur Ryan.
Wells drawn from, 2.
Daily production, 1,000,000 c. f.

BLOWERS
*For Industrial
Appliances*



P.H. & F.M. ROOTS CO.
Connersville
Indiana
New York
Chicago

Oxford Oil and Gas Co., Ltd., Oxford, Ontario.

Office, Brantford, Ont.
 Capital stock, common, \$250,000.
 President, John R. Howey.
 Manager, A. L. McPherson.
 Wells drawn from, 5. Miles of pipe line, 2.5.
 Price of gas, gross, domestic, 25c. per 1,000 c. f.
 No. domestic consumers, 60.
 Value gas supplied, for year \$800.
 Will supply Woodstock.

Petrolia Utilities Co., Ltd., Petrolia, Ontario.

(Operated under name of Petrolia Gas Co., Ltd.)
 Capital stock, \$60,000.
 Dividend paid, 7 p. c.
 President, J. J. Ashworth.
 Vice-president, M. Chapman.
 Treasurer, R. E. Young.
 Gen. mgr. and pur. agent, F. W. Coleman.
 New business manager, F. W. Coleman.
 Gas purchased from Union Natural Gas Co. of Canada.
 Pop. dist. supplied, 3,500.
 Miles pipe line, 9.5.
 No. dom. consumers, 751; manufactories, 42.
 Price gas, domestic, 35c. per 1,000 c. f.; manufacturing, 15c. to 17c.; gas engines, 25c.; heating blocks, 25c. and 20c.; churches, 25c.
 Value of gas supplied, for year, \$60,700.51.
 Supplies Petrolia.
 Ontario Hydro Commission supplies power to municipality.

The Port Colborne-Welland Natural Gas and Oil Co., Ltd., Caledonia, Ontario.

General office, Port Colborne, Ont., Canada.
 Capital stock, \$40,600.
 President, J. H. Smith.
 Manager and purchasing agent, J. H. Smith.
 Secretary and pur. agent, F. K. Brown.
 Wells drawn from, 25. Miles pipe line, 20.
 No. domestic consumers, 425; manufactories supplied, 1.
 Price of gas, gross, domestic and industrial, 25c.
 Value of gas supplied, for year, \$18,000.
 Supplies Caledonia, in the county of Haldimand.

Sterling Gas Co., Ltd., Port Colborne, Ontario.

Capital stock, \$100,000.
 President, M. A. Reeb, (Buffalo, N. Y.)
 Manager, C. E. Steele.
 Pur. agent, C. E. Steele.
 Wells drawn from, 60. Miles pipe line, 65.
 No. domestic consumers, 978.
 No. manufactories supplied, 2.
 Price of gas, gross; domestic, 42c. per 1,000 c. f.; industrial, 32c.
 Value gas supplied, for year, \$32,460.
 Supplies Port Colborne, Humberstone Villages and Humberstone Wainfleet and Moulton Townships.

Bertie Natural Gas Co., Ltd., Ridgeway.

Capital stock, \$8,000.
 President, M. V. Disher.
 Sec'y and treas., M. H. Hibbard.
 Gen'l. mgr., I. L. Pound.
 Field in Twp. of Bertie, Welland Co., Ont.

Gas wells drawn from, 8.
 Well pressures, 35 to 40 lbs.
 Miles gas pipe line, 3.75.
 Annual production, gas, 13,996,400 c. f.
 Pop. district supplied, 500.
 No. domestic consumers, 145.
 Price gas, gross, domestic, 43c., less 3c.
 (Price 30c. and 40c. in 1917.)
 Value of gas supplied, for year, \$4,528.92.
 Supplies Ridgeway.

The Public Utilities Commission of the City of St. Catharines.

RRs.: Niag., St. C. & T.; Gr. Trunk. S. Bs.; Mer. & Mont. Line; Strs. bet. Montreal and Toronto. Ex.: Can.; Dom.

(Municipal plant.)

Bonds, \$80,000.
 Manager, P. B. Yates.
 Engineer, F. M. Servos.
 New bus. mgr., Geo. Montgoméry.
 Superintendent, James Finley.
 Artificial plant for emergency only.
 Gas purchased 50,000,000 c. f.
 Max. day's send out, 120,000 c. f.
 Gas holder capacity, 90,000 c. f.
 Holder pressure, 3.2 in.
 Miles of mains, approx., 26.5.
 Street main pressure, max. 3.5 in.; min. 2 in.
 Annual sales, approx., 55,000,000 c. f.
 Gas unaccounted for, 25 p. c.
 Pop. dist. supplied, est. 20,000; of city, the same.
 No. consumers, 650.
 No. meters, reg., 630; prepay., 20.
 Price gas: Light and Fuel, gross \$1.10; net. \$1.
 No. gas ranges in use, 550; heaters 200; water heaters, 350.
 Supplies St. Catharines.

ELECTRICAL DEPARTMENT

Capital apportioned to electric plant, approx. \$220,000.
 System operated: incand., 25 cycle power, 3 phase.
 Voltage: incand., 110-220; power, 220 and 550.
 Price current per kw. hr. gross, dom. 2.25c. for initial consumption 1.125; for excess service charge 3c. per 100 sq. ft.; commercial, 4c. for 1st 30 hrs. use; 1.5c. for next 10 hrs.; 15c. all over.
 Power prices: 1.2c. per kw. hr. for 1st 50 hrs. use; .8c. for next 50 hrs use; .12c. for remainder.
 Generating power: rated h. p. 4,600.
 No. consumers, 3,200.
 Power purchased from Hydro Electric Power Commission of Ontario.

Relief Gas Co., Ltd., St. Catharines, Ontario.

Office, Bank of Nova Scotia Bldg.
 Capital stock, \$50,300.
 President, J. N. Walker.
 Sec'y and treas., Arthur Sylvain.
 Man. and pur. agent, Arthur Sylvain.
 Superintendent, H. Swayze.
 1,000 acres retained in Counties of Gainsboro and Wainfleet.
 Wells drawn from, 14.
 Well pressures, 30 to 65 lbs.
 Miles of pipe line, 35.



Tycos Temperature Instruments

INDICATING—CONTROLLING—RECORDING
 Catalogue 600 Describes instruments especially for Gas Works

Taylor Instrument Companies Rochester N. Y.



Annual prod., gas, 47,282,341 c. f.
 Pop. dist. supplied, 18,000.
 No. dom. consumers, 610.
 Price of gas, gross, dom., 40c. per 1,000 c. f.
 Value of gas supplied, for year, \$19,075.07.
 Supplies St. Catherines, Fenwick, Fonthill,
 Ridgeville, and Pelham Section.

The United Gas Companies, Ltd., St. Catherines, Ont.

Controlled by Dominion Gas Co.
 Operated by Doherty Organization.
 Capital stock, \$300,000.
 President, F. W. Frueauff.
 Vice-pres. and manager, F. M. Lowry.
 Sec'y and treas., J. A. Richie.
 Wells drawn from, 50.
 Miles pipe line, 81.7.
 No. domestic consumers, 3,424; factories, 10.
 Price of gas, dom., 50c.; indus., 35c.
 Supplies St. Catherines, Thorold and Fenwick.

Sarnia Gas Co., Ltd., Sarnia; Ontario.

Capital stock, \$150,360.
 Annual dividend, 12 p. c.
 President, D. Milne.
 Vice-pres., W. B. Collins.
 Secretary and treasurer, J. B. Williams.
 Pur. agent and gen. mgr., W. Williams.
 (Gas obtained from Union Natural Gas Co.)
 Miles of pipe line, approx., 69.
 Annual sales approx., 868,702,500 c. f.
 Pop. dist. supplied, 13,000.
 No. domestic consumers, 3,800.
 No. manufactories supplied, 50.
 Price of gas dom., gross, 30c. per 1,000 c. f.;
 industrial, 15c. to 13.5c.
 Value of gas supplied, for year, \$220,000.
 Supplies Sarnia and village of Point Edward.

United Fuel Supply Co., Ltd., Sarnia, Ontario.

Capital stock, common, \$6,000,000.
 President, Perry A. Little.
 Secretary and treas., S. L. McKay.
 Manager and pur. agent, S. L. McKay.
 This is a holding company owning 45 p. c.
 of the stock of the Union Natural Gas
 Co., of Canada. (See Niagara Falls.)

Wallaceburg Gas Co., Ltd., Wallaceburg, Ontario.

Capital stock, \$150,000.
 President, W. W. Hay.
 Vice-pres., W. H. Mitchell.
 Manager and pur. agent, G. F. Glassford.
 (Supplied from the Union Natural Gas Co's.
 wells.)
 Miles pipe line, 18.
 Pop. dist. supplied, 4,000.
 No. dom. consumers, 1,050; manufactories, 6.
 Price gas, domestic, 35c. net for 7 summer
 mos., 30c. for 5 winter mos.; industrial,
 15c. to 25c.
 Value of gas supplied, for year, \$60,000.

American-Canadian Oil & Gas Co., Wellandport.

Office, 302 Broadway, New York, N. Y.
 Capital stock, \$1,000,000.
 President, Theodore C. Atchison.
 Secretary, M. Boyle.
 Treasurer, John W. Roddy.
 General mgr., Jas. A. Ross, Wellandport.
 Superintendent, I. N. March, Petroleum, Ky.
 8,735 acres leased, in Haldimand and Lincoln
 Counties, Ont.; Marion Co., La.; Allen,
 Adair, Cumberland, Taylor, Marion and
 Green Co., Ky.
 Oil wells drawn from, 4.
 Miles of oil pipe line, 2.
 Gas wells drawn from, 4.
 Miles of gas pipe line, 5.
 Well pressures, 650 lbs.
 Annual production, crude oil, 25,000 bbls.
 Annual production, gas, 37,000,000 c. f.
 Max. day's output, crude oil, 70 bbls.
 Average price per bbl. \$2.25.
 No. of oil storage tanks: steel 2; capacity, 250
 bbls.
 Annual sales, crude oil: shipments, 25,000
 bbls.
 Pop. district supplied, 250,000.
 No. domestic consumers, 150.
 Price of gas, gross, domestic, 50c. per 1,000 c. f.
 Value of gas supplied, for year, \$15,000.
 Supplies Wellandport, Ont. and pipe line.

Windsor Gas Co., Limited, Windsor, Ontario.

(Controlled by The Dominion Trac. & Ltg.
 Co., Ltd.)
 Capital stock, \$200,000.
 Bonds, \$200,000; due, 1934; int., 5 p. c.
 President, T. P. Pinkard.
 Treasurer, Gordon D. Wickett.
 Superintendent, R. B. Kilpatrick.
 Wells drawn from, 88. Miles pipe line, 55.
 Gas purchased, 2,640,000,000 c. f.
 Pop. dist., supplid, 45,000.
 Price gas, domestic, 30c. up to 300,000 c. f.;
 300,000 to 500,000, 15c.; 500,000 or more, 12c.
 No. dom. consumers, 7,500; industrial, 200.
 Value of gas supplied, for year, \$425,000.
 Supplies City of Windsor, towns of Walker-
 ville, Sandwich and Ford City.

Woodstock Gas Light Co., Woodstock, Ontario.

Controlled by Dominion Gas Co.
 Operated by Doherty Organization.
 Capital stock, auth., \$150,000; issued, \$86,120.
 Bonds, \$50,000; due 1923; int., 5 p. c.
 President, H. L. Doherty.
 Vice-president, F. W. Frueauff.
 Vice president and gen'l mgr., F. M. Lowry.
 Secretary and treas., J. A. Richie.
 Miles of mains, 44.
 Gas purchased from Southern Ontario Gas
 Co., Ltd.
 No. consumers, 2,145.
 Price of gas, dom., 38c.; indus., 28c.
 Supplies Woodstock.



1803

1918

R. D. WOOD & CO., PHILA., PA.

HOLDERS, CAST IRON PIPE,
 SCRUBBERS, CONDENSERS, ETC.

1803

1918



ACETYLENE TOWN PLANTS

ALABAMA.

Acetylene Gas Plant, Livingston.

Capital stock, issued, \$5,000.
Annual dividend, $7\frac{1}{2}$ per cent.
President, M. E. McConnell.
Sec'y and treas., M. E. McConnell.
Pur. agent and supt., M. E. McConnell.
Manager, J. O. Phillips.
Process, Acetylene; Davis generator.
Pop. district supplied, 1,000. Meters, 40.
Miles of mains, approx., 2.5; 2 in.
Carbide consumed at rate of 1 ton every 15 days.
No. public lamps, 14. Price per year, \$42.20.
Consumption, 0.5 c. f. per burner hour, residence; 2 c. f. street lamps.
Contract includes repairs, care, lighting and extinguishing.
Lamps lighted per year until 10 o'clock winter; 11 o'clock summer.
Supplies Livingston.

COLORADO.

Burlington Gas & Electric Co., Burlington.

Capital stock, \$10,000.
Bonds, \$9,500; due 1934; int., 6 p. c.
President and pur. agt., Stanley M. Barrows, Denver, Colo.
Secretary, Wm. R. Shaw.
Treasurer, John D. Cummings.
Process Acetylene.
Pop. dist. supplied, 1,000.
Miles of mains, 4.
Price of gas to consumers, \$2 per 100 c. f.
Supplies Burlington.

The Castle Rock Light, Heat and Power Co., Castle Rock.

Capital stock, \$5,000.
President, Jas. E. Fetherolf.
Secretary Henry Fetherolf.
Treas. and pur. agent, Jas. E. Fetherolf.
Superintendent, Jas. E. Fetherolf.
Process manuf., Acetylene; Eagle generator.
Pop. dist. supplied, 350. No. meters, 40.
Miles of mains, approx., 2; 2 in. and 1; 5 in.
Amount of carbide consumed, 8 tons.
Price gas, gross, per 100 c. f., \$2.; net, \$1.80.
Annual sales, approx., 60,000 c. f.
Supplies Castle Rock.

Saguache Gas & Electric Co., Saguache.

Capital stock, \$20,000.
President, L. M. Werner.
Secretary and supt., W. J. Werner.
Treasurer, H. C. Werner.
Process manuf., Acetylene; Colt generator.
Population, 1,000. No. meters, 45.
Miles of mains, 2.5; 2.5 in. to 0.75 in.
Carbide consumed, 13 tons.

Price of gas, gross, \$1.80; net, \$1.71 per 100 c. f.
No. public lamps, 26; price per year, \$22.60.
Consumption, 1 c. f. per burner hour.
No. hours each public lamp is lighted per year, 1,500.
Contract does not include repairs, care, lighting or extinguishing.
Annual sales, approx., 59,500 c. f.
Supplies Saguache.

CONNECTICUT.

Lakeville Gas Co., Lakeville.

(Out of business.)

DELAWARE.

Rehoboth Gas Co., Rehoboth.

(Owned and operated by Acetylene Gas and Construction Co.)
Office 503 Chestnut St., Philadelphia, Pa.
Capital stock, \$100,000.
President, W. A. Cummins.
Secretary, W. D. Cummins.
Treasurer, Everett Cummins.
Superintendent, J. Frederick Hudson.
Process manufacture, Acetylene, non-automatic generator.
Pop. dist. supplied, 4,000. No. meters, 75.
Miles of mains, approx., 10; 2.5 to 0.75 in. iron pipe.
Carbide consumed, 20 tons.
Price gas, per 100 c. f., \$1.25.
No. public lamps, 105; lighted 90 nights to 12 o'clock; 30 lamps lighted 9 months to 10 o'clock.
Price per year, \$736.
Price does not include repairs, care, lighting and extinguishing.
Consumption, 0.5 to 1 c. f. per burner hr.
Annual sales, approx., \$2,000.
Supplies Rehoboth, Dela.

FLORIDA.

Acetylene Gas Plant, Hawthorn.

(Municipal plant.)
Superintendent, W. S. Moore.
Process manufacture, Acetylene; Aurora generator.
Pop. district supplied, 500.
Mains, approx., 1,500 ft.
Price gas, per mo., per burner, 65c. to 75c.
No. public lamps, 6.

Valrico Land Co., Valrico.

Tampa office, Roberts Building.
Manager, W. F. Miller.
Process, Acetylene.
Miles of mains, 0.75.
Plants used for lighting town-site.



WILLIAMS' "Agrippa" THREADING-TOOL HOLDER

The Threading Tool with lockable-spring head will do roughing, finishing and threading at one setting in the tool post.

J. H. WILLIAMS & CO., 74 Richard St., Brooklyn, N. Y.

GEORGIA.

Buckhead Acetylene Light Co., Buckhead.

Capital stock, \$2,500.
 President, E. L. Alford.
 Sec'y and treas., Harry M. McWhorter.
 Pur. agent, Harry M. McWhorter.
 Superintendent, W. J. Bryant.
 Proc. manufac. Acetylene; Davis generator.
 Pop. dist. supplied, 600. No. meters, 40
 Miles of mains, 3; 1 in. and 1.25 in.
 Carbide consumed, 10 tons.
 Price of gas to consumers \$1.50 per 100 c. f.
 No. public lamps, 10; price per year \$13.
 Consumption, 1 c. f. per burner hr.
 Supplies Buckhead.

ILLINOIS.

The Allerton Gas Co., Allerton.

Capital stock, \$1,800.
 President, H. W. Six.
 Secretary, H. G. Moore.
 Treasurer and pur. agent, H. E. Wilson.
 Superintendent, G. Lundy.
 Process of manufacture, Acetylene; Acetylene Contracting Co. generator.
 Population district supplied, 300.
 Miles of mains, 1; 2 to 4 in.
 No. meters in service, 42.
 Carbide consumed, 12 tons.
 Price of gas to consumers, \$1.50 per 100 c. f.
 No. of public lamps, 21; lighted, moonlight schedule till 11 o'clock.
 Price per year, \$600.
 Price does not include repairs, care, lighting and extinguishing.
 Annual sales, approximate, 70,000 c. f.
 Supplies Allerton.

Beaverville Light and Utility Co., Beaverville.

Capital stock, \$6,000.
 President, E. C. Requier.
 Secretary, N. C. Boudreau.
 Treasurer, H. J. Nourie.
 Pur. agent, N. C. Boudreau.
 Superintendent, E. C. Requier.
 Process of manufacture, Acetylene; Johnson generator.
 Pop. district supplied, 500.
 No. meters in service, 58.
 Miles of mains, approx., 3; 2 in. to 1.25 in.
 Amount of carbide consumed, 12 tons.
 Price of gas to consumers, gross, \$1.50 per 100 c. f.; net, \$1.25 and \$1. Appl. for increase in 1918, as follows; 1st 100 c. f. \$2.; 2nd-100 c. f. \$1.75; all over 200 c. f. \$1.50.
 No. of public lamps, 21. Price per year, \$40.
 Consumption, 1.5 c. f. per burner hour.
 Price includes repairs, care, lighting and extinguishing.
 Each lamp lighted 1,000 hours per year.
 Annual sales, approx., 150,000 c. f.
 Supplies Beaverville.

Fairmount Gas Co., Fairmount.

Capital stock, \$7,000.
 President, O. C. Benson.
 Secretary and pur. agent, A. J. Leitzbach.
 Treasurer, M. F. Porterfield.
 Process of manufacture, Acetylene; Stinson generator.

Population district supplied, 1,000.
 No. meters in service, 80.
 Miles of mains, approx., 3.5; size, 3 to 1 in.
 Carbide consumed, 14 tons.
 Price of gas to consumers, gross, \$1.50 per 100 c. f.
 No. of public lamps, total, 30.
 Consumption, 1.5 c. f. per burner hour.
 Lamps lighted on moonlight schedule.
 Contract does not include repairs, care, lighting and extinguishing.
 Annual sales, approx., 124,433 c. f.
 Supplies Fairmount.

Saunemin Gas Co., Saunemin.

Capital stock, auth., \$10,000.
 Annual dividend, 7 p. c.
 President, W. T. Watts.
 Sec'y, treas., and pur. agent, Geo. J. Carson.
 Superintendent, Samuel Mahood.
 Process of manufacture, Acetylene; William-son generator.
 Population district supplied, 450.
 No. meters in service, 91.
 Miles of mains approx., 2½; size, 3 to 1 in.
 Carbide consumed, 12 tons.
 Price of gas to consumers, \$1.50 per 100 c. f.
 No. of public lamps, total, 26.
 Price per year., \$400; consumption, .75 c. f. per burner hour.
 Price includes repairs, care, lighting and extinguishing.
 Lighted by moonlight schedule.
 Value of gas supplied, \$1,450.
 Supplies Saunemin.

Shannon Gas Plant, Shannon.

(Municipal plant.)
 Superintendent, H. L. Keeter.
 Process of manufacture, Acetylene.
 Population 750.
 Miles of mains, approx., 3; .75 to 3 in.
 Price gas, per 1,000 c. f., \$12.50.
 No. public lamps, 41. Price per year, total, \$864.
 Consumption per burner hour, .5 and .75 c. f.
 Price does not include repairs, care, lighting and extinguishing.
 Lamps lighted, 1,200 hours.
 Annual sales, approx., 90,000 c. f.

Vienna Gas Co., Vienna.

Capital stock, \$2,500.
 President, F. R. Woelfle.
 Sec'y and treas., C. J. Huffman.
 Process manufacture, Acetylene.
 Pop. of dist. supplied, 1,000.
 No. meters, 36.
 Carbide consumed, 15 tons.
 Price of gas to consumers, \$15 per 1,000 c. f.
 No. public lamps, 38, (metered.)
 Consumption, 1.5 c. f. per burner hour.
 Supplies Vienna.

Waggoner Light and Heat Co., Waggoner.

Capital stock, \$1,400; annual div., 7 p. c.
 President, F. F. Knotts.
 Secretary and treas., Ben J. Ripley.
 Superintendent, J. S. Kessler.
 Process manufacture, Acetylene.
 Pop. district supplied, 400. No. meters, 32.
 Miles of mains, approx., 1.5; 1.5 in. galv'ised.

RELIABLE



RANGES

Wherever you find them, "ANGELIRON" owners are always enthusiastic—always contented—always completely satisfied. What more do you want a range to do? Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Price of gas per 1,000 c. f., \$15.
 No. pub. Miner lamps, 8. Price per year, \$10.
 Consumption per burner per hour, 1.5 c. f.
 Price does not include repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 1,400.
 Annual sales, approx., 60,000 c. f.
 Supplies Waggoner.

INDIANA.

Browns Valley Gas Co., Browns Valley.

Capital stock, \$600.
 President, C. W. Taylor.
 Secretary, J. W. Bayliss.
 Treasurer, J. C. Allen.
 Superintendent, I. S. Todd.
 Process manufacture, Acetylene; Ben Hur generator.
 Pop. of town, 150.
 No. meters in service, 30.
 Miles of mains, approx., 1; 1 in.
 Carbide consumed, 31 tons.
 Price of gas to consumers, gross, \$20 per 1,000 c. f.
 Annual sales, approx., 15,000 c. f.
 Supplies Browns Valley.

Carlisle Gas Co., Carlisle.

Capital stock, \$10,000.
 Dividend paid, annual rate, 10 per cent.
 President, William F. Dodge.
 Secretary and treas., Edley W. Rogers.
 Supt. and pur. agent, Jos. Hume.
 Process, Acetylene, generator made by Central Light Plants Co.
 Pop. district supplied, 1,000.
 No. meters in service, 35.
 Miles of mains, approx., 3. 3 to 1.5 iron.
 Carbide consumed, 12 tons.
 Price of gas to consumers, gross, \$15 per 1,000 c. f.
 No. of public lamps, 45.
 Consumption, 1.5 c. f. per burner hour.
 Price includes repairs, care lighting and extinguishing.
 No. hours each lamp is lighted per year, 900.
 Annual sales, approx., 96,000 c. f.
 Supplies Carlisle.

Clark's Hill Gas Co., Clark's Hill.

Capital stock, \$6,000.
 Annual dividend, 7 p. c.
 President, E. V. Loveless.
 Secretary and pur. agent, J. B. Cox.
 Treasurer, W. C. Clark.
 Process of manufacture, Acetylene; Johnson generator.
 Population district supplied, 500.
 No. meters in service, 60.
 Miles of mains, approx., 2; 1½ to 2½ in.
 Carbide consumed, 11 tons.
 Price of gas to consumers, \$15 per 1,000 c. f.
 No. of public lamps, 26. Consumption per burner per hour, 1.5 c. f.
 Price per year, \$30.
 Price includes repairs, care, lighting and extinguishing.
 No. hours each lamp is lighted per year, 1,100.
 Annual sales, approx., 46,000 c. f.
 Supplies Clark's Hill.

Colfax Gas Co., Colfax.

Capital stock, \$8,000.
 Annual dividend, 6 p. c.
 President, J. E. Gery.
 Sec'y and treas., H. R. Woodburn.
 Superintendent, J. E. Gery.
 Pur. agent, J. E. Gery.
 Process, Acetylene; Johnson generator.
 Pop. dist. supplied, 900. Meters, 61.
 Miles of mains, 2.5; 3 in. to 1 in.
 Carbide consumed, 19 tons.
 Price of gas to consumers, 1st 100 c. f., \$1.50; 2d 100 c. f., \$1.25; over 200 c. f., \$1.
 No. public lamps, 32. Price per year, \$30.
 Price includes repairs, care, lighting and extinguishing.
 Hours lighted, 1,100 per year.
 Consumption, 1.5 c. f. per burner hour.
 Candle power, 50.
 Annual sales approx., 8,550,000 c. f.
 Supplies Colfax.

Dale Gas Co., Dale.

Capital stock, \$6,000; annual div., 6 p. c.
 President, Wm. Schaaf.
 Vice-president, G. W. Stilwell.
 Sec'y, treas. and superintendent, J. W. Ladd.
 Process of manufacture, Acetylene; Acetylene Contracting Co., generator.
 Pop. dist. supplied, 700; of city, the same.
 No. meters in service, 52.
 Miles of mains, approx., 2; 3 in. to 1½ iron.
 Amount of carbide consumed, 10 tons.
 Price gas, gross; \$15 per 1,000 c. f.
 No. public lamps, 22. Price per year, \$30.
 Consumption per burner per hour, 1.5 c. f.
 Price includes care, lighting and extinguishing.
 No. hours lamp is lighted per year, 820.
 Annual sales approximate, 90,000 c. f.
 Supplies Dale.

The Draper Manufacturing and Gas Co., Ltd., Dana.

Capital stock, \$5,000; issued, \$1,200.
 President, E. B. James.
 Sec'y and treas., W. M. Taylor.
 Superintendent, W. M. Taylor.
 Purchasing agent, F. M. Draper.
 Process manuf., Acetylene; Draper generator.
 No. meters, 18.
 Mains, approximate, 3,000 ft.; 2.5 to .75 in.
 Price gas, per 100 c. f., gross \$1.35.
 Annual sales, approx., 30,000 c. f.
 Supplies few business houses in Dana.
 (Town has installed municipal electric plant.)

Darlington Gas Plant, Darlington.

(Municipal plant.)
 Bonds outstanding, \$100.
 Treas. Lighting Board, Lee G. La Follette.
 Town Clerk, Lee G. La Follette.
 Process manufacture, Acetylene; Ben Hur generator.
 Population, 780.
 Miles of mains, approx., 2; 3 to 0.75 in.
 No. meters, 85.
 Carbide consumed, 26 tons.
 Price gas per 1,000 c. f., \$10.
 No. public lamps, 36.
 Price per year, \$20 per lamp.



Price includes repairs, care, lighting and extinguishing.

Consumption per burner hour, 1.5 c. f.

No. hours each lamp is lighted per year, 1,000.

Annual sales, approx., 60,000 c. f.

Supplies Darlington.

Hillsboro Gas Co., Hillsboro.

Capital stock, \$4,000; ann. div., 6 p. c.

President, John D. Linville.

Secretary, John W. Frazier.

Treasurer and pur. agent, John W. Frazier.

Superintendent, A. J. Harris.

Process manufacture, Acetylene; Ben Hur generator.

Pop. dist. supplied, 550. No. meters, 36.

Miles of mains, approx., 5; 3.5 to 0.5 in.

Carbide consumed, 15 tons.

Price gas per 1,000 c. f., \$15.

No. public lamps, 27.

Price per year, \$30 per lamp.

Price includes repairs, care, lighting and extinguishing.

Hours lighted, each lamp per year, 1,200.

Consumption per burner hour, 1.5 c. f.

Candle power, 16.

Annual sales, approx., 125,000 c. f.

Supplies Hillsboro.

Jamestown Gas Co., Jamestown.

(Company out of business.)

New Market Light Co., New Market.

Capital stock, \$3,000.

Annual dividend, 7 p. c.

President, W. J. Miles.

Sec'y, treas. and pur. agent, A. J. Nichols.

Superintendent, Fred Wray.

Process manufacture, Acetylene; Ben Hur generator.

Pop. district supplied, 350. No. meters, 22.

Miles of mains, approx., 1; 1.25 in.

Carbide consumed, 6 tons.

No. of public lamps, 17. Price per year, \$30.

Price includes repairs, care, lighting and extinguishing.

Consumption per burner per hour, 1.5 c. f.

Each lamp lighted 1,000 hours.

Town lighting only.

Supplies New Market.

New Ross Light Co., New Ross.

Capital stock, \$3,000.

Ann. dividend, 7 p. c.

President, J. W. Stipe.

Secretary and treas., J. A. Morrison.

Pur. agent, J. A. Morrison.

Superintendent, S. B. Smith.

Process manufacture, Acetylene; Ben Hur generator.

Pop. district supplied, 300.

No. meters in service, 16.

Miles of mains, approx., 1.5; 1 in. to 2.5 in. wrought iron.

Carbide consumed, 6 tons.

Price of gas to consumers, \$15 per 1,000 c. f.

No. public lamps, 17.

Price per year, \$30.

Each lamp lighted per year, 1,000 hours.

Consumption per burner hour, 0.75 c. f.

Price includes repairs, care, lighting and extinguishing.

Annual sales, approx., 50,000 c. f.

Candle power, 75.

Supplies New Ross.

The Oaktown Gas Co., Oaktown.

Capital stock, \$6,000.

Annual dividend, 10 p. c.

President, H. T. Sartor.

Secretary, I. N. Townsley.

Treasurer, T. E. Salters.

Supt. and pur. agent, I. N. Townsley.

Process of manufacture, Acetylene; Acetylene Contracting Co. generator.

Pop. district supplied, 1,000.

No. meters, 43.

Miles of mains, 3; 3 in. to 1.25 in.; iron.

Carbide consumed, 12 tons.

Price gas, gross, domestic, \$15 per 1,000 c. f.

No. public lamps, 41.

Price, min. \$2 per lamp, per mo.

Consumption, 2.5 c. f. per burner.

Lamps lighted per moonlight schedule.

Annual sales, approx., 110,000 c. f.

Supplies Oaktown.

Rosedale Gas Co., Rosedale.

(Municipal plant.)

Owned and operated by Rosedale Corporation.

Bonds, \$4,500; due, 1917; int., 4 p. c.

President, W. A. Paul.

Sec'y and pur. agent, Ben. F. Cress.

Treasurer, G. W. Cottrell.

Superintendent, Chas. McCullum.

Process of manufacture, Acetylene; Johnson generator.

Population district supplied, approx., 1,200.

No. meters in service, 65.

Miles of mains, approx., 4; 0.5 in. to 3 in.

Carbide consumed, 18 tons.

Price of gas to consumers, gross, \$10 per 1,000 c. f.

No. public lamps, 38.

Price per year, \$32, (does not include repairs, care, lighting and extinguishing.)

Lamps lighted, 750 hours per year.

Consumption per burner hr., 3.5 c. f.

Annual sales, approx., 100,300 c. f.

Supplies Rosedale.

Waveland Gas Co., Waveland.

Capital stock \$3,500; annual div., 12 p. c.

President and treas., G. L. Dillman.

Secretary, Garrie L. Dillman.

Superintendent, Max C. Dillman.

Pur. agent, G. L. Dillman.

Process of manufacture, Acetylene; Ben Hur generator, made by Johnson Acetylene Gas Co.

Pop. dist. supplied, 1,000. No. meters, 90.

Miles of mains 3; 2 to 1 in.

Carbide consumed, 12 tons.

Price gas per 1,000 c. f., \$15.

Annual sales, approx., 240,000 c. f.

Supplies Waveland.

Woodburn Gas Co., Woodburn.

Capital stock, \$6,500.

Dividend paid, annual rate, 3.5 p. c.

President, Otto Knoblauch.

Secretary, and pur. agent D. E. Moser.

If there is any doubt in your mind, send your order for GOODMAN STOPPERS on thirty days' approval.

SAFETY GAS MAIN STOPPER COMPANY.

263 East 133rd Street, New York, N. Y.

Treasurer, J. R. Yaggy.
 Superintendent, Ray Cairns.
 Process, Acetylene; Central Light Plants Co.
 generator.
 Population district supplied, 500.
 No. meters in service, 25.
 Miles of mains, approx., 1.5; 3 in., 2 in. and
 0.5 in.
 Carbide consumed, 12 tons per year.
 Price of gas to consumers, gross, \$1.20 per 100
 c. f.
 No. public lamps, 23. Price per year, \$740.
 Consumption, $1\frac{1}{2}$ c. f. per burner hour.
 Each lamp lighted 728 hrs. per year.
 Annual sales, approx., 100,000 c. f.
 Supplies Woodburn.

IOWA.

Acetylene Gas Plant, Graettinger.

(Municipal plant.)
 Bonds, \$800; due in 1917; int. 6 p. c.
 Mayor, Wm. Penn.
 Clerk, T. G. Madigan.
 Process manuf., Acetylene; Williamson gen-
 erator.
 Pop. dist. supplied, 750. No. meters, 72.
 Miles of mains, 6.5; 2 in. to 0.5 in.
 Amount of carbide consumed, 23 tons.
 Price gas per 1,000 c. f., \$10.
 No. public lamps, 24; consumption per burner
 per hour, 0.75 c. f.
 Price includes repairs, care, lighting and
 extinguishing.
 Lighted 3 hours per night.
 Annual sales, approx., 71,000 c. f.
 Supplies Graettinger.

KANSAS.

Burr Oak Gas Co., Burr Oak.

(Out of business.)

Westmoreland Lighting Co., Westmoreland.

Capital stock, \$3,600.
 Annual dividend, 1 p. c.
 President, John Robson.
 Secretary, Warren Anthony.
 Treasurer, J. W. Arnold.
 Superintendent, James Lee.
 Process Acetylene.
 Pop. dist. supplied, 500. No. meters, 50.
 Miles of mains, 2; 4 in. and smaller.
 Carbide consumed, 15 tons.
 Price gas, gross, \$15 per 1,000 c. f.
 No. public lamps, 22 (metered.)
 Contract includes repairs, care, lighting
 and extinguishing.
 No. hours each lamp is lighted per year, 1,000.
 Supplies Westmoreland.

LOUISIANA.

Municipal Plant, Broussard.

Mayor, Dr. E. E. Soulier.
 Secretary, L. J. Landry.
 Pop. dist. supplied, 500.
 Process manuf., Acetylene, Colt generator.
 Amt. of carbide consumed, 4.5 tons.
 No. public lamps, 19; lighted all night.

MAINE.

Castine Light, Power and Heat Co., Castine.

Capital stock, auth., \$10,000.
 President, J. M. Vogul.
 Secretary W. Merton Hooper.
 Treas. and pur. agt., W. H. Hooper.
 Superintendent, Fred. Mills.
 Process manuf., Acetylene; Colt generator.
 Population district supplied, 1,000.
 No. meters in service, 52.
 Miles of mains, approx., 3; 3 to 1 in.
 Amt. of carbide consumed, approx., 15 tons.
 Price gas per 1,000 c. f., \$15 to \$20.
 No. public lamps, 1; lighted, 3,650 hrs. per
 year.
 Annual sales, approximate, \$100,000.
 Supplies Castine.

Deer Isle Acetylene Co., Deer Isle.

Capital stock, \$10,000.
 President, Elmer P. Spofford.
 Secretary, Edgar W. Haskell.
 Treas., Emery W. Pickering.
 Pur. agent., Elmer P. Spofford.
 Superintendent, Isaac H. Woodworth.
 Process manuf., Acetylene; Victoria Model B
 generator.
 Pop. dist. supplied, 1,000; No. meters, 25.
 Miles of mains, approx., 3; 1 to 1.25 in.
 Price gas, per 100 c. f., \$2.
 Supplies Deer Isle Village.

Millinocket Light Co., Millinocket.

Capital stock, \$14,000.
 President, W. A. Whitcomb.
 Treasurer and pur. agent, B. L. Seelye.
 Secretary, B. L. Seelye.
 Superintendent, O. Crommett.
 Process manufacture, Acetylene; Colt
 generator.
 Carbide consumed, 74 tons.
 Miles of mains, approx., 6.25; 1 to 2.5 inch.
 Pop. list supplied, 4,500.
 No. meter in service 88.
 Price of gas to consumers, per 1,000 c. f., \$10
 and \$12.50.
 No. street lamps, 60.
 Price per year, \$1200.
 Price includes repairs, care, lighting and
 extinguishing.
 Lighted by moonlight schedule.
 Annual sales, approx. 612,000 c. f.
 Supplies Millinocket.

MARYLAND.

E. Tucker & Co., Forest Hill.

Capital stock, \$35,000.
 President, Eugene Tucker.
 Secretary, Mary A. Roe.
 Treasurer, William Roe.
 Superintendent, Eugene Tucker.
 Process manuf., Acetylene; Monarch gene-
 rator.
 Miles of mains, approx., $\frac{3}{8}$; 1 in.
 Carbide consumed, 5 tons.
 Population district supplied, 150.
 No. meters, 15.
 Price gas, per 100 c. f., \$1.50; net, \$1.25.
 Annual sales, approx., 39,000 c. f.
 Supplies part of Forest Hill.

Precision CO₂ Recorders automatically record the percentage of carbon-
 dioxide in flue gases, and are a real practical means of reducing coal bills
 and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

E. D. Shriner, Acetylene Plant, Frederick.

Pur. agent, E. D. Shriner.
Process of manufacture, Acetylene; Colt generator.
(Operates private plant, 100 lamps.)

Manchester Lighting and Heating Co., Manchester.

Capital stock, \$5,380.
President, E. W. Gregory.
Secretary, J. B. Lynerd.
Treasurer, H. B. Burgoon.
Superintendent, Raymond Leister.
Pur. agent, J. B. Lynerd.
Process manuf., Acetylene; Rush generator.
Pop. dist. supplied, 600. No. meters, 55.
Miles of mains, approx., 1.25; 1 to 2 in.
Carbide consumed, 11 tons.
Price gas per 1,000 c. f., gross \$15; disc., 10 p. c.
No. public lamps, 31; lighted until 11 p. m.,
Hours lighted per year 775.
Consumption 0.5 c. f. per burner per burner hr.
Price, \$1.50 per 100 c. f., does not include repairs, etc.
Annual sales, approx. 60,000 c. f.
Supplies Manchester.

Taneytown Gas Plant, Taneytown.

(Municipal plant.)
Bonds outstanding, \$2,700; due, yearly int., 4.5 p. c.
Burgess, Judson Hill.
Sec'y and treas., Robt. S. McKinney.
Process of manufacture, Acetylene; William-son generator.
Population district supplied, 950.
No. meters in service, 77.
Miles of mains, approx., 2; 4 to 1.5 in.
Carbide consumed, 27 tons.
Price of gas, \$1 per 100 c. f.
No. of public lamps, 47. Price per year, \$800.
Consumption per burner per hour, 0.75 c. f.
Price includes repairs, care, lighting and extinguishing.
Hours each lamp is lighted per year, 1,200.
Annual sales, approx., 150,000 c. f.
Supplies Taneytown.

MASSACHUSETTS.**L. Sidney Atwood, Chatham.**

(Has discontinued supplying gas.)

Waite and Smith, Dartmouth.

Process, Acetylene; Colt generator.
No. meters, 35.
Miles of mains, 0.25; 2 in.
Carbide consumed, 5 tons.
Price of gas to consumers, \$2 per 100 c. f.
Annual sales, approx., 40,481 c. f.
In operation about 3½ mos. a year.
Supplies Salters Point, So. Dartmouth.

Hadley Lighting Co., Hadley.

(Company has gone out of business.)

Southeastern Mass. Power & Electric Co., Marion.

Capital stock, \$30,000.
President, John C. Makepeace.
Vice-pres. and pur. agent, E. P. Rowell.
Secretary, E. C. Mason.
Treasurer, C. R. Adams.

Superintendent, B. E. Waters.

Process manuf., Acetylene; Williamson.
Pop. dist. supplied, 1,400. No. meters, 49.
Miles of mains, approx., 12; .75 to 3 in.
Carbide consumed, 18 tons.
Price gas, per 1,000 c. f., \$12.50.
No. public lamps, 14.
Price lamp per year, \$20.
Consumption per burner per hour, 0.5 c. f.
Contract includes repairs, care, lighting and extinguishing.
No. hours lamp is lighted, 2,500.
Annual sales, approx., 105,000 c. f.
Supplies Marion.

J. D. Gregory, Princeton.

Process, Acetylene; Colt generator.
Price of gas, net, \$1.50 per 100 c. f.
Supplies 5 dwellings, library, 2 halls, church and store.

South Attleboro Gas Co., South Attleboro.

Owner, Thomas G. Sadler.
Process manuf., Acetylene; Abner Giant generator.
Pop. dist. supplied, 1,000. No. meters, 30.
Miles of mains, 1.25; 1 to 2 in; wrought iron.
Carbide consumed, 8 tons.
Price of gas, per 1,000 c. f., Light and Fuel, gross \$13.50; net \$12.50.
Supplies South Attleboro.

The Vineyard Haven Gas and Electric Light Co., Vineyard Haven.

(Company has gone out of business.)

MINNESOTA.**Battle Lake Lighting Co., Battle Lake.**

(Gas plant discontinued in 1917.)

Acetylene Plant, Dover.

(Municipal.)
Bonds outstanding, \$1,200; due \$200 annually; int., 5 p. c.
President Village Council, John Ferrier.
Secretary and pur. agent, E. G. Daniels.
Treasurer, H. Brown.
Superintendent, E. L. Davis.
Process manufacture, Acetylene, Pilot generator.
Pop. dist. supplied, 250. Meters, 52.
Mains, 1 mile; size, 2 in. to 4 in.
Carbide consumed, 17 tons.
Price of gas to consumers, net, \$1.00 per 100 c. f.
Annual sales, approx., 75,000 c. f.
Supplies Dover.

Acetylene Gas Plant, Norwood.

(Municipal plant.)
President, John E. Soper.
Secretary, Ernest Meyer.
Treasurer, Geo. J. Bradley.
Purchasing agent, Ernest Meyer.
Manager, Wm. Glatzel.
Process of manufacture, Acetylene; William-son generator.
Pop. dist. supplied, 500.
No. of meters, 120.
Miles of mains, approx., 3; 0.5 to 2 in.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road **PHILADELPHIA, PA.**
and 29th Street

ACETYLENE TOWN PLANTS

Carbide consumed, 36 tons.
 Price gas per 1,000 c. f., \$8.
 No. public lamps, Miner, 41.
 Price per year, \$300.
 Consumption per burner per hour, 1 c. f.
 Price includes repairs, care, lighting and extinguishing.
 Lighted, moonlight schedule; other nights till 10:30 p. m.
 (Plant closed down, 1918).

Rothsay Light and Heating Co., Rothsay.

Capital stock, \$4,000.
 President, S. C. Bowman.
 Secretary, T. K. Brye.
 Treasurer, O. H. Lunder.
 Supt. and pur. agent, E. O. Flotin.
 Process manuf., Acetylene; Stimson's generator.
 Pop. dist. supplied, 400. No meters, 41.
 Miles of mains, approx., 1.5; 3.5 to 1 in., iron.
 Carbide consumed, 12 tons.
 Price gas per 100 c. f., gross, \$2.50; net, \$2.25.
 Consumption, 0.25 c. f. per burner hour.
 Supplies Rothsay.

St. Bonifacius Gas Co., St. Bonifacius.

(Municipal plant.)
 Bonds, \$2,000; due, 1922; int., 6 p. c.
 President, Ferdinand Bauer.
 Secretary and pur. agent, Henry A. Wechsler.
 Treasurer, H. A. Ebert.
 Process manufacture, Acetylene; Colt generator.
 Pop. dist. supplied, 400; meters, 33.
 Miles of mains, approx., 1.75; 2 in.
 Carbide consumed, 11 tons.
 Price of gas to consumers, gross, 85c. per 100 c. f.
 No. of public lamps, total 26.
 Price per year, \$150.
 Price does not include repairs, care, lighting and extinguishing.
 Annual sales, approx., \$600.

St. Michael Acetylene Gas Plant, St. Michael.

(Municipal plant.)
 Investment, \$2,000.
 President, H. W. Dick.
 Secretary, A. Brixius.
 Treasurer, G. Wachter.
 Process manuf., Acetylene; Colt generator.
 Population district supplied, 300.
 No. meters, 20.
 Miles of mains, 1.
 Carbide consumed, 10 tons.
 Price gas per 1,000 c. f., \$11.50.
 No. public lamps, 9.
 Supplies St. Michael.

MISSOURI.**Bolckow Gas Co., Bolckow.**

Capital stock, \$2,000.
 President, R. H. Martin.
 Sec'y, treas. and mgr., I. F. Dunn.
 Process manuf., Acetylene; Eagle generator.
 Pop. dist. supplied, 500. No. meters, 21.
 Miles of mains, approx., 1.25.
 Price gas, per 1,000 c. f., \$15.
 Supplies Bolckow.

Elmer Patterson, Elmer.

Investment, \$1,125.
 Owner and supt., Elmer Patterson.
 Process manufacture, Acetylene; World Beater generator.
 Pop. dist. supplied, 400.
 No. meters, 22.
 Miles of mains, 0.75; 1.25 in. galvanized pipe.
 Carbide consumed, 3.3 tons.
 Price of gas to consumers, \$2.00 per 100 c. f.
 Consumption 1 cu. ft. per burner hour.
 Candle power, 48.
 Annual sales, approx., 19,500 c. f.

NEBRASKA.**Bancroft Acetylene Gas Co., Bancroft.**

Capital stock, \$5,000; annual div., 8 p. c.
 President and supt., C. W. Winter.
 Process manufacture, Acetylene; Best Ever generator.
 Pop. dist. supplied, 800. No. meters, 82.
 Miles of mains, approx., 4; 1 to 3 in.
 Carbide consumed, 26 tons.
 Price gas, gross, \$15.00; net, \$12.50 per 1,000 c. f.
 No. public lamps, 7. Price, per year, \$30.
 Lamps lighted from dusk until 11 p. m.
 Supplies Bancroft.

Burwell Heat and Light Co., Burwell.

Capital stock, \$2,000.
 President, F. M. Key.
 Process manufacture, Acetylene; Monarch generator.
 Population, 1,000. No. meters, 75.
 Miles of mains, 1.
 Carbide consumed, 20 tons.
 Price gas, per 1,000 c. f., \$15.
 Supplies Burwell.

Dunbar Gas Co., Dunbar.

(Company out of business.)

Greeley Heat and Light Co., Greeley.

Capital stock, auth. and issued, \$5,000.
 President, J. R. Hanna.
 Secretary and treasurer, F. H. Clough.
 Purchasing agent, F. H. Clough.
 Superintendent, F. H. Clough.
 Process manufacture, Acetylene; Ideal non-automatic generator.
 Pop. dist. supplied, 900. No. meters, 90.
 Miles of mains, approx., 2; 2.5 in. to 1 in.
 Carbide consumed, approx., 27 tons.
 Price gas, per 1,000 c. f., \$15.
 No. public lamps, 12.
 Price per year, \$240.
 Consumption, 1 c. f. per burner hour.
 Candle power, 48.
 Annual sales, approximate, \$2,900.
 Supplies Greeley.

Laurel Acetylene Gas Light Co., Laurel.

Capital stock, \$3,500.
 President, W. H. Nightwine.
 Secretary, C. C. Adams.
 Treas., pur. agt. and supt., W. H. Nightwine.
 Process manufacture, Acetylene; Monarch generator.

MONEL METAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. These are high grade experimental meters for use with corrosive gases, such as oxygen gas.

Pop. dist. supplied, 900. No. meters, 75.
 Miles of mains, approx., 3.
 Carbide consumed, 17 tons.
 Price gas, per 1,000 c. f., \$15.
 No. public lamps, 13. Price, \$12.50 per 1,000 c. f.
 Consumption, 1 c. f. per burner hour.
 Price includes repairs, care, lighting and extinguishing.
 Each lamp lighted about 1,000 hrs. per year.
 Annual sales, approx., 131,300 c. f.
 Supplies Laurel.

Acetylene Gas Plant, Nehawka.

(Sheldon & Sturm, owners.)
 Investment, \$2,000.
 Annual dividend, 7 p. c.
 Process manufacture, Acetylene; Monarch generator.
 Pop. district supplied 200.
 Miles of mains, 1; 2 in. to 0.75 in.
 No. meters, 35.
 Price of gas to consumers, net, \$1.50 per 100.
 Supplies Nehawka.

Newport Heat and Light Co., Newport.

Capital stock, \$3,000; annual dividend, 1 p. c.
 President, W. E. Farr.
 Secretary and supt., W. H. Allen.
 Treasurer and pur. agent, W. H. Allen.
 Process manufacture, Acetylene; Monarch generator.
 Pop. dist. supplied, 268. No. meters, 31.
 Miles of mains, approx., 2; 1 to 3 in.
 Carbide consumed, 8 tons.
 Price gas, per 1,000 c. f., \$20.
 Annual sales, approx., 35,000 c. f.
 Supplies Newport.

Petersburg Acetylene Gas Co., Petersburg.

Treasurer, F. H. Arts.
 Process manufacture, Acetylene; Monarch generator.
 Miles mains, approx., 1. No. meters, 60.
 Price gas, per 1,000 c. f., \$15.
 No. public lamps, 8.

Wm. Krotter Co., Stuart.

Capital stock, pref., \$25,000; com. \$225,000.
 President, Wm. Krotter.
 Secretary and treasurer, M. A. Krotter.
 Purchasing agent, Wm. Krotter.
 Superintendent, Wm. Krotter.
 Process manufacture, Acetylene; Monarch generator.
 Pop. dist. supplied, 600. No. meters, 35.
 Miles of mains, approx., $1\frac{1}{2}$; $\frac{3}{4}$ to 2 in.
 Carbide consumed, 6 tons.
 Price gas, per 1,000 c. f., \$15.
 Annual sales, approximate, 45,000 c. f.
 Supplies Stuart.

Acetylene Gas Association, Utica.

Capital stock, pref., \$2,500; com., \$2,500;
 annual div., 4 p. c.
 Bonds, \$800; due, 1912; int., 7 p. c.
 President, T. L. Davies.
 Secretary and treas., C. G. Hurlburt.
 Superintendent, C. G. Hurlburt.
 Pur. agent, E. J. Berenter.
 Process manufacture, Acetylene; special E. J. Berenter generator.

Pop. dist. supplied, 500. No. meters, 70.
 Miles of mains, approx., 5; 0.75 to 2 in.
 Carbide consumed, 12 tons.
 Price gas, per 1,000 c. f., \$14.50.
 No. public lamps, 23; lighted 6 hrs. per night.
 Price per year, public lamps, \$10.
 Consumption per burner per hour, 0.75 c. f.
 Contract includes repairs, care, lighting and extinguishing.
 Annual sales, approx., 100,000 c. f.
 Supplies Utica.

NEW HAMPSHIRE.

P. J. Abbott and Co., Wilton.

Treasurer and pur. agent, W. N. Emerson.
 Process manufacture, Acetylene; Davis generator.
 Population, 1,600.
 No. meters, 5.
 Mains, approximate, 1,300 ft.; 1.25 in.
 Carbide consumed, 1,600 lbs.
 Price gas, per 1,000 c. f., \$15.
 Annual sales, approx., \$250.

NEW JERSEY.

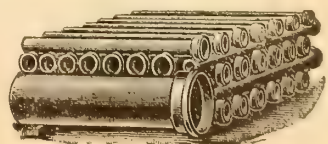
Beach Haven Gas Works, Beach Haven.

(Municipal plant.)
 Chairman, Water and Gas Com., R. F. Engle.
 Treasurer, H. S. C. Hewitt.
 Superintendent, Harry Colmer.
 Process, Acetylene; Colt generator.
 Pop. (winter), 500; summer, 3,500.
 No. meters, 60 winter; 150 summer.
 Miles of mains, 6.5; 2.5 in. to 1.25 in. galv. iron.
 Carbide consumed, 55 tons.
 Price of gas, net, \$1.50 per 100 c. f.; wholesale, \$1.20 per 100 c. f.
 No. public gas lamps, 70 winter; 188 summer.
 Price public lamps, per year, \$900.
 Price does not include repairs, care, lighting and extinguishing.
 Lamps lighted 3,100 hours each year.
 Consumption, $\frac{3}{4}$ c. f. per burner hour.
 Annual sales, approx., 250,000 c. f.
 Supplies Beach Haven.

Marlton Light, Heat and Power Co., Marlton.

Capital stock, \$2,500.
 President, Dr. B. K. Brick.
 Secretary, Wm. H. Zelley.
 Purchasing agt. and treas., Wm. H. Zelley.
 Superintendent, A. G. Dunphey.
 Process manufacture, Acetylene; Abner Giant generator.
 Pop. dist. supplied, 500. No. meters, 18.
 Miles of mains, 2; $2\frac{1}{2}$ to 1 in.
 Carbide consumed, 12 tons.
 Price of gas to consumers, 35c. per 1,000 c. f.
 No. public lamps, 21; lighted moonlight schedule.
 Price per year, \$756.
 Consumption, $\frac{1}{2}$ c. f. per hour.
 Price includes care, lighting and extinguishing.
 Lamps lighted from dark to dawn.
 Supplies Marlton.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
R. D. WOOD & CO. PHILADELPHIA, PA.



Tuckahoe Light and Fuel Co., Tuckahoe.

Gen'l office, 1308 R. E. Trust Bldg., Philadelphia, Pa.
 Capital stock, auth., \$5,000; issued, \$4,700.
 President, Theodore J. Grayson.
 Vice-pres., F. H. Folger.
 Sec'y and treas., J. C. Lightfoot, Jr.
 Superintendent, E. G. Robinson.
 Process manufacture, Acetylene.
 Miles of mains, 2.5.
 Pop. dist. supplied, 1,200. No. meters, 36.
 Carbide consumed, 12 tons.
 Price of gas, \$1.50 per 100 c. f.
 No. public lamps, 38.
 Supplies Tuckahoe.

NEW YORK.**Amenia Acetylene Gas Co., Amenia.**

Capital stock, \$5,000; annual div., 6 p. c.
 President, D. P. Barry.
 Treas. and pur. agent, J. R. Thompson.
 Superintendent, J. R. Thompson, Jr.
 Process manuf., Acetylene; "Sunlight."
 Pop. dist. supplied, 600. No. meters, 56.
 Miles of mains, approximate, $1\frac{1}{2}$; 2 to 1 in.
 Carbide consumed, 21 tons.
 Price gas, per 1,000 c. f., \$10.
 No. public lamps, 34. Price per year, \$13.00.
 Consumption per burner per hour, 0.5 c. f.
 Price includes repairs, care, lighting and extinguishing.
 Lamps lighted until 10 P. M.
 Annual sales, approx., 160,000 c. f.
 Supplies Amenia.

Municipal Acetylene Gas Plant, Dryden.

(Municipal plant.)
 Bonds, \$1,750; due 1925; int. rate, 3 and $3\frac{1}{2}$ p. c.
 President and pur. agent, A. C. Scott.
 Village clerk, E. W. Tripp.
 Treasurer, J. H. Kennedy.
 Superintendent, William Tripp.
 Process manufacture, Acetylene; Colt generator.
 Pop. dist. supplied, 800. No. meters, 70.
 Miles of mains, approx., 8; 0.75 to 2 in.
 Carbide consumed, 25 tons.
 Price gas, gross per 100 c. f., \$1.25.
 No. pub. lamps, 25; lighted approx., 800 hours.
 Price per year, \$40; includes repairs, care, lighting and extinguishing.
 Consumption per burner per hour, 1 c. f.
 Annual sales, approx., 100,000 c. f.
 Supplies Dryden.

East Quogue Light Co., East Quogue.

Capital stock, \$5,000.
 President, Willard S. French.
 First vice-president, G. W. Wines.
 Second vice-president, L. R. Robinson.
 Secretary, Wm. L. Walker.
 Treasurer, B. Frank Howell.
 Assistant treasurer, L. E. Carter.
 Process manufacture, Acetylene; Sunlight generator.
 Pop. dist. supplied, 2,000.
 Miles of mains, approx., 15; 2 and 3 in.
 No. public lamps, 100.
 Supplies East Quogue, Flanders and Brooklyn, Suffolk Co.

Edmeston Light, Heat and Power Co., Edmeston

Capital stock, \$6,000.
 President, C. T. Coats.
 Secretary, V. D. Robinson.
 Treasurer, acting, C. T. Coats.
 Purchasing agent, C. T. Coats.
 Superintendent, B. S. Gilson.
 Process manufacture, Acetylene; Erksystem.
 Pop. district supplied, 700. No. meters, 28.
 Miles of mains, approx., 3; 1 in. to 2 in.
 Carbide consumed, 7 tons.
 Price gas, per 1,000 c. f., \$17.50.
 Annual sales, approx., 36,000 c. f.
 Supplies Edmeston.

Endicott Gas Co., Endicott.

Office, Lestershire.
 Proprietor, S. B. Adams.
 Process manufacture, Acetylene; Erk improved generator.
 Pop. dist. supplied, 200. No. meters, 18.
 Miles mains, approximate, 2; 1 to 2 in.
 Price gas, gross \$16; net \$15.
 Supplies Endicott.

The Catskill Mountain Gas Co., Fleischmanns.

Capital stock, auth., \$9,000, issued, \$9,000.
 President, J. E. Scudder.
 Secretary, O. H. Todd.
 Treasurer, A. H. Todd.
 Superintendent, A. H. Todd.
 Process manufacture, Acetylene. Williamson generator.
 Pop. dist. supplied, 800. No. meters, 100.
 Miles of mains, approximate, 2.5; 1.5 to 3 in.
 Price gas, per 1,000 c. f., \$15.
 Supplies Fleischmanns.

John McFarland, Hannibal.

Owner, John McFarland.
 Process manuf., Acetylene; Davis generator
 Carbide consumed, 8 tons.
 Price of gas to consumers, \$12.50 per 1,000 c. f.

Locke Gas Plant, Locke.

Secretary, N. Lown.
 Treasurer, J. T. White.
 Owner, H. A. Stanton.
 Process manuf., Acetylene; Phelps generator.
 Pop. dist. supplied, 500. No. meters, 50.
 Miles of mains, approximate, 1; size, 1.5 in.
 Carbide consumed, 6 tons.
 Price gas, gross, \$1.25 per 100 c. f.
 Annual sales, approx., 40,000 c. f.
 Supplies Locke.

Millbrook Gas and Electric Co., Millbrook.

Capital stock, \$10,000.
 President, A. E. Dieterich.
 Secretary, Walter F. Haight.
 Treasurer, Walter F. Haight.
 Superintendent, James H. Murphy.
 Pur. agent, J. H. Murphy.
 Process manufacture, Acetylene; Williamson generator.
 Pop. dist. supplied, 1,500. No. meters, 101.
 Miles of mains, approximate 10; 1 to 6 in.
 Price gas, Light, gross and net, \$15.
 No. public lamps, 72. Price per year, \$800.
 Contract includes repairs, care, lighting and extinguishing.

ULCO LEAD WOOL FOR ECONOMY**IN ROPE FORM****UNITED LEAD COMPANY
111 BROADWAY, NEW YORK**

Consumption per burner per hour, 0.5 c. f.
Annual sales, approx., 518,000 c. f.
Hours lamp is lighted per year, 2,688.
Supplies Millbrook.

The Nichols Gas Co., Nichols.

Capital stock, \$1,200.
President, H. C. Kirby.
Secretary, H. C. Latham.
Treasurer, H. C. Latham.
Superintendent, A. B. Kirby.
Pur. agent, A. B. Kirby.
Process manufacture, Acetylene; Milburn generator.
Pop. dist. supplied, 600. No. meters, 66.
Miles of mains, approx., 2; 2 in. to 1 in.
Carbide consumed, 12 tons.
Price of gas per 1,000 c. f., \$12.
No. public lamps, 2; lighted 1,200 hrs. per year.
Price per year, \$20; includes repairs, lighting and extinguishing.
Annual sales, approx., 100,000 c. f.
Supplies Nichols.

Parish Lighting Co., Parish.

(Company out of business.)

James Walton, Phenicia.

Process manufacture, Acetylene; Gem generator.
Pop. dist. supplied, 500. No. meters, 25.
Miles of mains, approximate, 3; 2 to $\frac{3}{4}$ in.
Price gas, per 1,000 c. f., \$15.
Carbide consumed, 12 tons.
Annual sales, 75,000 c. f.
Supplies Phenicia.

Pittsford Light and Heat Co., Pittsford.

Capital stock, \$10,000.
President, John Steve.
Sec'y and treas., B. N. Wiltsie.
Supt. and pur. agent, B. N. Wiltsie.
Process manuf., Acetylene; Monarch generator.
Pop. dist. supplied, 1,500.
No. meters, 100.
Miles of mains, 3.5; 3 to .75 in.
Carbide consumed, 15 tons.
Price gas, per 1,000 c. f., \$11.
Annual sales, approx., \$2,000.
Supplies Pittsford.

Quogue Gas Co., Quogue.

Office of treasurer, 81 Fulton St., New York.
Capital stock, \$14,600.
Annual dividend, 5 p. c.
President, David C. Townsend.
Vice-president, Erastus F. Post.
Secretary and treas., A. S. Post, New York.
Superintendent, Geo. A. Barker.
Process manufacture, Acetylene; Williamson generator.
Pop. dist. supplied, 400.
No. meters in service, 94.
Miles of mains, approx., 7.4; 0.5 to 3 in.
Carbide consumed, 28 tons.
Price gas, \$20 per 1,000 c. f.; 10 p. c. disc.
No. public lamps, 41 (summer); 23 (winter).
Lighted till 11 p. m. winter; 1.30 a. m. summer; moonlight schedule.

Price per year, \$1,200.

Price includes care, repairs, lighting and extinguishing.

Consumption per burner per hour, $\frac{3}{4}$ c. f.

Annual sales, approx., 253,459 c. f.

Supplies Quogue and Quogue.

Fred A. Titus, Shortsville.

Process manufacture, Acetylene; Radiant generator.
Pop. dist. supplied, 500.
No. of meters, 17.
Mains, 4,000 ft.; 2 in. wrought iron.
Carbide Consumed, about 4 tons.
Price of gas, \$1.50 per 100 c. f.
Annual sales, approx., 29,000 c. f.

Southold Lighting Co., Southold.

Capital stock, \$7,000; annual div., 6 p. c.
President, J. H. Marshall.
Treasurer, Lewis W. Korn.
Secretary, Fred'k K. Terry.
Pur. agent, L. W. Korn.
Superintendent, Fred E. Booth.
Process manuf., Acetylene; Monarch generator.
Pop. district supplied, 1,700.
No. meters, 135.
Miles of mains, 5; .75 to 3.5 in.
Carbide consumed, 40 tons.
Price gas per 1,000 c. f., \$15.
No. public lamps, Miner, 63; lighted 1,200 hrs. each per year.
Price per year, \$1,056.
Consumption per burner per hour, 0.75 c. f.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., \$3,500.
Supplies Southold.

Spencerport Gas Plant, Spencerport.

(Municipal plant.)
President, Elwood Hawkins.
Secretary, H. W. Sperry.
Treasurer, F. E. Townsend.
Purchasing agent, Elwood Hawkins.
Superintendent, John C. Ballard.
Process manufacture, Acetylene; Monarch generator.
Pop. dist. supplied, 1,000. No. meters, 150.
Miles of mains, approx., 4.5; 2.5 to 0.75 in.
Carbide consumed, 30 tons.
Price gas, per 1,000 c. f., \$10.
Streets lighted by electricity.
Consumption per burner per hour, 0.5 c. f.
Candle power, 20.
Annual sales, approx., 192,000 c. f.
Supplies Spencerport.

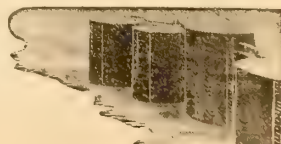
Union Springs Gas Co., Union Springs.

Capital stock, \$8,500; ann. div., 10 p. c.
Prop., Marion Yawger.
Supt., C. Yawger.
Process manuf., Acetylene; Davis generator.
Population, 1,000.
No. meters, 100.
Miles of mains approx., 8; 3 to 1 in.
Carbide consumed, 50 tons.
Price gas, per 1,000 c. f., \$12.50.
Annual sales, approx., 243,800 c. f.
Supplies Union Springs.

USE SPECIFICATION PAINTS

We manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for
Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



Wells Island Light and Heat Co., Thousand Island Park.

Capital stock, auth., \$15,000; issued, \$8,000.
 President, L. L. Mattison.
 Secretary, James A. Morris.
 Treasurer, James A. Morris.
 Superintendent, F. W. Mattison.
 Pur. agent, James A. Morris.
 Process manufacture, Acetylene; Mattison generator.
 Pop. dist. supplied, summer 5,000; winter 500.
 No. meters in service, 75.
 Miles of mains, approx., 3; 0.75 to 3 in.
 Carbide consumed, 9 tons.
 Price of gas to consumers, gross, \$1.50 per 100 c. f.
 (Plant is closed about 7 mos. in year.)

NORTH DAKOTA.**Bathgate Acetylene Gas Works, Bathgate.**

(Municipal plant.)
 Mayor, J. A. Bennett.
 Treasurer, R. M. Carson.
 City Auditor, J. J. Auger.
 Proc. manuf., Acetylene; Acetylene Contracting Co. generator.
 Pop. dist. supplied, 400.
 No meters, 32.
 Miles of mains, approx., 1.5; 1.25 to 3 in.
 Carbide consumed, approx., 8 tons.
 Price gas per 100 c. f., \$2, gross; \$1.75, net.
 No. public lamps, 7.
 Consumption, 0.5 c. f. per burner hr.
 Annual sales, 80,000 c. f.
 Supplies Bathgate and school for blind.

City of Crystal Lighting Plant, Crystal.

(Municipal plant.)
 Mayor, G. M. Jamison.
 Secretary, J. J. Kline.
 Treasurer, J. D. Dewar.
 Superintendent, Fred J. Hoesley.
 Process manuf., Acetylene; Williamson generator.
 Pop. district supplied, 400.
 No. meters, 110.
 Miles of mains, 2; 5 in. iron pipe.
 Carbide consumed, 20 tons.
 Price gas per 1,000 c. f., \$15 gross; \$12 net.
 No. public lamps, Miner, 25.
 Lamps lighted, 400 hours per year.
 Price per year, \$20 each.
 Price includes care, repairs, lighting and extinguishing.
 Consumption 1 and $1\frac{1}{2}$ c. f. per burner hour.
 Annual sales, approx, 100,000 c. f.
 Supplies Crystal.

OHIO.**The Home Gas Co., New Washington.**

(Partnership)
 Owner, Geo. W. Sheetz.
 Process manufacture, Acetylene; Abner Giant generator.
 Pop. dist. supplied, 1,000. No. meters, 50.
 Miles of mains, approx., 4; .75 to 2.5 in.
 Carbide consumed, 12 tons.
 Price gas per 1,000 c. f., \$15.

(Public gas lamps have been superseded by electric.)

Annual sales, approx., 40,000 c. f.
 Candle power, 50.
 Supplies New Washington.

PENNSYLVANIA.**Collegeville Gas Co., Collegeville.**

Capital stock, auth., \$10,000; issued, \$5,700.
 President, E. S. Moser.
 Secretary, J. C. Landes.
 Treasurer, J. C. Landes.
 Purchasing agent, W. R. Landes.
 Superintendent, W. R. Landes.
 Process manufacture, Acetylene; Williamson generator; made by Pintsch Compressing Co.
 Pop. dist. supplied, 800. No. meters, 50.
 Miles of mains, approximate, 1.5; 2 in.
 Price gas, \$10 per 1,000 c. f. gross; \$9 net.
 Annual sales, approx., 97,000 c. f.
 Candle-power, 30.
 Supplies Collegeville.

Elizabethville Gas Co., Elizabethville.

Capital stock, auth., \$3,340.
 Bonds outstanding, \$950; due 1920; int., 5 p.c.
 President, J. H. Bonawitz.
 Secretary, C. T. Romberger.
 Treasurer, C. F. Eby.
 Superintendent, J. A. Romberger.
 Pur. agent, C. T. Romberger.
 Process manufacture, Acetylene; Pilot generator.
 Pop. dist. supplied, 1,000. No. meters, 50.
 Miles of mains, approx., 4; 1.5 to 1 in.
 Carbide consumed, 6 tons.
 Price gas, per 1,000 c. f., \$15.
 Annual sales, approx., \$800.
 Candle power, 50.
 Supplies Elizabethville.

Gordon Borough Gas Co., Gordon.

(Municipal plant.)
 Bonds, \$4,200; due 1938; int., 4 p. c.
 President, G. K. Klinger.
 Secretary, Lloyd Dornsife.
 Treas. and pur. agt., Chas. A. Constantine.
 Superintendent, Harry Constantine.
 Process manufacture, Acetylene; Williamson generator.
 Pop. district supplied, 1,500.
 No. meters, 44.
 Miles of mains, approx., 2; 3 to 1 in.
 Carbide consumed, 14 tons.
 Price gas, \$1 per 100 c. f.
 No. public lamps, 26; lighted 1,600 hrs. per yr.
 Price per year, estimated, \$20.
 Price includes repairs, care, lighting and extinguishing.
 Consumption per burner hr., 1 c. f.
 Annual sales, approx., 75,000 c. f. (Street lights not included).
 Supplies Gordon.

Le Ray Light Co., Le Raysville.

(Not incorporated.)
 President, H. H. Bosworth.
 Secretary and pur. agt., H. A. Bosworth.
 Treasurer, H. A. Bosworth.

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Process manuf., Acetylene; Colt generator.
Pop. dist. supplied, 200. No. meters, 20.
Miles mains, 0.5.
Carbide consumed, 8 tons.
Price gas to consumers, \$1.50 per 100 c. f.

Milford Gas Co., Milford.

Capital stock, \$7,000; ann. div. 10 p. c.
President, T. N. Borinque.
Secretary, T. H. Baker.
Treas. and supt., Henry L. Wohlbrandt.
Purchasing agent, Henry L. Wohlbrandt.
Process manuf., Acetylene; Troubetzkoy generator.
Pop. dist. supplied, 876. No. meters, 70.
Miles of mains, approximate, 5; 2 in.
Carbide consumed, 21 tons.
Price gas, per 100 c. f., gross \$2; net \$1.80 to \$1.40.
No. public lamps, 40. Price per year, \$27.50 per lamp.
Consumption per burner per hour, $\frac{3}{4}$ c. f.
Price includes care, lighting and extinguishing.
Lamps lighted moonlight schedule.
Candle power, 48.
Annual sales, approx., 210,000 c. f.
Supplies Milford.

Moscow Gas Co., Moscow.

Capital stock, auth., \$5,000; issued, \$1,500; ann. div., 4 p. c.
President, O. J. S. Gaige.
Vice-president, J. C. Loveland.
Secretary, J. D. Callegan.
Treasurer, J. D. Callegan.
Pur. agent and supt., J. D. Callegan.
Process manuf., Acetylene; Colt generator.
Population, 700. No. meters, 24.
Mains, approx., $\frac{3}{4}$ mile; 1.5 to 1 in.
Price gas, per 1,000 c. f., gross \$15.
Annual sales, approx., 33,333 c. f.
Supplies Moscow.

New Albany Light and Heat Co., New Albany.

Capital stock, auth., \$5,000.
President, F. W. Harshberger.
Sec'y and treas., Mrs. J. B. Ormsby.
Purchasing agent, Mrs. J. B. Ormsby.
General mgr., E. S. Campbell.
Process manuf., Acetylene; Sunlight generator.
Pop. district supplied, 400; No. meters, 12.
Mains, approx., 0.5; 2 in. and 1.25 in.
Carbide consumed, 2 tons.
Price gas per 1,000 c. f., gross \$15; net \$13.50.
Annual sales, approx., 15,000 c. f.
Supplies New Albany.

Port Royal Gas Co., Port Royal.

Capital stock, \$3,100; ann. div., 6 p. c.
President, G. T. Kepner.
Secretary, W. C. Stimmel.
Treasurer and mgr., D. C. Pomeroy.
Process manufacture, Acetylene; Davis generator.
Pop. dist. supplied, 800. No. meters, 35.
Miles of mains, approx., 5.
Carbide consumed, 12 tons.
Price, gas per 1,000 c. f., gross \$15.
No. public lamps, 22; lighted 2,500 hours.
Price per year, \$18 per lamp.

Consumption per burner per hour, .5 c. f.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., 105,000 c. f.
Supplies Port Royal.

Quarryville Gas Works, Quarryville.

Capital stock, \$5,000.
President, Hiram F. W. LeFevre.
Treasurer Hiram F. W. LeFevre.
Sec'y. and pur. agent, C. P. LeFevre.
Superintendent, B. P. LeFevre.
Process manuf., Acetylene; Abner Giant generator.
Pop. dist. supplied, 900. No. meters, 54.
Miles of mains, approximate, 1.5; 1 in. to 2.5 inches.
Price of gas, 40c. per 1,000 candle-power.
No. public lamps, 30.
Price includes repairs, care, lighting and extinguishing.
Lighting hours per lamp per annum, 2,200.
Annual sales, approx., 260,000 c. f.
Supplies Quarryville.

SOUTH CAROLINA.

Bowman Acetylene Plant, Bowman.

(Municipal plant.)
Superintendent, D. E. Wannamaker.
Process manuf., Acetylene; Eagle generator.
Pop. dist. supplied, 600.
Miles of mains, approx., .5 mile.
Price gas, gross; 40c per light per mo.
No. public lamps, 7.

TENNESSEE.

Spring Hill Acetylene Gas Plant, Spring Hill.

Owned and controlled by Branham and Hughes School.
Supplies the school and several consumers in town.

TEXAS.

China Springs Light Co., China Springs

Capital stock, \$600.
President, G. P. Harris.
Process manuf., Acetylene; Davis generator.
Pop. dist. supplied, 200. No. meters, 4.
Miles of mains, 0.5; 0.5 to 1.25 in.
Carbide consumed, 8 tons.
Price gas per 1,000 c. f., \$20.
Annual sales, approx., 7,500 c. f.
(Mutual company; not run for profit.)

VIRGINIA.

Elkton Acetylene Light Co., Elkton.

Capital stock, \$500.
Annual dividend, 20 p. c.
President, J. T. Heard.
Treas. and agent, J. T. Heard.
Process manuf., Acetylene; Davis generator.
Miles pipe line, 0.25; 2 in. iron
Carbide consumed, 6 tons.
No. meters, 20.
Price gas, gross, \$20 per 1,000 c. f.
Annual sales, approx., 25,000 c. f.

HUNT PIVOTED BUCKET CONVEYORS are reducing coal and coke handling costs in a great many of the largest gas works. Catalogue N15-4 describes the details of design, and shows a number of typical installations. Our engineers are at your service.
C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Holland Gas Co., Holland.

Owner, W. V. Lathem.
 Process manufacture, Acetylene; Sunlight generator.
 Pop. district supplied, 400. No. meters, 23.
 Miles of mains, 1; 2 in.
 Carbide consumed, 20 tons.
 Price gas, \$15 per 1,000 c. f.
 No. public lamps, 14; lighted 600 hrs.
 Price per year, \$120.
 Price does not include repairs, care, lighting and extinguishing.
 Annual sales, approx., 50,000 c. f.
 Supplies Holland.

Town of Scottsville Acetylene Plant, Scottsville.

(Municipal plant.)
 Chairman lighting com., E. L. Fox.
 Process manufacture, Acetylene; Davis generator.
 Pop. district supplied, 250. No. meters, 20.
 Miles of mains, 1.5. 1.25 in. gal. pipe.
 Carbide consumed, 12 tons.
 Price of gas to consumers, \$15 per 1,000 c. f.
 No. public lamps, 20.
 Consumption, 0.75 c. f. per burner hour.
 Lamps lighted, 3,200 hours per year.
 Annual sales, approx., 48,000 c. f.
 Supplies Scottsville.

Snarrs & Miley Co., Toms Brook.

Process manufacture, Acetylene; Davis generator.
 No. meters in service, 19.
 Miles of mains, approx., 1; 1 in.
 Carbide consumed, 3 tons.
 Price gas, gross; \$1.50 per 100 c. f.
 Annual sales, approx., 22,900 c. f.
 Supplies Toms Brook.
 The plant belongs to Snarr & Miley Co., and they furnish gas to other stores and a few dwellings. Machine is 200 light.

Williamsburg Gas Co., Williamsburg.

(Municipal plant.)
 Bonds, \$14,000.
 President, W. L. Jones.
 Agent, R. D. Wilkins.
 Superintendent, R. W. Holmes.
 Process manufacture, Acetylene; Davis generator.
 Pop. dist. supplied, 3,000.
 Miles of mains, 8; 4 in.
 No. meters, 100.
 Price of gas to consumers, \$1. per 100 c. f.
 No. public lamps, 70.
 Consumption, 1.75 c. f. per burner hour.
 Value of gas supplied, for year, \$2,500.
 Supplies Williamsburg.

WEST VIRGINIA.**Romney Light and Heat Co., Romney.**

Capital stock, \$25,000.
 Bonds, \$5,500; due 1917; int. 6 p. c.
 President, W. A. Weaver.
 Secretary and treas., E. H. Bukht.
 Pur. agent and supt., E. H. Bukht.
 Process manuf., Acetylene; Ideal Epworth generator.

Pop. dist. supplied, 1,500. No. meters, 60.
 Miles of mains, approx., 2.25; 2.25 to 0.75 in.
 Carbide consumed, 14 tons.
 Price of gas to consumers, \$15 per 1,000 c. f.
 Supplies Romney

WISCONSIN.**Acetylene Gas Plant, Milton.**

Owner, E. T. Martin, Galchutt, No. Dak.
 Superintendent, F. H. Campbell.
 Process manuf., Acetylene; Johnson generator.
 Pop. dist. supplied, 1,800. No. meters, 140.
 Miles mains, approx., 7; 1 to 3 in.
 Carbide consumed, 21 tons.
 Price gas, \$1.50 per 100 c. f.; \$1 all over 100 c. f. per mo.
 Annual sales, approx., 175,000 c. f.
 Supplies Milton and Milton Junction.

CANADA.**Birtle Gas Plant, Birtle, Manitoba.**

(Municipal plant.)

Carberry Gas Co., Limited, Carberry, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
 Capital stock, \$6,745.
 President, D. D. McTavish.
 Sec'y. treas. and pur. agent, W. S. Hart.
 Superintendent, A. E. Lawton.
 Process manufacture, Acetylene; Acetylene Construction Co.'s generator.
 Pop. dist. supplied, 1,523; No. meters in service, 60.
 Price of gas to consumers, gross, \$15.00; disc., 10 p. c.
 Annual sales, approx., 130,000 c. f.
 Supplies Carberry.

Deloraine Gas Co., Ltd., Deloraine, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
 Capital stock, pref., \$4,500; com., \$6,250; ann. div., 6 p. c. pref.; 4 p. c. com.
 President, Wm. Chalmers.
 Sec'y and treas., D. D. McTavish.
 Pur. agt., D. D. McTavish, Montreal.
 Superintendent, A. E. Lawton.
 Process manuf., Acetylene; Acetylene Construction Co.'s generator.
 Pop. dist. supplied, 1,000. No. meters, 80.
 Miles of mains, 8.
 Price gas, per 1,000 c. f., \$20 gross; disc., 20 p. c.
 No. public lamps, 24; lighted per year, 720 hrs.
 Price includes repairs, care, lighting and extinguishing.
 Annual sales, approx., 294,630 c. f.
 Supplies Deloraine.

Gladstone Gas Co., Ltd., Gladstone, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
 Capital stock, pref., \$6,500; com., \$9,500; ann. div., pref., 6 p. c.; com., 4 p. c.
 President, E. Galloway.
 Secretary and treas., D. D. McTavish.
 Pur. agt., D. D. McTavish, Montreal.
 Superintendent, A. E. Lawton.
 Process manufacture, Acetylene; Acetylene Construction Co.'s generator.



Tycos

Temperature Instruments for Gas Works
 H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.
 Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Pop. dist. supplied, 900. No. meters, 47.
Miles of mains, approx., 10.
Price gas, per 1,000 c. f., gross, \$20; disc., 15 p. c.
No. public lamps, 19. Price per year, \$30 each.
Consumption per burner per hour, 1 c. f.
Price includes repairs, care, lighting and extinguishing.
Hours each lamp is lighted per year, 816.
Annual sales, approx., 149,370 c. f.
Supplies Gladstone.

Hamiota Gas Co., Hamiota, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
Owned by Acetylene Construction Co., Ltd.
Process manufacture, Acetylene.

Manitou Gas Co., Ltd., Manitou, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
Capital stock, \$7,500; ann. div., 8 p. c.
President, John Wootton.
Secretary and treas., D. D. McTavish.
Pur. agt., D. D. McTavish, Montreal.
Superintendent, A. E. Lawton.
Process manufacture, Acetylene; Acetylene Construction Co.'s generator.
Pop. dist. supplied, 750. No. meters, 84.
Miles of mains, approx., 7.5.
Price gas per 1,000 c. f., gross \$20; disc., 15 p. c.
No. public lamps, 14. Price per year, \$30.50 ea.
Consumption per burner per hour, 1 c. f.
Price includes repairs, care, lighting and extinguishing.
No. hours lamp is lighted per year, 954.
Annual sales, approximate, 200,000 c. f.
Candle-power, 50.
Supplies Manitou.

Moosomin Gas Co., Ltd., Moosomin, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
Capital stock, pref., \$7,500; com., \$11,200; ann. div., 8 p. c.
President, J. A. Whiting.
Sec'y and treas., D. D. McTavish.
Pur. agt., D. D. McTavish, Montreal.
Superintendent, A. E. Lawton.
Process manufacture, Acetylene; Acetylene Construction Co.'s generator.
Pop. dist. supplied, 1,500. No. meters, 90.
Miles of mains, 10.
Price gas, per 100 c. f., gross, \$2.00; disc., 25 p. c.
No. public lamps, 34. Lighted, 1260 hrs.
Price per year, \$20.
Consumption per burner per hour, 1 c. f.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approximate, 395,580 c. f.
Supplies Moosomin.

Morris Gas Plant, Morris, Manitoba.

(Municipal plant.)
Investment, \$8,000.
Secretary, R. S. Paterson.
Superintendent, Jas. B. Gillespie.
Process manufacture, Acetylene; Minneapolis Acetylene Cons. Co. generator.
Pop. dist. supplied, 610. No. meters, 62
Miles of mains, approximate, 3; 2.5 to 0.75 in; galv. pipe.
Carbide consumed, 25 tons.
Price gas per 1,000 c. f., \$15.
No. public lamps, 18.

Price per year, \$300.
Consumption per burner per hour, 0.5 c. f.
Price includes repairs, care, lighting and extinguishing.
No. hours lighted per year, 1,000.
Annual sales, approx., 225,000 c. f.
Supplies Morris.

Souris Gas Co., Ltd., Souris, Manitoba.

General office, 604 Power Bldg., Montreal, Que.
Capital stock, \$19,000; ann. div., 8 p. c.
President, A. L. Young.
Sec'y and treas., D. D. McTavish.
Pur. agt., D. D. McTavish, Montreal.
Superintendent, A. E. Lawton.
Process manufacture, Acetylene. Acetylene Construction Co. generator.
Pop. dist. supplied, 2,000. No. meters, 178.
Miles of mains, 12.
Price gas, per 1,000 c. f., gross, \$20; disc., 20 p. c.
No. public lamps, 27; lighted 756 hrs.
Consumption per burner per hour, 1 c. f.
Price per year, \$25.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., 320,000 c. f.
Supplies Souris.

Virden Town Plant, Virden, Manitoba.

(Municipal plant.)
Mayor, D. Carnahan.
Secretary and treas., W. W. Whiteford.
Superintendent, W. C. Lidington.
Process manufacture, Acetylene. Acetylene Construction Co. generator.
Pop. dist. supplied, 2,000. No. meters, 160.
Miles of mains, approximate, 6; .75 to 2 in.
Carbide consumed, 60 tons.
Price gas: Light, per 100 c. f.; net \$1.25.
No. public lamps, 31; price, \$1.25 per 100 c. f.
No. hours lighted, per year, 1,000.
Consumption per burner per hour, 1.5 c. f.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., 560,000 c. f.
Supplies Virden.

Harriston Gas Co., Harriston, Ont.

Controlled by Acetylene Construction Co., Ltd., Montreal, Canada.
Manager, H. W. Taylor.
No consumers, 75.

Acetylene Construction Co., Ltd., Inwood, Ontario.

General office, 604 Power Bldg., Montreal, Que.
Capital stock, \$1,500.
President, Howard Murray.
Treasurer, D. D. McTavish.
Superintendent, Wm. Warren.
Process manufacture, Acetylene.
Pop. district supplied, 400.
No. meters, 44.
Miles of mains, approx., 3.
Price of gas, \$1.50 per 100 c. f.
No. public lamps, 7. Price per year, \$15.
Price does not include repairs, care, lighting and extinguishing.
Lighted as ordered.
Annual sales, approx., 55,000 c. f.
Supplies Inwood.

The cuts at the sides show the first five million cu. ft. holder erected in the United States, over twenty years ago. This size now is the most general for large gas plants.

R. D. WOOD & CO., PHILA., PA.



Lansdowne Gas Plant, Lansdowne, Ontario.

Owner, C. M. Quinn.
 Purchasing agent, W. F. Earl.
 Superintendent, C. L. Quinn.
 Process manufacture, Acetylene; Earl generator.
 Pop. dist. supplied, 700. No. meters, 35.
 Miles of mains, 2; 1.5 in.
 Price gas per 1,000 c. f., \$15.
 Annual sales, approx., 50,000 c. f.
 Supplies Lansdowne.

Massey Light, Heat and Power Co., Massey, Ont.

(Operated by Acetylene Construction Co., Ltd.)
 Pop. dist. supplied, 700.
 No. meters, 50.
 Miles of mains, approx., 8.
 No. public lamps, 15. Price gas \$1.50.
 Consumption per burner per hour, 1 c. f.
 Price by meter; does not include repairs, care, lighting and extinguishing.
 Hours lighted, each lamp, 1,000.
 Annual sales, approx., 200,000 c. f.

Ripley Acetylene Gas Co., Ltd., Ripley, Ontario.

Capital stock, \$1,800.
 Annual dividend, 5 p. c.
 President, A. Munn.
 Secretary, Angus Martyn.
 Treasurer and pur. agt., W. J. Crawford.
 Superintendent, Duncan Munn.
 Process manufacture, Acetylene; London generator.
 Pop. dist. supplied, 500.
 No. meters, 41.
 Miles of mains, approximate, 1.5; 0.75 in.
 Carbide consumed, 20 tons.
 Price gas, per 1,000 c. f., \$15.
 No. public lamps, 12. Price, \$15 per 1,000 c. f.
 Consumption per burner per hour, 0.75 c. f.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 888.
 Annual sales, approximate, 92,610 c. f.
 Supplies Ripley.

Rodney Gas and Water Co., Ltd., Rodney, Ontario.

Capital stock, auth., \$10,000; issued, \$2,375.
 President, N. S. Lusty.
 Secretary, E. A. Hugill.
 Treasurer, J. J. Mistelet.

Supt. and pur. agt., E. A. Hugill.

Process manufacture, Acetylene; Canada

Acetylene Co's. generator.

Pop. dist. supplied, 1,000.

No. meters, 65.

Miles of mains, approximate, 3; 0.5 to 3 in.

Carbide consumed, 20 tons.

Price gas, per 1,000 c. f., gross, \$1.350; net \$12.60.

No. public lamps, 26.

Price per year, \$14.

Consumption per burner per hour, 1.5 c. f.

Price includes repairs, care, lighting and extinguishing.

No. hours lamp is lighted per year, 950

Annual sales, approx., 16,000 c. f.

Supplies Rodney.

Rosthern Light and Heat Co., Ltd., Rosthern, Sask.

(Operated by Acetylene Construction Co., Ltd.)
 Process manufacture, Acetylene.
 Pop. dist. supplied, 1,200. No. meters, 115.
 Miles of mains, approx., 6; 1.5 to 3 in.
 Price gas per 1,000 c. f., gross \$20; \$17.50 net
 No. public lamps, 20. Price by quantity.
 Consumption per burner per hour, 2 c. f.
 Hours lighted per year, 1,000.
 Price does not include care, lighting and extinguishing.
 Annual sales, approx., 400,000 c. f.
 Candle power, 50.
 Supplies Rosthern.

Yorkton Gas Co., Yorkton, Sask.

General office, 604 Power Bldg., Montreal, Que.
 Capital stock, \$15,000; ann. div., 8 p. c.
 President, W. D. Dunlop.
 Secretary, D. D. McTavish.
 Treasurer and pur. agt., D. D. McTavish.
 Superintendent, A. E. Lawton.
 Generator made by Acetylene Construction Co., Ltd.
 Pop. dist. supplied, 2,000. No. meters, 196.
 Miles of mains, approx., 15.
 Price of gas to consumers, gross, \$2; net, less 20 p. c.
 No. public lamps, 37. Price per year, \$25.70.
 Price includes repairs, care, lighting and extinguishing.
 Hours lighted per year, 1,062.
 Annual sales, approximate, 430,000 c. f.
 Supplies Yorkton.

**Williams' "Agrippa" Boring-Tool Holder**

The Boring Tool takes any size or shape of bar and requires no bushings. Its sleeve bar permits either straight or angular adjustment of cutter without resetting.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

THE GAS AGE

America's Leading Periodical Devoted to Gas

SUBSCRIPTION PRICE \$3 PER YEAR

52 Vanderbilt Avenue, New York

GASOLINE TOWN PLANTS

ILLINOIS.

Ashton Gas Plant, Ashton.

(Municipal plant.)
 Superintendent, Village Marshal.
 Village Clerk, Ralph J. Dean.
 Process manufacture, Gasoline.
 Pop. dist. supplied, 900. No. meters, 125.
 Miles of mains, approximate, 4.5; 1.25 to 3 in.
 Price gas, per 1,000 c. f., net, \$1.25.
 No. public lamps, 48.
 No. hours each lamp is lighted per year, 700.
 Price includes care, repairs, lighting, and extinguishing.
 Annual sales, approx., 2,000,000 c. f.
 Supplies Ashton.

Shabbona Gas Plant, Shabbona.

(Municipal)
 President, J. W. Swanson.
 Secretary, W. H. Ray.
 Treasurer, C. F. Stein.
 Superintendent, G. A. Ackerblade.
 Process manufacture, Gasoline.
 Population, 700. No. meters, 50.
 Miles of mains, approx., 2.6; 1.25 to 2 in.
 Price gas, 1,000 c. f., \$1.25.
 No. public lamps, Miner, 18.
 Annual sales, approx., 1,200,000 c. f.

IOWA.

City Gas Plant, Battle Creek.

(Municipal plant.)
 Superintendent, Wm. Buenz.
 Process manufacture, Gasoline; sp. g., 0.84-0.86; Practical generator.
 Pop. dist. supplied, 600. No. meters, 112.
 Miles of mains, approx., 2.8; 1 to 3 in.
 Price gas, net, \$1.50.
 No. public lamps, 24; lighted 800 hours.
 Price per year, \$18 each.
 Price includes repairs, care, lighting and extinguishing.
 Annual sales, approx., 1,957,000 c. f.
 Supplies Battle Creek.

Bancroft Gas Co., Bancroft.

(Municipal plant.)
 President, J. B. Mousel.
 Secretary, A. W. Murray.
 Treasurer, Ed. Kennedy.
 Pur. agent and supt., J. B. Wessels.
 Process manufacture, Gasoline; sp. g., 0.86.
 Pop. dist. supplied, approx., 500.
 Miles of mains, approx., 3.5; 1.25 to 2.5 in.
 No. meters, 55.
 Price gas, per 1,000 c. f., \$1.50.
 No. public lamps, Miner, 20; hrs. lighted, 375.
 Candle-power, 100.
 Annual sales, approx., 600,000 c. f.
 Supplies Bancroft.

Town of Baxter Lighting Plant, Baxter.

(Municipal plant.)
 Bonds, \$3,000; due 1920; int. 6 p. c.
 Town treasurer, Chas. Bindeck.
 Town clerk, Carl C. Webb.
 Superintendent, H. H. Maggard.
 Process manufacture, Gasoline; Practical Gas Co. generator.
 Pop. dist. supplied, 527.
 No. meters in service, 98.
 Miles of mains, approx., 4; 1.25 to 2 in.
 Price of gas to consumers, 90c. per 1,000 c. f.
 No. of public lamps, 19; lighted dark nights only.
 Supplies Baxter.

Brighton Gas Plant, Brighton.

(Municipal plant.)
 Total investment, \$6,000.
 Bonds, \$800; due 1916-17; int., 4 p. c.
 Mayor, L. M. Shryock.
 Treasurer, W. E. Berry.
 Town clerk, C. H. Pauls.
 Supt. and pur. agent, W. F. Sweet.
 Process manufacture, Gasoline; sp. g., 0.86.
 Generator in use, Ideal.
 Population, 1,016. No. meters, 70.
 Miles of mains, 3; 2 in.
 Price gas to consumers, \$1.60 per 1,000 c. f.
 No. public lamps, 40; each lamp lighted 720 hrs.
 Lighted moonlight schedule. Price per year, \$36 per lamp.
 Price includes repairs, care, lighting and extinguishing.
 Supplies Brighton.

Brooklyn Gas Plant, Brooklyn.

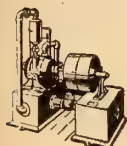
(Municipal plant.)
 Mayor, O. D. Wall.
 Clerk, Frank Talbott.
 Treasurer, N. H. Wright.
 Supt. Ben York.
 Process manufacture, Gasoline; sp. g. 86°.
 Chicago Gas Machine generator.
 Pop. dist. supplied, 1,500.
 Miles of mains, approximate, 4½; 1.5 in.
 No. meters, 200.
 Price of gas, gross, \$1.80 per 1,000 c. f.; net, \$1.62.

Calmar Gas Plant, Calmar.

Owner, A. H. Latimer.
 Process, Gasoline; Hawkeye Mfg. Co. generator.
 Pop. dist. supplied, 1,000.
 No. meters, 55.
 Miles of mains, approx., 3.5; 4 in. to 2 in.
 Price gas, gross, domestic \$1.50 per 1000 c. f.
 Supplies Calmar.

Municipal Gas Plant, Casey.

(Municipal plant.)
 Bonds, \$2,100; due 1925; int., 5 p. c.
 Mayor, J. T. Smith.



YOUR INTEREST AND CONSUMERS' INTERESTS are IDENTICAL. Efficient service now means continuous service after the war, as it will demonstrate that gas used efficiently is the ideal fuel. Tell your customer about the NEEDHAM SYSTEM OF ECONOMY.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Marshall and plant operator, M. M. Varley.
 Clerk, Carl B. Galloway.
 Treasurer, Fred Gray.
 Pur. agent, E. A. Ivers.
 Process manufacture, Gasoline; sp. g., 0.86-0.88. Practical generator.
 Pop. dist. supplied, 700.
 No. meters, 101.
 Miles of mains, 2; 2 to 3 in.
 Price gas, per 1,000 c. f., \$1.20.
 No. public lamps, 23.
 Each lamp lighted, approx, 700 hrs. per year.
 Contract includes repairs, care, lighting and extinguishing.
 Annual sales, approx., 2,000,000 c. f.
 Supplies Casey.

Clarence Gas Plant, Clarence.

(Municipal plant.)
 Bonds, \$4,500; serial; int., 5 p. c.
 Superintendent, S. L. McLeod.
 Process manufacture, Gasoline.
 No. meters, 60.
 Miles of mains, 2.5.
 Price gas, 1,000 c. f., \$1.50.
 No. public lamps, Miner, 17.

Dunlap Light, Heat and Power Co., Dunlap.

(Company has gone out of business.)

Town of Durant Gas Plant, Durant.

(Municipal plant.)
 Mayor, Ed. Denkmann.
 Recorder, Paul Samberg.
 Treasurer, Henry Rohlfis.
 Purchasing agt., Chmn. Town Prop. Com.
 Superintendent, Wm. Borkwoldt.
 Process manufacture, Gasoline; Leckband generator; sp. g., 0.86-0.88.
 Pop. dist. supplied, 800. No. meters, 166.
 Miles of mains, approximate, 3.5; 2.5 and 1.5.
 Price gas, per 1,000 c. f., \$2.
 Annual sales, approx., 1,010,000 c. f.
 (Public street lighting, by electricity.)

E. E. Rowe Gas Co., Early.

Capital stock, \$10,000; annual div., 3 p. c.
 President, E. C. Fuller.
 Secretary, F. J. Kirwin.
 Treasurer, D. D. Carlton.
 Superintendent, A. P. Mennis.
 Process manufacture, Gasoline.
 Pop. dist. supplied, 500. No. meters, 43.
 Miles of mains, approximate, 2; 1 to 3 in.
 Price gas, per 1,000 c. f., \$1.75.
 No. public lamps, Miner, 15. Price per lamp per year, \$24; lighted until 11 P. M.
 Annual sales, approx., 480,000 c. f.
 Candle-power, 70.
 Supplies Early.

Citizens Gas Co., Elkader.

Capital stock, \$10,000.
 President, L. M. Bink.
 Secretary and treasurer, J. F. Becker.
 Supt. and pur. agt., Ross Richardson.
 Process manufacture, Gasoline; sp. g., 84°-86°.
 Mower generator used.
 Population district supplied, 1,400.
 Miles of mains, approx., 3½; 1.25 to 3 in., cast iron.

No. meters, 90.
 Price gas, gross \$1.25 per 1,000 c. f.; net, \$1.10.
 Annual sales, approximate, 2,890,000 c. f.
 Supplies Elkader.

Farley Gas Works, Farley.

(Municipal plant.)
 Bonds, \$4,000; due, \$500 annually; int., 5½ p. c.
 Mayor, Wm. Baker.
 Superintendent, Wm. Baker.
 Process manuf. Gasolene; sp. g. 88 p. c.; Twentieth Century generator.
 Pop. dist. supplied, 800; meters, 17.
 Miles of mains, 2.5; 2 in. to 4 in.
 Price of gas to consumers, \$1.50 per 1,000 c. f.
 No. public lamps, 42.
 Supplies Farley.

Kingsley Gas Light and Heating Co., Kingsley.

Capital stock, \$7,400.
 President, Randolph Payne.
 Secretary, J. M. Wormley.
 Treasurer, Harry Huss.
 Pur. agent, R. Payne.
 Superintendent, M. D. Gates.
 Process manufacture, Gasoline; sp. g., 0.87.
 Generator used, Practical.
 Pop. dist. supplied, 1,000.
 No. meters, 86.
 Miles of mains, approx., 5; 1 to 3.5 in.
 Price gas, per 1,000 c. f., \$1.60.
 No. public lamps, Miner, 24. Price per year, \$54.
 Consumption per burner per hour, 5 c. f.
 Price includes repairs, care, lighting and extinguishing.
 Lighted moonlight schedule.
 Annual sales, approx., 1,500,000 c. f.
 Supplies Kingsley.

Lohrville Municipal Gas Plant, Lohrville.

(Municipal plant.)
 Bonds outstanding \$2,500; due 1918; int., 5½ p. c.
 Mayor, J. E. Barre.
 Clerk, W. H. Marple.
 Treasurer, G. W. Evans.
 Superintendent and pur. agt., E. E. Huggins.
 Process manufacture, Gasoline; sp. gr., 0.86-0.88.
 Pop. dist. supplied, 674. No. meters, 50.
 Miles of mains, approximate, 1.25; 2.5 in.
 Price gas: Light and fuel, \$1.50.
 No. public lamps, 21. Price per year, \$24.
 Lighted 600 hours per year.
 Annual sales, approximate, \$1,200.
 Supplies Lohrville.

Marathon Gas Plant, Marathon.

(Municipal plant.)
 Supt. and sec'y, C. A. Bisby.
 Pur. agent, C. A. Bisby.
 Process, Gasoline; sp. g., 0.74-0.76; Mower generator.
 Price oil per gal. delivered, 13.5c.
 Pop. dist. supplied, 500; of city, 700.
 Average candle power, 20.
 Miles of mains, approx., 1.25; 2.5 and 2 in.
 Consumers and meters, 50.
 Price gas, per 1,000 c. f., \$1.25 to \$1.50.

GASOLINE RECOVERY by Absorption or Compression. Let us investigate your proposition and figure on a plant.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

No. public lamps, 11.
Lighted on moonlight schedule.
Annual sales, approximate, 1,000,000 c. f.
Supplies Marathon.

Mediapolis Municipal Gas Plant, Mediapolis.

(Municipal plant.)
Mayor, J. H. Scott.
Treasurer, M. W. Bridwell.
Secretary, Roy Hutcheson.
Pur. agent, Gas Committee.
Superintendent, Jas. Allison.
Process manufacture, Gasoline; sp. g., 0.88.
Generator made by Standard Oil Co.
Pop. dist. supplied, 900. No. meters, 88.
Miles of mains, approximate, 6; 1 to 2.5 in.
Price gas, per 1,000 c. f., \$1.25; disc., 10 p. c.
Annual sales, approx., \$1,800.
Supplies Mediapolis.

Monroe Gas Plant, Monroe.

(Municipal plant.)
Bonds, \$1,000; due 1917 and 1918; int. 6 p. c.
Mayor, O. G. Shaw.
Gas committee, F. W. Johnson and E. L. Sweeney.
Clerk, Earl B. Shaw.
Treasurer, F. B. Kingdon.
Superintendent, Geo. Koder.
Process manufacture, Gasoline; sp. g., 0.83.
Generator, Practical Gas Construction Co.
Pop. dist. supplied, 1,000. No. meters, 165.
Miles of mains, approximate, 7. 2 in.; 2 in.; 1.5 in.; 1.25 in.
Price gas, per 1,000 c. f., \$1.90.
No. public lamps, Miner, 50; lighted 600 hours.
Price per year, \$1,500.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., \$3,600.
Supplies Monroe.

Newell Gas Plant, Newell.

(Municipal plant.)
Bonds, \$3,000; due 1918; int., 5½ p. c.
Superintendent, F. C. Foley.
Secretary, C. R. Waterman.
Treasurer, G. W. Chaney.
Process manufacture, Gasoline; sp. g., 0.86.
Population, 800. No. meters, 78.
Miles of mains, approximate, 2; 1.25 iron.
Price of gas, gross, \$1.50 per 1,000 c. f.
No. public lamps, 20; lighted, 546 hrs.
Price per year, \$650.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., 1,500,000 c. f.

Odebolt Lighting Co., Odebolt.

Capital stock, \$9,000; annual div., 6 p. c.
President, Joseph Mattes.
Treasurer, C. C. Coy.
Secretary, W. F. Bay.
Superintendent, H. C. Kuhl.
Process manufacture, Gasoline. Mower generator.
Pop. dist. supplied, 1,500. No. meters, 185.
Miles of mains, 4; 1.25 to 3 in.
Price gas, per 1,000 c. f., \$1.75.
No. public lamps, Miner, 35.
Price per year, \$36.

Price includes repairs, care, lighting and extinguishing.
No. hours lamp is lighted per year, 1,200.
Annual sales, approx., 5,000,000 c. f.
Candle-power, 32.
Supplies Odebolt.

Pleasantville Gas Plant, Pleasantville.

(Municipal plant.)
Mayor, P. A. Dyer.
Treasurer, C. L. Gose.
Clerk, J. K. Keefer.
Superintendent, H. A. Anderson.
Process manufacture, Gasoline; Practical generator; sp. gr. 80°-86°.
Population, 825. No. meters, 160.
Miles of mains, approximate, 5; 1.25 in.
Price gas, per 1,000 c. f., \$1.50.
No. public lamps, 40.
Lamps lighted, 1,000 hrs. per year.
Contract includes repairs, care, lighting and extinguishing.
Annual sales, approx., \$3,000.
Supplies Pleasantville.

Primghar Gas Co., Primghar.

Capital stock, \$5,518.
President, W. R. Hendry.
Secretary, O. H. Montzheimer.
Treasurer, R. Hinman.
Superintendent, W. R. Henry.
Process manufacture, Gasoline; sp. g., 86-88 degrees.
Pop. dist. supplied, 950.
No. meters, 87.
Miles of mains, approximate, 3; 2.5 and 2 in.
Price gas, per 1,000 c. f., \$1.75.
Annual sales, approx., 713,000 c. f.

Riverside Gas Plant, Riverside.

(Plant discontinued.)

Rockwell Gas Lighting Co., Rockwell.

Capital stock, \$1,500.
President, Geo. H. Felthous.
Secretary, Wm. Jackson.
Superintendent, W. F. McClelland.
Pur. agent, Wm. Jackson.
Process manufacture, Gasoline.
Generator used, Hawkeye.
Pop. dist. supplied, 900. No. meters, 40.
Miles of mains, approx., 1; 1 to 2.5 in.
Price gas, per 1,000 c. f., \$1.50.
Supplies Rockwell.

Ryan Gas Works, Ryan.

(Municipal plant.)
City engineer, G. C. Johnston.
Process manufacture, Gasoline; 20th Century machine.
No. meters in service, 10.
Miles of mains, approx., 1; size, 3 in.
Price of gas to consumers, gross, \$1.25 per 1,000 c. f.
Supplies Ryan.

Schaller Gas Light and Fuel Co., Schaller.

Capital stock, \$5,000.
Notes, \$1,099; due 1918; int. 7 p. c.
President, Chas. W. Brinhall.
Secretary, A. D. Woodke.
Treasurer and supt., J. L. Howard.
Pur. agent, J. L. Howard.



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Process manufacture, Gasoline, Columbia generator; sp. gr., 0.81-0.86.
 Pop. dist. supplied, 750.
 No. meters, 135.
 Miles of mains, approximate, 3; 1 to 3 in.
 Price gas, per 1,000 c. f., \$2.25 (after Jan 1, 1918.)
 No. public lamps, Miner, 29. Price per year, \$36.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 900.
 Annual sales, approx., 2,000,000 c. f.
 Supplies Schaller

Williamsburg Gas Plant, Williamsburg.

(Municipal plant.)
 City clerk, Chas. Fletcher.
 Superintendent, B. F. Furman.
 Process manufacture, Gasoline.
 Pop. dist. supplied, 1,100.
 No. meters, 125.
 Miles of mains, approximate, 3.5; 1 to 3 in.
 Price gas, per 1,000 c. f., \$1.25.
 No. public lamps, 34; lighted until 11 P. M.
 Annual sales, approximate, 2,500,000 c. f.
 Candle-power, 16.
 Supplies Williamsburg.

MICHIGAN.

Lawrence Gas Works, Lawrence.

(Municipal plant.)
 President of Village Board, O. B. Disenroth.
 Secretary, S. M. Hert.
 Treasurer, B. Essig.
 Superintendent, H. P. Jennings.
 Proc. Gasoline; sp. gr. 85°.
 Pop. dist. supplied, 500.
 No. meters, 75.
 Miles of mains, 3; 3 in. to 1.25 in.
 Price of gas, to consumers, \$1.25 per 1,000 c. f.
 No. public lamps, 30.
 Price per year, \$50.
 Consumption, 3.5 c. f. per burner hour.
 Annual sales, approx., 120,000 c. f.

MINNESOTA.

Amboy Gas Plant, Amboy.

(No report, 1918.)

Bricelyn Gas Plant, Bricelyn.

(Municipal plant.)
 President, C. M. Hanson.
 Clerk and pur. agt., J. H. Reed.
 Treasurer, I. Leknes.
 Superintendent, Jno. W. Foster.
 Process manufacture, Gasoline, Leckband generator; sp. g., 0.87.
 Pop. dist. supplied, 500.
 No. meters, 10.
 Mains, approx., 4,000 ft.; 2 in.
 Price gas, per 1,000 c. f., \$1.25.
 No. public lamps, 5.
 Contract includes repairs, care, lighting and extinguishing.
 Lighted 5 hours, except moonlight nights.
 Annual sales, 275,000 c. f.
 Supplies Bricelyn.
 Above is report for 1916.
 (Company discontinued in 1918.)

Currie Gas Plant, Currie.

(Municipal plant.)
 Bonds, \$500; due 1918; int., 7 p. c.
 Chairman of Council, V. Hruska.
 Recorder, C. A. Portmann.
 Treasurer, C. W. Silvernale.
 Purchasing agent, C. A. Portmann.
 Superintendent, Thomas Flynn.
 Process manufacture, Gasoline; 0.86-0.88.
 Generator made by National Construction Co., Indianapolis, Ind.
 Pop. dist. supplied, 600. No. meters, 32.
 Miles of mains, approx., 1.33; 1.5 to 2.5 in.
 Price gas, per 1,000 c. f., sliding scale, \$1.25.
 No. public lamps, Miner, 11; lighted 720 hrs. per year.
 Price per year, \$22.
 Price does not include repairs, care, lighting and extinguishing.
 Annual sales, approx., 1,000,000 c. f.
 Supplies Currie.

Houston Gas Plant, Houston.

(Municipal plant.)
 President of Council, E. O. Abrahamson.
 Purchasing agent, Village Gas Committee.
 Superintendent, John Newbury.
 Recorder, G. L. Schonlan.
 Treasurer, H. Forsyth.
 Process manuf., Gasoline; Leckband generator.
 Population district supplied, 900.
 No. of meters in service, 100.
 Miles of mains, 4; 1.25 to 2 in.
 Price gas 1,000 c. f., \$1.50.
 No. public lamps, Miner, 15.
 Contract does not include repairs, care, lighting or extinguishing.
 Lamps lighted 500 hours per year.
 Annual sales, approx., 1,200,000 c. f.
 Supplies Houston.

The Gas Plant, Lester Prairie.

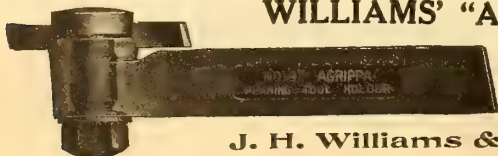
(Municipal plant.)
 Process manufacture, Gasoline.
 Miles of mains, approximate, 1.5.

NEBRASKA.

The Gas Plant, Hartington.

(Municipal plant.)
 Bonds, \$2,000; due, 1921; int., 5 p. c.
 Mayor, Anton Walz.
 City Clerk, W. H. Pohle.
 Treasurer, R. G. Mason.
 Superintendent, C. H. Connelly.
 Process manufacture, Gasoline; sp. g. 0.84—0.86.
 Population, 1,500.
 No. meters, 150.
 Miles of mains, approximate, 4; size, 1.5 to 3 in.
 Price of gas, \$1.50 per 1,000 c. f.
 No. of public lamps, 37.
 No. hours lighted, 822.
 Price per year, \$900.
 Price includes repairs, care, lighting and extinguishing.
 Annual sales, approx., 3,224,200 c. f.
 Supplies Hartington.

WILLIAMS' "AGRIPPA" PLANING-TOOL HOLDER



The Planing Tool with thirty-six angles of adjustment may be used on shapers or for heavy turning on lathes.

J. H. Williams & Co., 74 Richards St., B'klyn, N. Y.

Oakland Gas Plant, Oakland.

(Municipal plant.)
City clerk, A. F. Wickstrom.
Process manuf., Gasoline.

Syracuse Heat and Light Plant, Syracuse.

(Municipal plant.)
Mayor, Thos. Guthrie.
Village treasurer, James Fairhead.
Water and Light, commr. J. E. Reed.
Superintendent, J. E. Reed.
Process manufacture, Gasoline; Practical generator; sp. gr., 88 deg.
Pop. dist. supplied, 1,000. No. meters, 123.
Miles of mains, approximate, 4; 1 to 3 in.
Price gas, per 1,000 c. f., \$1.50.
No. public lamps, Miner, 31.
Price per year, each, \$24.
Contract includes repairs, care, lighting and extinguishing.
Consumption per burner per hour, 10 c. f.
No. hours lamp is lighted per year, 800.
Annual sales, approx., \$2,000.
Supplies Syracuse.

NEVADA.**Globe Gas Co. of Nevada, Goldfield.**

(Plant installed, 1917.)
Capital stock, \$1,000,000; divided, pref., \$200,000; com., \$800,000.
President and treas., J. B. Fayant.
Secretary, F. Fremont Reed.
Gen. manager, H. Howard Dunbar.
Superintendent, C. C. Manker.
Process manufacture, Gasoline.
Pop. dist. supplied, 4,500. Miles of mains, 1.
Price gas gross, dom., \$2 net; \$1.80 lighting; \$1.25 heating.
Supplies Goldfield.

NEW HAMPSHIRE.**Pittsfield Gas Co., Pittsfield.**

Capital stock, \$15,000; ann. div., 3 p. c.
President, S. J. Winslow.
Secretary, N. S. Drake.
Treasurer, H. B. Fisher.
Purchasing agt. and supt., N. M. Batchelder.
Process of manufacture, Naphtha.
Population dist. supplied, 2,500.
No. consumers, 100.
No. meters in service, regular, 94; prepayment, 6.
Miles of mains, approx., 2.5; 4 in. to 2 in. iron.
Average candle power, 40.
Price of gas to consumers, net \$2.
Annual sales, approx., 1,600,000 c. f.
Supplies Pittsfield.

NEW JERSEY.**Pemberton Township Water, Sewerage and Light Co., Pemberton.**

Capital stock, \$10,000; ann. div., 5 p. c.
President, Isaac W. Budd.
Secretary, James B. Hankins.
Treasurer, J. G. Montgomery.

Process manufacture, Gasoline; sp. gr., 86°;
Practical Gas Engine Co.'s generator.
Pop. district supplied, 800. No. meters, 75.
Miles of mains, approx., 3; 1 to 2.5 in.
Price of gas to consumers, \$1.75.
No. public lamps, 51. Price per year, \$25.00.
Each lamp lighted 8 hours per night.
Consumption per burner per hour, 6 c. f.
Price includes repairs, care, lighting and extinguishing.
Annual sales, approx., \$2,500.
Supplies Pemberton.

NEW YORK.**Cincinnati Gas Co., Cincinnati.**

Capitol stock, \$1,400.
President, P. C. Wheeler.
Secretary, M. L. Halbert.
Treasurer, Geo. A. Haskins.
Pur. agent and supt., P. C. Wheeler.
Process manufacture, Gasoline, Springfield generator.
Pop. dist. supplied, 500. No. meters, 25.
Miles of mains, approximate, 2; 2.5, 2 and 1.5 in.
Price gas, per 1,000 c. f., \$2.50.
Annual sales, approximate, 350,000 c. f.
Supplies Cincinnati.

De Ruyter Gas Co., De Ruyter.

Capital stock, \$3,000; annual div., 3 p. c.
President, I. E. Smith.
Secretary, Ray L. Baldwin.
Treasurer, Ray L. Baldwin.
Pur. agent and supt., D. L. Allen.
Process manufacture, Gasoline, Springfield generator; sp. gr., 0.86.
Population, 700. No. meters, 38.
Mains, approximate, 2; 2 to 4 in.
Price gas, per 1,000 c. f., \$2.50.
Annual sales, approximate, 450,000 c. f.
Supplies De Ruyter.

Clinton Gas Co., East Hampton.

Capital stock, \$15,000.
President, D. G. Mulford.
Acting secy and acting treas., C. L. Edwards.
Pur. agent, J. T. Gardiner.
Superintendent, J. T. Gardiner.
Process manufacture, Gasoline, Gilbert & Barker generator; sp. gr., 0.86—0.88.
Pop. dist. supplied, 2,000. No. meters, 40.
Miles of mains, approximate, 2; 4 to 8 in.
Price gas, gross \$2.
Annual sales, approximate, 300,000 c. f.
Supplies East Hampton.

Jeffersonville Gas Plant, Jeffersonville.

Capital stock, \$3,850.
President, Wm. P. Miller.
Secretary and treas., Chester G. Yager.
Superintendent, Wm. J. Grishaber.
Process manuf., Gasoline; Springfield genr.
Pop. district supplied, 500. No. meters, 25.
Mains, approx., 4,500 ft.; 0.5 to 3 in.
Price gas per 1,000 c. f., \$2.25.
Supplies Jeffersonville.



1803

Our long experience at your service

HOLDERS, PURIFIERS, CONDENSERS, ETC.**R. D. WOOD & CO., PHILA., PA.**

1918



Margaretville Gas Light Co., Margaretville.

Capital stock, \$4,000; ann. div., 6 p. c.
 President, J. H. Hitt.
 Secretary, H. Rotermond.
 Treasurer, N. D. Olmstead.
 Superintendent, J. H. Hitt.
 Process manuf., Gasoline; Springfield gen.
 Pop. district supplied, 800.
 No. meters, 79.
 Price gas, per 1,000 c. f., \$2.
 No. of public lamps, 40; lighted per moon-light schedule.
 Price per year, \$15 each.
 Price includes lighting and extinguishing.
 Annual sales, approx., 700,000 c. f.
 Supplies Margaretville.

Milford Light Commission, Milford.

Gas plant not in use.
 Electricity being supplied.

Morris Gas Co., Morris.

Capital stock, \$2,400.
 President, L. B. Kenyon.
 Sec'y and treas., C. O. Mansfield.
 Pur. agent, L. B. Kenyon.
 Superintendent, L. B. Kenyon.
 Process manufacture, Gasoline; sp. g., .86 deg., Springfield generator.
 Population, 600. No. meters, 7.
 Price of gas, gross, per 1,000 c. f., \$ 2.50.
 Miles of mains, approximate, 1; 2 to 4 in.
 Annual sales, approx., 100,000 c. f.
 Supplies Morris.

Otego Lighting Co., Otego.

Capital stock, \$2,500; ann. div. 3.5 p. c.
 President, V. S. Fuller.
 Secretary, M. J. Fuller Morgan.
 Treasurer, G. M. Fuller Conner.
 Superintendent, V. S. Fuller.
 Process manufacture, Gasoline.
 Miles of mains, approx., 1; 1.25 to 4 in.
 Pop. dist. supplied, 300.
 No meters, 48.
 Price gas, per 1,000 c. f. \$2.
 Consumption per burner per hour, 2 c. f.
 Annual sales approx., 500,000 c. f.
 Candle-power, 25.
 Supplies Otego.

Roxbury Gas Lighting Co., Roxbury.

Capital stock, \$4,500; ann. div., 5 p. c.
 President, James R. Dart.
 Secretary, Frank Enderlin.
 Treas. and pur. agt., Frank Enderlin.
 Superintendent, John G. Lutz.
 Process manufacture, Gasoline, Springfield generator; sp. g., 0.86.
 Pop. dist. supplied, 500.
 No. meters, 75.
 Miles of mains, approx., 1.25; 1.25 in. to 3 in.
 Price gas, per 1,000 c. f., \$2.50.
 No. public lamps, 25. Price per year, \$375.
 Price includes repairs, care, lighting and extinguishing.
 No. hours lamp is lighted per year, 1,200.
 Consumption per burner per hour, 1.25 c. f.
 Annual sales, approximate, 100,000 c. f.
 Candle power, 16.
 Supplies Roxbury.

Sherburne Gas Co., Sherburne.

Capital stock, \$7,000.
 President, Edward Daniels.
 Secretary, E. L. Whitney.
 Treasurer, W. J. French.
 Supt., J. H. Shepard.
 Process manufacture, Gasoline; sp. g., .86.
 Population, 1,000. No. meters, 90.
 Miles of mains, approximate, 2; 1.5 to 3 in.
 Price gas, gross, \$2.25.
 Annual sales, approx., 800,000 c. f.
 Supplies Sherburne.

So. New Berlin Gas Co., So. New Berlin.

(Reported out of business.)

Merchants Gas Co., South Otselic.

Capital stock, \$1,100.
 President, E. J. Stack.
 Secretary, Frank E. Cox.
 Treasurer, J. L. Brown.
 Purchasing agent, Frank E. Cox.
 Superintendent, Frank E. Cox.
 Process manufacture, Gasoline; Springfield generator; sp. g. 0.86.
 Pop. dist. supplied, 300. No. meters, 28.
 Miles of mains, approximate, 2; 1.5 to 2.5 in.
 Price gas, per 1,000 c. f., \$2.50.
 Annual sales, approximate, 140,000 c. f.
 Supplies South Otselic.

SOUTH DAKOTA.**De Smet Gas Plant, De Smet.**

(Municipal plant.)
 Mayor, E. F. Green.
 Auditor, O. P. Williams.
 Superintendent, Gay Barrows.
 Process manuf., Practical (oil.)
 Price oil per gallon, delivered, 5.66c.
 Miles of mains, approx., 6.
 Street main pressure, max., 3.5 in.
 Annual sales, approx., 2,000,000 c. f.
 Candle-power, 23.
 Pop. city supplied, 1,063.
 No. consumers, 138.
 No. meters, reg., 100; prepay., 38.
 Price gas: Light and Fuel, net, \$2.
 No. public Welsbach lamps, 25.
 Supplies De Smet.

The Gas Plant, Flandreau.

(Plant closed down Jan. 11, 1918.)

Gettysburg Gas Co., Gettysburg.

Capital stock, \$12,000.
 President, Wm. E. Marshall.
 Vice-president, Lucy E. Ocock.
 Secretary, W. C. Marshall.
 Treasurer, W. E. Marshall.
 Pur. agents, W. E. and W. C. Marshall.
 General manager, William E. Marshall.
 Superintendent, C. H. Marshall.
 Process manufacture, Gasoline, sp. gr., 0.84 to 86.
 Generator used, Mowrer.
 Miles of mains, approx., 5.5; 2 to 3 in.
 Pop. of dist., 850. No. meters, 60.
 Price gas: Light, net, \$1.50 per 1,000 c. f.
 No. public lamps, 21.
 Price per year, approx., \$325.

RELIABLE

HOT SPOT

COPPER REFLECTOR

GAS HEATERS

Write now for samples and prices and bear in mind
 that the genuine "HOT SPOT" heater is fully guaranteed
 and made exclusively by

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Price does not include repairs, care, lighting or extinguishing.
 No. hours each lamp is lighted per year, approx., 1,500.
 Annual sales, approx., 200,000 c. f.
 Supplies Gettysburg.

Parker Gas Co., Parker.

Capital stock, \$10,000.
 President, F. L. Clisby.
 Vice-pres., F. C. Danforth.
 Secretary, W. R. Wood.
 Treasurer, L. K. Lord.
 Supt. and pur. agent, J. P. Waterbury.
 Process manufacture, Gasoline; Columbia generator; sp. g., 0.84-0.86.
 Pop. dist. supplied, 1,500. No. meters, 127.
 Miles of mains, 3.5; 4 in. to 1.25 in.
 Price gas, to consumers, \$1.75 per 1000 c. f.
 Annual sales, approximate, 2,158,155 c. f.
 Supplies Parker.

WISCONSIN.**Brandon Gas Plant, Brandon.**

(Municipal plant.)
 Village pres., E. H. Sherwin.
 Village clerk, Chas. Herrmann.
 Superintendent, Fred T. Norris.
 Pur. agent, Chas. Herrmann.
 Process, Gasoline; sp. g., 0.86-0.88.
 Pop. dist. supplied, 800. No. meters, 103.
 Miles of mains, 3; 3 in. and smaller.
 Price of gas, per 1,000 c. f., \$1.50.
 No. public lamps, 46.
 Lamps lighted 204 hrs. per year.
 Contract includes repairs, care lighting and extinguishing.
 Annual sales, approx., 1,000,000 c. f.
 Supplies Brandon.

Cambria Gas Co., Cambria.

(Municipal plant.)
 Investment, \$6,000.
 Mayor, A. G. Hopkins.
 Village Clerk, W. C. Davis.
 Treasurer, B. O. Lloyd.
 Superintendent, B. O. Lloyd.
 Process manufacture, Gasoline; sp. g., 0.86-0.88; Practical generator.
 Pop. dist. supplied, 700. No. meters, 145.
 Miles of mains, approx., 2; 3 in. to 1 in.
 Price gas, per 1,000 c. f., \$2.

No. public lamps, 30; lighted moon scale.
 Contract includes repairs, care, lighting and extinguishing.
 Closed down 1918

Clinton Gas and Water Works, Clinton.

(Gas plant has been discontinued.)

Fox Lake Gas Plant, Fox Lake.

(Municipal plant.)
 Bonds, \$2,750; due, \$350 each yr.; int., 4 p. c.
 Overseer of plant, H. Clausen.
 Superintendent, A. B. Rogers.
 Process manufacture, Gasoline; sp. g. 0.86.
 Pop. dist. supplied, 900. No. meters, 160.
 Miles of mains, approx., 3; 1.5 in. to 3 in.
 Price gas, per 1,000 c. f., \$1.25.
 No. public lamps, 43; lighted, moon schedule.
 Price per year, \$1,200.
 Price includes repairs, lighting and extinguishing.
 Annual sales, approx., 3,381,360 c. f. (including street lighting.)
 Supplies Fox Lake.

Hammond Gas Plant, Hammond.

(Plant closed.)

Hilbert Gas Plant, Hilbert.

(Municipal plant.)
 Bonds, \$500; due, 1918; int., 5 p. c.
 Village president, E. F. Raddatz.
 Treasurer, John J. Madler.
 Clerk, Nick Berg.
 Pur. agent, J. W. Grupe.
 Superintendent, Fred. Boeselager.
 Process manufacture, Gasoline; sp. g., 0.87;
 Practical Gas Machine Co. generator.
 Pop. dist. supplied, 700. No. meters, 72.
 Miles of mains, approx., 2.75; 3 to 1.25 in.
 Price gas, per 1,000 c. f., \$1.50.
 No. public lamps, Miner, 18.
 Lamps lighted from dusk to 11 p. m.
 Price per year, \$1,400; price includes repairs care, lighting and extinguishing.
 Consumption, 10 c. f. per burner hour.
 Annual sales, approx., 1,400,570 c. f.
 Candle power, 75.
 Supplies Hilbert.

Hortonville Light, Heat and Power Co., Hortonville.

(Plant closed down March 1, 1918.)

Markesan Village Gas Plant, Markesan.

(Operations discontinued.)



CHEMICAL CONTROL OF GAS MANUFACTURE

By W. M. Russell, Mgr., and F. Wills, Gen'l Supt.

Emporia Gas Co., Emporia, Kansas.

PART I.—"Practical Application" deals with the retort house. **PART II.**—"Elementary Chemical Theory" provides the necessary fundamentals.

The Book has 140 pages with 47 illustrations and numerous reference tables and diagrams. Smallest possible use of technical language or formulæ is made, and every description of elementary principles is based on actual demonstration to workers, in the writers' experience.

THE GAS AGE

Price \$1.50 Postpaid
 Lots of Five, \$6.00

52 VANDERBILT AVE., NEW YORK

Written for Practical Men
 by Practical Men

OIL PRODUCERS

CALIFORNIA.

Bankers' Oil Co., Bakersfield.

Executive office, 703 Citizens' Bank Bldg., Los Angeles, Cal.
Capital stock, \$737,500.
President, Orra E. Monnette.
Secretary and treasurer, M. J. Monnette.
Purchasing agent, Jess Drew.
General manager, M. J. Monnette.
Superintendent, Jess Drew.
160 acres owned in Kern River field.
Oil wells drawn from, 35.
Annual production, crude oil, 85,807.38 bbls.
Average price per bbl., 80c.
Number of oil storage tanks: Steel, 1; capacity, 37,000 bbls.

Illinois Crude Oil Co., Bakersfield.

Capital stock, \$200,000.
President, T. V. Doub.
Secretary, C. E. Arnold.
Treasurer, C. E. Arnold.
Manager, T. V. Doub.
Annual production, crude oil, 31,773 bbls.

American Petroleum Co., Coalinga.

Office, 1,034 Security Bldg., Los Angeles, Cal.
Capital stock, preferred, \$2,095,900; common, \$12,468,400.
Bonds, \$645,800; due, 1920; int., 6 p. c.
President, Thomas A. O'Donnell.
Secretary and treas., Norman Bridge.
Purchasing agent, Edward Everett, Jr.
General manager, Thomas A. O'Donnell.
Asst. gen'l manager, I. W. Fuqua.
Superintendent, J. B. Thompson.
1,376 acres owned in Coalinga field, Fresno Co., Cal.
Oil wells drawn from, 92.
Annual production, crude oil, 1,313,000 bbls.
Maximum day's output, crude oil, 3,900 bbls.; average price, per gal., 2c.
Number of oil storage tanks: Steel, 12; capacity, 260,000 bbls.
By-products: Annual production, tops 18,200 bbls.; sales, tops 17,000 bbls.
Annual sales, crude oil, shipments, 1,308,000 bbls.

Claremont Oil Co., Coalinga.

Office, Union Oil Bldg., Los Angeles, Cal.
Capital stock, \$96,685.
President, W. L. Stewart.
Secretary and treas., R. Bruce Wallace.
Comptroller, R. D. Matthews.
40 acres owned; 80 acres leased in Fresno and Kern Counties, Cal.
Oil wells drawn from, 20.
Annual production, crude oil, 176,061 bbls.
Average day's output, crude oil, 369 bbls.
Annual sales, crude oil, local, 111,612.75 bbls.

Mercantile Crude Oil Co., Coalinga.

Exec. office, 804 Hearst Bldg., San Francisco.
Capital stock, issued, \$152,353.
President, Peter Caubu.
Secretary, P. B. Stumpf.
Treasurer, E. L. Hueter.
Manager, W. S. Fisher.
Annual production: crude oil (approx.) 50,000 bbls.
Location field—Coalinga, Cal.

Premier Oil Co., Coalinga.

Exec. office, Los Angeles, Cal.
Capital stock, \$1,000,000.
President, T. Spellacy.
Secretary and Treasurer, B. H. Wallace.
Manager, J. S. Thomson.

St. Paul Consolidated Oil Co., Coalinga.

Executive office, Fresno, Cal.
Capital stock, pref., \$400,000; com., \$400,000.
President, Geo. L. Warlow.
Secretary, W. T. Knowles.
Treasurer, Farmers National Bank.
Manager, A. A. Baker.
Annual production: crude oil, 36,000 bbls.

Ward Oil Co., Coalinga.

Exec. office, Fresno, Cal.
Capital stock, pref., \$100,000; com., \$100,000.
President, Geo. L. Warlow.
Secretary, C. H. Warlow.
Treasurer, Farmers Nat. Bank of Fresno.
Manager, T. D. Biller.
Annual production: crude oil, 50,000 bbls.

American Oilfields Co., Fellows.

Office, 1,034 Security Bldg., Los Angeles, Cal.
Capital stock, \$18,302,800.
Bonds, \$2,129,600; due, 1930; int., 6 p. c.
President and gen. mgr., Thos. A. O'Donnell.
Secretary and treas., Norman Bridge.
Purchasing agent, Edw. Everett, Jr.
Asst. gen'l mgr., I. W. Fuqua.
1,160 acres owned in Midway field, Kern Co., Cal.
Oil wells drawn from, 48.
Annual production, crude oil, 1,460,000 bbls.
Maximum day's output, crude oil, 4,000 bbls.; average price, per gal., 2c.
Number of oil storage tanks: Steel, 21; capacity, 586,000 bbls.; cement res., 1; capacity, 574,000 bbls.
By-products: Ann. production, tops 203,000 bbls.; sales, tops 205,000 bbls.
Annual sales, crude oil, shipments, 1,410,000 bbls.

Midland Oil Co., Fellows.

Office, 1,034 Security Bldg., Los Angeles, Cal.
Capital stock, \$100,000.
President, Thos. A. O'Donnell.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Secretary and treas., Norman Bridge.
 Purchasing agent, Edw. Everett, Jr.
 General manager, Thos. A. O'Donnell.
 Asst. gen'l mgr., I. W. Fuqua.
 Superintendent, R. T. Covert.
 180 acres leased in Midway field, Kern Co., Cal.

Oil wells drawn from, 6.
 Annual production, crude oil, 27,000 bbls.
 Maximum day's output, crude oil, 85 bbls.; average price, per gal., 2.5c.
 Number of oil storage tanks: Steel, 3; capacity, 4,800 bbls.
 Annual sales, crude oil, shipments, 27,000 bbls.

Petroleum Midway Co., Ltd., Fellows.

Office, 1,034 Security Bldg., Los Angeles, Cal.
 Capital stock, \$810,000.
 President, Thos. A. O'Donnell.
 Secretary and treas., Norman Bridge.
 Purchasing agent, Edward Everett, Jr.
 General manager, Thos. A. O'Donnell.
 Asst. gen'l mgr., I. W. Fuqua.
 Superintendent, T. J. Crumpton.
 420 acres owned; 250 acres leased in Midway district and Montebello district.
 Oil wells drawn from, 10.
 Annual production, crude oil, 245,000 bbls.
 Maximum day's output, crude oil, 675 bbls.; average price, per gal., 3c.
 Number of oil storage tanks: Steel, 3; capacity, 5,600 bbls.
 Annual sales, crude oil, shipments, 245,000 bbls.
 276,000 gallons gasoline extracted by absorption, by La Habra Gasoline Co. and Sixteen Oil Co., from gas of this company.

Columbia Oil Producing Co., Fullerton.

Main office, Olinda, Orange County, Cal.
 Mailing address, R. F. D. No. 3, Fullerton, Cal.
 President and gen'l mgr., W. B. Scott.
 Secretary and treas., W. Astley.
 Capital stock, common, auth., \$3,500,000; issued, \$3,418,891.50.
 Dividend rate, 6 p. c. per annum.

Montebello Oil Company, Fillmore.

Executive office, 433 California St., San Francisco, Cal.
 Capital stock, \$1,000,000.
 President, Chas. W. Gardner.
 Secretary, A. E. Boynton.
 Treasurer, A. E. Boynton.
 No. of producing oil wells, 83.
 Annual production, crude oil, 475,611 bbls.
 By-products: Production in 1917, gasoline, 621,162 gals.

California Coast Oil Co., Los Angeles.

Office, Union Oil Building.
 Capital stock, \$200,000.
 President, W. L. Stewart.
 Secretary, John McPeak.
 Comptroller, E. W. Clark.
 600 acres leased in Santa Barbara Co., Cal.
 Oil wells drawn from, 10.
 Annual production, crude oil, 171,808 bbls.
 Average day's output, crude oil, 473 bbls.
 Annual sales, crude oil, local, 171,401 bbls.

California Petroleum Corp., Los Angeles.

(For officers, etc., see "Parent Companies.")
 No. oil wells, 165.
 Annual prod., 3,331,812 bbls.
 Price per bbl., 85c.
 Annual sales: crude oil, 2,938,546 bbls.

Central Oil Co. of Los Angeles, Los Angeles.

Office, 404 H. W. Hellman Bldg.
 Capital stock, \$1,089,700.
 President, I. A. Lothian.
 Secretary, Robt. N. Bulla.
 General manager, Robt. N. Bulla.
 Pur. agent, Robt. N. Bulla.
 2,250 acres owned near Whittier, Cal.
 Oil wells drawn from, 53.
 Annual production, crude oil, 229,100 bbls.
 Gas purchased from other companies, 7,632,900 cu. ft.
 Maximum day's output, crude oil, 700 bbls.; average price, per gal., 3.3c.

Coalinga Security Oil Co., Los Angeles.

Exec. office, 919 Investment Bldg.
 Capital, \$300,000.
 President, F. E. Woodruff.
 Secretary and treasurer, C. H. McWilliams.

Hondo Oil Co., Los Angeles.

Capital stock, \$100,000.
 President, M. H. Whittier.
 Secretary and treas., H. L. Westbrook.
 Oil lease—Kern County.

Jade Oil Co., Los Angeles.

Office, Security Bldg.
 Capital, com., auth., \$1,000,000; issued, \$772,742.
 President, R. B. Williamson.
 Secretary, Geo. L. Reynolds.
 Owns 240 acres in Midway field, Cal.

Midway Peerless Oil Co., Los Angeles.

Capital stock, \$486,171.
 President, M. H. Whittier.
 Secretary and treasurer, H. L. Westbrook.
 Location of field, Kern County, Cal.

Mt. Diablo Oil, Mining and Development Co., Los Angeles.

Capital stock, auth., \$500,000; issued, \$467,485.
 President, Jas. Cullingham.
 Secretary and treas., N. K. Potter.
 640 acres owned in Taft, Cal.
 Oil wells drawn from, 150.
 Annual production, crude oil, 121,000 bbls.
 Average price per bbl., 98c.

Newlove Oil Co., Los Angeles.

Office, Union Oil Bldg.
 Capital stock, \$1,500,000.
 President, W. W. Orcutt.
 Secretary, John McPeak.
 3,350 acres owned in Santa Barbara County, Cal.
 Oil wells drawn from, 36.
 Annual production, crude oil, 1,117,483 bbls.
 Average day's output, crude oil, 3,260 bbls.
 Annual sales, crude oil, local, 1,117,483 bbls.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Niles Lease Co., Los Angeles.

Office, 1,034 Security Bldg., Los Angeles.
 Capital stock, \$1,000,000.
 President, Thos. A. O'Donnell.
 Secretary and treas., Norman Bridge.
 Purchasing agent, Edw. Everett, Jr.
 General manager, Thos. A. O'Donnell.
 Asst. gen'l mgr., I. W. Fuqua.
 Superintendent, A. J. Delaney.
 15 acres leased in Salt Lake field, Los Angeles County.
 No. oil wells, 9.
 Annual production, crude oil, 60,000 bbls.
 Maximum day's output, crude oil, 164 bbls.; average price, per gal., 3c.
 Number of oil storage tanks: Steel, 1; capacity, 30,000 bbls.
 Annual sales, crude oil, shipments, 60,000 bbls.

Ojai Valley Petroleum Co., Los Angeles.

Exec. office, 315 S. Broadway.
 Capital stock, \$750,000.
 President, S. H. Watson.
 Secretary and manager, J. A. Haskett.
 Treasurer, O. P. Lockhart.
 Annual production, crude oil, 20,000 bbls.

Pan American Petroleum and Transport Co., Los Angeles.

(See "Parent Companies.")

The United Oil Co., Los Angeles.

Exec. office, 1131 Investment Bldg.
 Capital stock, \$2,000,000, par value, \$1.
 President, C. F. Whittier.
 Secretary, K. E. Steinhauer.
 Treasurer, K. E. Steinhauer.
 Field Manager, W. J. Barnhart.
 Annual production, est., 180,000 bbls.

Western Oil Co., Los Angeles.

Exec. office, 2475 E. 9th St.
 Capital stock, \$10,000.
 President, F. P. W. Hill.
 Secretary, G. Zeeman.

Lakeview Oil Co., Maricopa.

Office, Union Bank Bldg., Los Angeles, Cal.
 Capital stock, \$100,000.
 President, W. L. Stewart.
 Secretary, John McPeak.
 Treasurer, R. J. Keown.
 Comptroller, R. D. Matthews.
 339.85 acres leased in Kern County, Cal.
 Oil wells drawn from, 5.
 Annual production, crude oil, 121,791 bbls.
 Average day's output, crude oil, 334 bbls.
 Annual sales, crude oil, local, 104,995 bbls.

Dominion Oil Co., McKittrick.

Exec. office, 21 Drumm Street, San Francisco.
 Capital stock, \$250,000.
 President, Wm. J. Moore.
 Secretary, treasurer and mgr., A. J. Ranken.
 Annual production, crude oil, 70,000 bbls.

Spinks Crude Oil Co., Monrovia.

Capital stock, \$80,000.
 President, W. A. Spinks.
 Secretary, W. F. Dunn.

Treasurer, J. J. Walsh.

Manager, James Ferguson.

Annual production: crude oil, 5,000 bbls.

Nevada County Oil Co., Nevada City.

Capital stock, \$250,000.
 President, D. E. Morgan.
 Secretary, W. B. Robb.
 Treasurer, Citizens Bank.
 Manager, W. B. Robb.
 Annual production: crude oil, 100,000 bbls.

Union Oil Co. of California, Oileum.

Office, Union Oil Bldg., Los Angeles, Cal.
 Capital stock, \$39,510,100.
 Bonds, \$9,328,000; due, 1931; int., 5 p. c.
 President, W. L. Stewart.
 Secretary, John McPeak.
 Treasurer, R. J. Keown.
 Purchasing agent, F. M. Berry.
 General manager, E. W. Clark.
 Comptroller, R. D. Matthews.
 175,782 acres owned (incl. mineral rights);
 62,687 acres leased in Orange, Santa Barbara, Kern and Fresno Counties, Cal.
 Oil wells drawn from, 420.
 Miles of oil pipe line, 835.
 Annual production, crude oil, 7,430,000 bbls.
 Oil pur. from other companies, 11,470,000 bbls.
 Maximum day's output, crude oil, 22,000 bbls.
 Number of oil storage tanks: Steel, 862; capacity, 11,925,000 bbls.; earthen, 7; capacity, 5,575,000 bbls.
 By-products: Annual production, gas oil, 22,627,047 gals.; gasoline, 45,967,819 gals.
 Sales gas oil, 1,149,685 gals.; 45,998,694 gals.
 Ann. sales, crude oil, shipments, 17,450,000 bbls.

New Pennsylvania Petroleum Co., Orcutt.

Office, Santa Maria, Cal.
 Capital stock, \$500,000.
 President, A. F. Fugler.
 Secretary, G. M. Scott.
 Treasurer, L. P. Scaroni.
 Pur. agent and gen'l mgr., A. F. Fugler.
 63 acres owned; 1,903 acres leased in Santa Maria field, Cal.
 Oil wells drawn from, 4.
 Gas wells drawn from, 4.
 Annual production, crude oil, 49,790 bbls.
 Annual production gas, 360,000,000 cu. ft.
 Maximum day's output, crude oil, 150 bbls.; average price, per bbl., \$1.02.
 Number of oil storage tanks: Steel, 2; capacity, 3,200 bbls.
 Annual sales, local, 45,790 bbls.
 Value of gas supplied for year, \$1,200 (rent).
 Gas supplied to a compressor plant. Oil sold to Standard Oil Co.

Bay City Oil Co., Pasadena.

Capital stock, \$500,000.
 President, J. H. Dorn.
 Secretary and treas., Ira J. H. Sykes.
 180 acres owned in Midway field, Kern Co. Cal., all leased to operating companies.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Del Rey Oil Co., Pasadena.

Exec. office, Room 6, Union Savings Bank Bldg.
 President, Alex. Miller.
 Secretary and treasurer, John C. Dalton.
 Manager, Alex. Miller.

Amalgamated Oil Co., San Francisco.

(See "Parent Companies.")

Associated Oil Co., San Francisco.

(See "Parent Companies.")

Combined Oil Co., San Francisco.

Executive office, 849 Phelan Bldg.
 Capital stock, \$500,000.
 President and treas., P. C. Boardman.
 Sec'y and mgr., G. J. Hansen.
 Annual production, crude oil, 200,000 bbls.

General Petroleum Corporation, San Francisco.

Office, Alaska Commercial Bldg.
 Capital stock, preferred, \$3,212,200; common, \$13,490,200.
 Annual div., pref., 7 p. c.; com., 10 p. c.
 Bonds, \$900,000; due, 1926; int., 6 p. c.
 Notes, \$1,650,000; due annually; int., 6 p. c.
 Underlying bonds, \$4,500,000 (General Pipe Line Co.); due, 1925; int., 6 p. c.
 President, John Barneson.
 Secretary, C. R. Stevens.
 Treasurer, Robert Mitchell.
 Approx., 27,000 acres owned and leased in California, and approx. 24,500 acres in Mexico leased and 250 acres owned.
 Oil wells drawn from, 375.
 Miles of oil pipe line, 242.
 Annual production, crude oil, incl. oil purchased, 20,000,000 bbls.
 Number of oil storage tanks: Steel, capacity, 3,560,000 bbls.; concrete res., capacity, 500,000 bbls.

Honolulu Consolidated Oil Co., San Francisco.

(See report under Taft.)

Junction Oil Co., San Francisco.

Exec. office, 58 Sutter St.
 Capital stock, \$250,000.
 President, J. Goldman.
 Secretary, S. G. O. King.
 Manager, J. Goldman.
 Annual production, crude oil, 80,000 bbls.

Nevada Petroleum Co., San Francisco.

Exec. office, 1026 Crocker Bldg.
 Capital stock, \$2,450,000.
 President, A. B. Davis.
 Secretary and treas., G. D. Abbott.
 Manager, S. J. Hardison.
 Annual production: crude oil, 400,000 bbls.

Pacific Midway Oil Co., San Francisco.

Exec. office, Mills Building.
 Capital stock, \$250,000.
 President, B. A. Noyes.
 Secretary and treasurer, Benjamin Romaine.
 Location of wells, Maricopa.

San Francisco and McKittrick Oil Co., San Francisco.

Exec. office, 607 Monadnock Bldg.
 Capital stock, \$500,000.
 President and treas., H. U. Maxfield.
 Secretary, Walter C. Beatie.
 Manager, H. U. Maxfield.
 Annual production, crude oil, 285,003 bbls.

Standard Oil Co. (California) San Francisco.

Office, Standard Oil Bldg.
 Capital stock, authorized, \$100,000,000; issued, \$99,373,310.83.
 Annual dividend, 10 p. c.
 President, W. S. Rheem.
 Secretary, H. M. Storey.
 Treasurer, R. J. Hanna.
 Purchasing agent, A. B. Brooks.
 Oil and Gas Producer and Oil Refiner.
 Annual prod., crude oil, 18,286,588 bbls.
 Average day's output, crude oil, 83,596 bbls.; average price, per bbl., 98c.
 Crude oil stock, 15,101,696 bbls.
 (Owns crude oil properties; pipe lines for transmission of oil; refineries at Richmond, El Segundo, and Bakersfield, Cal.; also tank steamers and barges, and sales stations on the Pacific Coast.)

Brookshire Oil Co., San Luis Obispo.

Capital stock, \$500,000.
 President, J. W. Barneberg.
 Secretary, Henry Bahr.
 397 acres owned in Santa Maria field.
 Oil wells drawn from, 4.
 Gas wells drawn from, 3.
 Annual production, crude oil, 24,000 bbls.
 Annual production, gas, 275,000,000 c. f.
 Average price, per bbl., \$1.
 Number of oil storage tanks: Steel, 4; capacity, 55,000 bbls.
 By-products: Annual production, gasoline, 180,000 gals.; sales, gasoline, 180,000 gals.
 Annual sales, crude oil, shipments, 24,000 bbls.
 Sells to Santa Maria Gas and Power Co.

Seaside Oil Co., Summerland.

Capital stock, \$10,000.
 President, H. J. Hart.
 Secretary, J. J. Cook.
 Manager, J. F. Bushnell.
 Annual production: crude oil, 2,000 bbls.

Edmonds Midway Oil Co., Taft.

Executive office, 406 Wilcox Bldg., Los Angeles, Cal.
 Capital stock, \$1,325,000.
 President, A. B. Barret.
 Secretary and pur. agt., C. P. Campbell.
 Treasurer, A. B. Cass.
 General manager, C. P. Campbell.
 Superintendent, H. G. Moore.
 40 acres owned in Midway field, Kern Co., Cal.
 No. of producing wells, 2.
 Well pressures, 20 lbs.
 Annual production, crude oil, 70,000 bbls.
 Gas produced for boiler house use.
 Maximum day's output, crude oil, 250 bbls.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Number of oil storage tanks: Steel, 5; capacity, one 55,000 bbls., one 5,000 bbls., three 2,000 bbls.
Annual sales, crude oil: Shipments, 70,000 bbls.

Honolulu Consolidated Oil Co., Taft.

Office, 120 Market St., San Francisco, Cal.
Capital stock, \$3,000,000.
Receiver, Gratz Helm.
President and gen'l mgr., A. C. Dierickx.
Secretary and treas., W. P. Roth.
Asst. sec'y and asst. treas., R. H. Wright.
Supl. and pur. agent, R. R. McGuire.
3,880 acres owned in Midway field, Kern Co., Cal.

Oil wells drawn from, 32.
Miles of oil pipe line, 20.
Gas wells drawn from, 8.
Miles of gas pipe line, 30.
Well pressure, max., 260 lbs.; min., 100 lbs.
Annual production, crude oil, 1,500,000 bbls.
Annual production, gas, 600,000,000 c. f.
Max. day's output, crude oil, 5,000 bbls.
Number of oil storage tanks: Steel, 15; capacity, 350,000 bbls.
By-products: Annual sales, gas oil, 215,000 gals.; gasoline, 620,000 gals.
Annual sales, crude oil, shipments, 1,500,000 bbls.

Mascot Oil Co., Taft.

Office, 578 I. W. Hellman Bldg., Los Angeles, Cal.
Capital stock, \$500,000.
President, T. Spellacy.
Secretary and treas., P. E. Spellacy.
Purchasing agent, J. W. Hohmann.
General manager, T. Spellacy.
Superintendent, J. N. Ripple.
160 acres leased in Taft, Kern Co., Cal.
Oil wells drawn from, 44.
Annual production, crude oil, 300,000 bbls.
Max. day's output, crude oil, 1,300 bbls.
Number of oil storage tanks: Steel, 4.

Tamalpais Oil Co., Taft.

Executive office, 149 California St.
Capital stock, \$500,000.
President, C. D. Bunker.
Secretary, F. F. Bostwick.
Manager, F. N. Crippen.
Annual prod., crude oil, 15,000 bbls.

COLORADO.

Black Bear Oil & Gas Co., Center.

Capital stock, \$1,000,000.
President, J. L. Hart.
Secretary, C. L. Shakespeare.
Treasurer, C. H. McManus.
Annual production, crude oil, 6,000 bbls.

The Midwest Oil Co., Denver.

Office, First National Bank Bldg.
Capital stock, preferred, \$2,000,000; common, \$4,000,000.
President, L. L. Aitken.

Vice-president, W. F. Schuyler.
Secretary and treas., J. L. Warren.
1,320 acres owned; 800 acres leased in Salt Creek Oil field, Wyoming.
Sells to Midwest Refining Co.

The United Petroleum Co., Denver.

Office, 420 Boston Building.
Capital stock, issued, 3,635,000 shares.
President, F. M. Woods.
Vice-president, Chas. M. Heberton.
Secretary and treas., E. R. Stadler.
Superintendent, Ben Goldsworthy.
320 acres owned; 13,400 acres leased, West Salt Creek field, Natrona County, Wyo.
Number of oil storage tanks: Steel, 2; capacity, 250 bbls.

ILLINOIS.

The Henry Oil Co., Chicago.

Exec. office, 1420 Marquette Bldg.
Capital stock, \$100,000.
President, Robert L. Henry.
Secretary and Treasurer, J. H. McFarland.
Manager, Winston P. Henry.
Miles of pipe line owned, 100.
Annual production: crude oil, 50,000 bbls.

Ennis-Bayard Petroleum Co., Chicago.

Capital stock, \$10,000.
President and treasurer, Ed. C. Ennis.
Secretary, H. T. Bayard.
(Started operations in 1918.)

Ohio Cities Gas Co. (Illinois Div.).

Office, Columbus, O.
(For capitalization and officers, see "Parent Companies.")
Oil wells drawn from, 410; gas wells, 5.
Daily production, crude oil, average, 525 bbls.
Oil sold to local refining company.

INDIANA.

Indiana Pipe Line Co., Huntington.

Office, 26 Broadway, New York, N. Y.
Capital, common, auth., \$5,000,000; issued, \$5,000,000.
President, D. S. Bushnell.
Vice-president, A. C. Beeson.
Secretary, George Chesebro.
Treasurer, W. F. Livingston.
Main trunk line about 500 miles.

Vincennes Oil and Gas Co., Vincennes.

(See report in Natural Gas Dept.)

Union Heat, Light and Power Co., Winchester.

(See report in Natural Gas Dept.)

KANSAS.

The Bankers Oil Co., Arkansas City.

President, W. E. Walker, Ottawa, Kan.
Producers and manufacturers of casing-head gasoline.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

W. H. Sproul, Chautauqua.

(See report in Natural Gas Dept.)

Continental Oil and Refining Co., Independence.

Capital stock, issued, \$25,000.

President, A. W. Shulthis.

Secretary, F. E. Beal.

Treasurer, A. W. Shulthis.

Superintendent, F. G. McClintock.

Greis Oil Co., Independence.

Capital stock, issued, \$25,000.

President, A. W. Shulthis.

Secretary, J. M. Swift.

Treasurer, A. W. Shulthis.

Superintendent, F. G. McClintock.

Sachem Oil Co., Independence.

Capital stock, \$10,000.

President, W. L. Searles.

Sec'y and treas., Geo. C. Beach.

Gen'l mgr., Paul R. Johnson.

Pur. agent, Edgar Hill.

Supt., Vernon Palmer.

24,000 acres leased in Elk, Montgomery and Chautauqua Counties, Kan.

Oil wells drawn from, 13; gas wells, 61.

Well pressures, 650 lbs. to 40 lbs.

Annual prod., crude oil, 15,805 bbls.

Annual prod., gas, 2,000,000,000 cu. ft.

Max. day's output, crude oil, 30 bbls.

Average price per bbl., \$1 and \$5 (now \$2.25.)

Sells gas at wholesale to a pipe line company.

Price per 1,000 cu. ft., 3.5c.

Value of gas supplied, for year, \$70,000.

Sugar Valley Oil Co., Mound City.

Capital stock, \$8,000.

President, H. C. Mantey.

Secretary, O. E. Haley.

Treasurer, C. A. McMullen.

Pur. agent, A. H. Mantey.

Gen'l mgr., C. A. McMullen.

650 acres owned; 5,000 acres leased in Linn Co., Kan.

Oil wells drawn from, 1.

Gas wells drawn from, 5.

Well pressures, 175 lbs.

Miles of gas pipe line, 2.

Maximum day's output, crude oil, 5 bbls.

Number of oil storage tanks: Steel, 1; capacity, 130 bbls.

Pop. dist. supplied, 1,000.

Price gas, gross, domestic, 30c.

Value gas supplied (2 months), \$750.

Supplies Mound City, Kan. Sell to Mound City Gas Co., at wells, for 10c.

American Petroleum Co., Wichita.

(Closed corporation.)

President, C. M. Van Pelt.

Secretary, T. M. Thomas.

Treasurer, Paul Bossemeyer.

Purchasing agent, A. V. Bourque.

General manager, C. M. Van Pelt.

The Dixie Oil and Gas Co., Wichita.

Office, 202 Murdock Bldg.

Capital stock, auth., \$100,000; issued, \$7,012.

President, M. C. Rule.

Secretary, H. M. Washington.

Treasurer, Frank Winter.

Superintendent and pur. agt., E. F. Weaver.
537 acres leased in Wilson County, Guilford Twp.

No. producing oil wells, 10; gas well, 1.

Well pressure, 50 lbs.

Production (six mos.), crude oil, 5,455 bbls.

Average price oil, per bbl., \$1.85.

Gas used for development.

KENTUCKY.**Kentucky Oil and Refining Co., Dukehurst.**Office, 405-407 People's Bank Bldg., Moline, Ill.
Capital stock, \$200,000.

President, W. H. Hulzinger.

Secretary, W. J. Copeland.

Treasurer, W. G. Carpenter.

Gen'l manager, W. J. Copeland.

Field manager, W. B. Liles.

14,000 acres leased in Grayson and Ohio Counties, Ky.

Oil wells drawn from, 4.

Miles of oil pipe, line, 2.

Gas wells drawn from, 2.

Well pressures, 400 lbs.

Production, crude oil, about 500 bbls. per mo.

Daily production, gas, about 5,000,000 c. f.

Maximum day's output, crude oil, 13 bbls.;
average price per bbl., \$1.50.No. of oil storage tanks: Wood, 8; capacity,
8,000 bbls.**Kentucky Petroleum Producing Co., Irvine.**

Exec. office, 100 Broadway, New York City.

Capital stock, \$1,650,000.

President, E. D. Pouch.

Sec'y and treas., L. C. Collins.

Manager, S. B. Hughes.

Annual prod., crude oil, 140,000 bbls.

Comet Oil Co., Lexington.

Capital stock, \$150,000.

President, E. D. Watkins.

Secretary, C. D. Pratt.

Treasurer, W. P. Williams.

Superintendent and pur. agt., Wm. H. Browne.
95 acres owned; 1,175 acres leased in Estell,
Lee, Laurel, Leslie and Jackson counties.

Oil wells drawn from, 4.

Pipe line under construction.

Maximum day's output, crude oil, 400 bbls.
(\$2.60 bbl. grade).**High Gravity Oil Co., Lexington.**

Capital stock, \$3,000,000.

President, S. A. Hole.

Treasurer, W. P. Williams.

Superintendent and pur. agt., Wm. H. Browne.
6,500 acres leased in Kentucky, Texas and
Kansas.

Oil wells drawn from, 8 (not yet connected).

Monticello Gas Co., Inc., Monticello.

(See report in Natural Gas Dept.)

Empire Oil and Gas Co., Inc., Wichita.

Capital stock, \$10,000,000.

President, W. P. Leher.

Secretary, E. E. McWhiney.

Treasurer, E. H. Johnston.

**METAL HOSE AND TUBING CO., BROOKLYN, N.Y.**

The Pluto Oil & Gas Co., Winchester.

Capital stock, \$60,000.
 President, H. G. Garrett.
 Secretary and treas., John H. Hardwick.
 Manager and pur. agent, John G. White.
 Superintendent, John G. White.
 Oil fields in Cannel City, Ky.; 6,132 acres leased.
 Oil wells drawn from, 2.
 Maximum day's output, crude oil, 10 bbls.; average price per bbl., \$2.55.
 Oil storage tanks: Steel, 2; capacity, 206 bbls.
 Annual sales, oil: Shipments, 600 bbls.

Security Producing and Refining Co., Winchester.

Capital stock, \$1,500,000.
 Bonds, \$250,000; due, \$50,000 each year; int. rate 6 p. c.
 President, Geo. B. Williams.
 Secretary, Jno. M. Hodgkins.
 Treasurer, M. T. McEldowney.
 Manager, J. T. Hare.
 Annual production: crude oil, 100,000 bbls.

LOUISIANA.**Louisiana-Arkansas Oil & Development Co., Monroe.**

Office, 219 So. Grand Street.
 Capital stock, \$120,000.
 President, Louis Lock.
 Secretary, V. D. Oatman.
 Treasurer, Wm. M. Brown.
 Gen'l manager, Louis Lock.
 10,000 acres leased in Ashley County, Ark. ("Wildcat.")

Progressive Oil and Gas Co., Monroe.

Gen. office, 221 So. Grant St.
 Capital stock, pref., \$33,510; com., \$50,000.
 President, Geo. G. Weaks.
 Secretary, R. W. Whittinghill.
 Treasurer, Travis Oliver.
 Manager and pur. agent, Louis Lock.
 7,000 acres leased in Morehouse and Ouachita fields.
 Gas rights and wells transferred to Southern Carbon Co. Still drilling for oil.

Gulf Development Co., New Orleans.

Office, 808 Union Street.
 President, W. P. Flower.
 Sec'y and treas., S. V. Edmiston.
 Superintendent, G. A. Heshe.
 Acres leased, 2,275 at Oak Point Place, 8 miles below New Orleans.
 Company drilling.

Caddo Oil and Refining Co., of Louisiana, Inc., Shreveport, La.

Refinery located at Shreveport. Branch at Philadelphia, Pa.
 Capital stock, \$10,000,000.
 Bonds, 2,341,000; due 1927; int., 6 p. c.
 President, G. W. Kendrick, 3d.
 Vice-president and gen'l manager, J. B. Atkins.
 Vice-president, E. K. Smith.
 Sec'y and treas., G. L. Estabrook.
 Asst. secretary, William Lilley.
 Asst. treasurer, Edward Kippax.

Acres owned and leased, 43,880 (32,000 acres owned in fee) 2,880 in Caddo oil field.
 Miles of pipe line, 85.
 Daily capacity of refinery, 2,000 bbls.
 No. of producing oil wells, 75.
 No. producing gas wells, 8.
 No. of tank cars owned, 85.

Tar Island Producing and Refining Corp., Shreveport.

Executive office, 111 Broadway, New York, N. Y.
 Capital stock, \$800,000.
 President, E. York Ames.
 Treasurer, H. B. Wood.
 No. of acres leased, 1,000.
 Location of fields, Caddo, La.
 No. of producing oil wells, 1.
 Miles of oil pipe line, 3.
 Annual production, crude oil, 45,000 bbls.
 Maximum day's output, crude oil, 150.
 Number of oil storage tanks: Steel, 5; capacity, 6,000 bbls.

MARYLAND.**Chalmers Oil & Gas Co., Baltimore.**

Office, 1517-18 Munsey Bldg.
 Capital stock, pref., \$250,000; com., \$250,000.
 President, W. L. Haworth.
 Vice-president, J. W. Schaefer.
 Secretary, George Filbert.
 Treasurer, C. J. Bolgiano.
 Owns 3,894 oil and gas rights in leased fields, located in Clay, Ritchie, Marion, Wetzel, Pleasants and Mongalia Counties, W. Va., and 293 acres in Okla. and Logan Counties, Okla., and 480 acres in Carbon Co., Mont.
 Oil wells drawn from, 32.
 Gas wells drawn from, 2.
 Monthly production, gas (casing-head), 25,000,000 c. f. and 10,000,000 c. f. natural gas.
 500,000 c. f. gas, daily furnished gasoline plant.

Robinson Oil Corporation, Baltimore.

(See "Parent Companies.")

MASSACHUSETTS.**Godfrey L. Cabot, Boston.**

(See report in Natural Gas Dept.)

Tidewater Oil Co. of Mass., Boston.

Office, 34 Central Wharf.
 Capital stock, \$25,000.
 President, R. D. Benson.
 Secretary and treas., W. S. Benson.
 Superintendent, A. E. Scott.
 Producers of crude petroleum.

MISSOURI.**The Sunflower Petroleum Co., Kansas City.**

Executive office, 1303 Waldheim Building.
 Capital stock, \$76,150.
 President, E. C. Platt.
 Secretary, M. McClearn.



METAL HOSE AND TUBING CO., BROOKLYN, N. Y.

Treasurer, M. McClearn.
 Superintendent, D. L. Rogers.
 570 acres leased in Kansas, Oklahoma,
 Louisiana.
 No. of producing oil wells, 8.
 Miles of oil pipe line, $\frac{3}{4}$ mile (to railroad).
 Number of oil storage tanks: Steel, 8; capac-
 ity, 950 bbls.

Central Oil Co., St. Louis.

(Development company.)
 Executive office, Security Building.
 Capital stock, \$100,000.
 President, Arthur Thacher.
 Secretary, Ralph Simpkins.
 Treasurer, Ralph Simpkins.
 General manager, H. A. Wheeler.
 Illinois field.

MONTANA.

Eastern Montana Oil and Gas Co., Miles City.

(See report in Natural Gas Co.)

NEW YORK.

Southwestern Petroleum Co., Buffalo.

Executive office, Fidelity Building.
 Capital stock, auth., \$1,500,000; outstanding,
 \$1,400,000.
 President, G. A. Forman.
 Vice-president, H. A. Forman.
 Sec'y and treas., Benj. Kittinger.
 100,000 acres in oil and gas mining leases in
 Oklahoma, Kansas, Pennsylvania, Texas
 and Kentucky.

Alpha Oil and Gas Co., New York.

Executive office, 31 Nassau St., New York City.
 Capital stock, \$500,000.
 President, W. F. Howell.
 Secretary, Wm. Sturgis.
 Treasurer, Wm. Sturgis.
 General manager, Wm. Sturgis.
 Business lately commenced. Expects to work
 in Wyoming field.

Associated Producers Co., New York.

(Controlled by Tide-Water Oil Co.)
 Office, 11 Broadway.
 Capital stock, \$800,000.
 President, Dickson Q. Brown.
 Secretary and treas., M. P. Williams.
 Superintendent, O. F. Thompson.
 458 acres owned; 25,824 acres leased in
 Penna., Ohio, W. V., Ill. and Ky.
 Oil wells drawn from, 1,909.
 Gas wells drawn from, 16.
 Annual prod., crude oil, 720,207.01 bbls.
 Average price, per bbl., \$2.1441.
 Annual sales, crude oil, shipments, 720,207.01
 bbls.

The Carter Oil Co., New York.

Exec. office, 26 Broadway.
 President, A. F. Corwin.
 Secretary, C. B. Ware.
 Treasurer, C. B. Ware.
 Producer of crude and gasoline from natural
 gas.

Island Oil and Transport Corp., New York City.

(See "Parent Companies.")

Pierce Oil Corporation, New York.

Executive office, 25 Broad St., New York, N. Y.
 Western office, 420 Olive St., St. Louis, Mo., or
 Praetorian Bldg., Dallas, Tex.
 Capital stock, auth., \$33,000,000; issued,
 \$17,485,750.
 President, H. C. Pierce.
 Vice-president, C. A. Pierce.
 Vice-president, Eben Richards.
 Vice-president, C. W. Cahoon.
 Treasurer, J. H. Brookmire.
 Sec'y and comptroller, F. G. Colley.
 Pur. agent, C. J. Schaub.

Regal Oil and Gas Co., New York.

Office, 17 Battery Place, New York, N. Y.
 Capital, auth., \$2,000,000; issued, \$2,000,000.
 President, E. C. Benedict.
 Vice-president, M. J. Quinn.
 Mgr. dir., James King Duffy.
 Secretary, H. M. Olcott.
 Treasurer, F. S. Hastings.

Sinclair Gulf Corporation, New York.

Executive office, 120 Broadway.
 (For capitalization, officers, etc., see "Parent
 Companies.")
 Fields in Oklahoma and Texas and in Mexico.
 Wells drawn from, 280.
 Annual production of subsidiary companies.
 crude oil, 5,575,546 bbls.
 Oil purchased from other companies, 985,000
 bbls.
 In storage, 857,386 bbls. in Oklahoma and
 Texas and 1,090,000 bbls. in Mexico.
 Annual sales, crude oil: Shipments, 6,000,000
 bbls.
 Refineries at Houston, Tex., and New Orleans,
 La.

Sinclair Oil and Refining Co., New York City.

(See "Parent Companies.")

Standard Oil Co., (N. J.), New York City.

(See "Parent Companies.")

Standard Oil Co. (N. Y.), New York City.

(See "Parent Companies.")

The Tide-Water Pipe Co., Ltd., New York.

(Controlled by Tidewater Oil Co.)
 Office, 11 Broadway.
 President, R. D. Benson.
 Secretary and treas., Dickson Q. Brown.
 Gen'l superintendent, A. W. Golden.
 Miles of oil pipe line, 1,166.23.
 Number of oil storage tanks: Steel, 83; capac-
 ity, 2,238,400 bbls.
 Ann. sales, crude oil, shipments, 4,749,482.40
 bbls.

Allegany Pipe Line Co., Wellsville.

(Controlled by the Tide-Water Oil Co., New
 York, N. Y.)
 Capital stock, \$9,000,000.
 President, A. W. Golden.
 Secretary, C. G. Dorn.
 Treasurer, W. J. Richardson.
 Annual sales, crude oil, shipments, 31,007.15
 bbls.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

OHIO.

Federal Oil and Gas Co., Akron.

Exec. office, Second National Bank Bldg.
Owns 61 oil wells and a gasoline plant, 500
gals. daily capacity.

Hoyt Oil & Gas Co., Pemberville.

(See report under Natural Gas Dept.)

Ohio Cities Gas Co. (Ohio Div.), Columbus.

(For capitalization, officers, etc., see Parent
Companies and Appendix.)
92,507 acres owned or leased.
Oil wells drawn from, 1,096.
Miles of oil pipe line, 728.
Average day's output, crude oil, 1,607 bbls.
Annual sales, crude oil: Shipments, 267,907
bbls.
Pipe line to Marcus Hook Refinery, Marcus
Hook, Pa.

Illinois Pipe Line Co., Findlay.

Capital, common, auth., \$20,000,000; issued,
\$20,000,000; int., 22 p. c. in 1917.
President, W. A. Miller.
Vice-president, W. E. Badger.
Treasurer, W. E. Badger.
Secretary, O. F. Moore.

OKLAHOMA.

American Oil and Refining Co., Ada.

(See report under Oklahoma City.)

Coline Oil Co., Ardmore.

A producing company and operating a short
pipe line.

Gates Oil Co., Ardmore.

Capital stock, \$100,000.
Pres. and gen'l mgr., B. A. Simpson.
Sec'y and treas., Mark Kirkpatrick.
Leases 2,390 acres in Healdton field, Carter
County, Okla.

Plains Oil and Gas Co., Ardmore.

Capital stock, \$500,000.
President, Wirt Franklin.
Sec'y and treas., Edward Galt.
Gen'l mgr. and pur. agent, Wirt Franklin.
No. producing oil wells, 26; gas wells, 1, in
Fox field of Carter Co., Okla., and Burk-
burnett, Tex.
Well pressures, gas, in Fox field, 700 lbs.
Annual production, crude oil, 75,000 bbls.
Max. day's output, crude oil, 200 bbls.
Average price per bbl., \$2.
Gas sold to Lone Star Gas Co.

Burr Oak Oil Co., Bartlesville.

President, W. H. Byron.
Secretary, Frank Bucher.
Treasurer, Frank Bucher.
Annual production: crude oil, 13,000 bbls.

Empire Pipe Line Co., Bartlesville.

(Subsidiary of Empire Refining Co.)
Operated by Doherty Organization.
Capital stock, \$500,000.

President, J. C. McDowell.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
General Manager, A. J. Diescher.
Miles of pipe line, 772.
Capacity, 4,930,000 bbls.

The 45 Oil Co., Bartlesville.

Executive office, 31 N. State St., Chicago, Ill.
Capital stock, \$100,000.
President, W. W. Gregory.
Secretary and treas., E. S. Bell.
General manager, E. S. Bell.
1,100 acres leased in Osage County, Okla.
Oil wells drawn from, 10.
Annual production, crude oil, 20,000 bbls.

Fifty-Nine Osage Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$25,000.
President, J. C. McDowell.
Secretary, Paul R. Jones.
Treasurer, Louis F. Musil.
41 producing wells in Osage field.

Indian Territory Illuminating Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$3,307,766.
President, H. V. Foster.
Secretary, E. E. McWhiney.
Treasurer, C. H. Caldwell.
Oil wells drawn from, 116.
Gas wells drawn from, 130.
Miles of gas pipe line, 23.45.
Annual sales, gas, 14,982,678.000 c. f.
Sells oil and gas at wholesale to Quapaw.
Wichita Natural and Wichita Pipe Line
Cos.

Keesage Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$40,000.
President, F. W. Frueauff.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
(Company is non-producing.)

Lewis Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$50,000.
President, H. R. Straight.
Secretary and treas., C. E. Murray.
No. producing oil wells, 73.
Annual sales, gas, 82,780,000 c. f.
No. of industrial consumers, 3.
Sells oil and gas at wholesale.

Midland Oil Co., Bartlesville.

Capital stock, \$50,000.
President, H. R. Straight.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
112 oil wells in Osage and Cherokee Counties.
Annual sales, gas, 231,824,000 c. f.
No. industrial consumers, 2.

Midland Oil and Gas Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$24,000.
President, H. R. Straight.
Secretary, C. E. Murray.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Treasurer, R. C. Russum.
25 oil wells in Cherokee County.
Annual sales, gas, 3,549,000 c. f.
No. industrial consumers, 2.

Penn Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$100,000.
President, H. R. Straight.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
Company non-producing.

Phillips Petroleum Co., Bartlesville.

Capital stock, pref., \$860,000; com., \$2,500,000.
President, Frank Phillips.
Treasurer, H. E. Koopman.
Superintendent, Clyde Alexander.
Oil wells drawn from, 150; gas wells, 10.
Annual production, crude oil, 400,000 bbls.
Daily capacity gas wells, 100,000,000 c. f.
By-products: Ann. production, gasoline, 4,000 gals.

Pilgrim Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$100,000.
President, H. R. Straight.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
28 oil wells in Cherokee County.
Annual sales, gas, 1,063,000 c. f.
No. of industrial consumers, 1.

Plymouth Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$100,000.
President, H. R. Straight.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
Company non-producing.

Puritan Oil Co., Bartlesville.

Operated by Doherty Organization.
Capital stock, \$50,000.
President, H. R. Straight.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
25 oil wells in Cherokee County.
Annual sales, gas, 14,803,000 c. f.
No. industrial consumers, 1.

Signal Pipe Line Co., Bartlesville.

(See report in Natural Gas Dept.)

Steyner Oil Co., Bartlesville.

Capital stock, \$178,000.
President, H. R. Straight.
Secretary, C. E. Murray.
Treasurer, R. C. Russum.
63 oil wells in Osage County.
Annual sales, gas, 26,225,000 c. f.
Sells at wholesale to Wichita Natural Gas Co.

Producers and Refiners Corporation, Blackwell.

Exec. office, California Bldg., Denver, Col.
Capital stock issued: pref., \$1,808,910; com., \$8,213,370.
President, F. E. Kistler.

Secretary F. D. McCaulley.

Treasurer, William A. Otis.

Purchasing agents, C. E. Phillips, Denver, Col.; B. E. Walter, Tulsa, Okla.

General manager, F. E. Kistler, Denver, Col.
Vice-president and manager Oklahoma and Kansas Division, W. L. Kistler, Tulsa, Okla.

Superintendent refinery, Wm. Dietrich, Blackwell, Okla.

No. of acres, owned, 200; leased, 61,878 acres.
Location of fields: Oklahoma, Kansas, Wyoming, Nebraska, New Mexico, Montana.

No. of producing wells, oil, 29; gas, 15.

Miles of oil pipe line: Oklahoma, 35; Wyoming, 6.

Miles of gas pipe line, about 15.

Well pressures: from 200 to 1,000 lbs. sq. in. at top of wells.

Annual production, crude oil, 80,000 bbls.

Annual production, gas, 5,600,000,000 cu. ft.

Amount of oil purchased from other companies, annually, 775,000 bbls.

Maximum's day output, crude oil, 400 bbls.

Average price per bbl., \$2.

No. of oil storage tanks, steel, 17; earthen, none.

By-products: Annual production, gasoline, 6,000,000 gals; annual sales, 6,000,000 gals.

Annual sales, crude oil, 140,000 bbls.

Gas production sold to pipe lines and smelters.

Price of gas, gross: Industrial, average, 9c. per 1,000 cu. ft.

Gas supplied to Edgar Zinc Co. and Kansas Natural Gas Pipe Line Co.

National Union Oil and Gas Co., Blackwell.

Capital stock, \$790,000.

President, Robert Ballentine.

Treasurer, L. H. Thompson.

Sec'y and pur. agt., John C. Affolder.

General manager, John C. Affolder.

Field supt., C. A. Leonard.

15,000 acres leased in Blackwell, Okla., and Sumner County, Kan.

Oil wells drawn from, 11.

Gas wells drawn from, 1.

Average price per bbl., \$2.50.

Oklamade Oil and Gas Co., Chelsea.

Capital stock, \$250,000.

President, N. A. Gordon.

Secretary, W. F. Quay.

Treasurer, W. F. Quay.

Miles of pipe line, 15.

Just starting, 1918.

Sequoyah Oil and Refining Co., Collinsville.

Secretary's office, Tulsa, Okla.

Capital stock, \$2,000,000.

President, James D. Ward.

Sec'y and treas., M. F. Iliff.

Purchasing agent, M. F. Iliff.

General manager, James D. Ward.

Supply from Oklahoma field.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Home Gas Co. of Cushing, Cushing.

Capital stock, \$25,095.
 President, L. D. Gaunt.
 Secretary, H. C. Vineyard.
 Manager and pur. agt., L. D. Gaunt.
 Acres leased, 1,060 in vicinity of Cushing.
 Wells drawn from, 3 oil, 1 gas.
 Annual prod., crude oil, 22,000 bbls.
 Max. day's output, crude oil, 165 bbls.
 Average price, oil per bbl., \$2.85.
 Annual sales, local, 22,000 bbls.

Ohio Cities Gas Co., (Okla. Div.), Cushing.

Executive office, Columbus, Ohio.
 (For capitalization, officers, etc., see Parent Companies and Appendix.)
 34,407 acres owned or leased.
 Oil wells drawn from, 568.
 Average day's output, crude oil, 5,150 bbls.

Illinois Oil Co. of Rock Island, Cushing.

Executive office, Rock Island, Ill.
 Capital stock, \$500,000.
 Annual dividend, 32 p. c.
 President, Frank P. Welch.
 Secretary, David Warwick.
 Treas. and pur. agt., J. M. Welch.
 General manager, Frank P. Welch.
 Superintendent, J. W. Armstrong.
 Number of oil storage tanks: Steel, 85; capacity, 55,000 bbls. Earthen, 16; capacity, 1,000 bbls.
 Annual prod., gasoline, 5,000,000 gals.
 (See report in Oil Refiners Department.)

Drumright Oil Co., Drumright.

Executive office, 318-319 Central National Bank Bldg., Tulsa, Okla.
 Capital stock, \$20,000.
 President, John R. Hadley.
 Secretary, A. O. Dell.
 Treas. and gen'l mgr., John R. Hadley.
 100 acres leased on Drumright town site.
 Oil wells drawn from, 1.
 Annual production, crude oil, 1,400 bbls.

Atlas Petroleum Co., Jennings.

Location, Casinghead plant, Jennings.
 Executive office, 1012 Baltimore Ave., Kansas City, Mo.
 Capital stock, \$1,000,000.
 President, John J. McPherson.
 Secretary, B. E. Bush.
 Treasurer, W. H. McCrum.
 Manager, John J. McPherson.
 No. of tank cars, 10.
 Annual production (8 mos. in 1917), 12,000 bbls.
 Plant just completed.

Boynton Oil and Gas Co., Muskogee.

(See report in Natural Gas, Dept.)

American Oil and Refining Co., Oklahoma City.

Capital stock, preferred, \$1,000,000; common, \$1,000,000.
 President, W. B. Shirvon.
 Secretary and treas., M. A. Luty.

Supt. and pur. agent, C. J. Shirvon.

4,000 acres leased in El Dorado, Kan., and Ada, Okla.

Oil wells drawn from, 6.

Gas wells drawn from, 18; pressure, 550 lbs.

Miles of gas pipe line, 10.

Six months production, crude oil, 45,000 bbls.

Daily production, gas, 125,000,000 c. f.

Price of gas, gross, 6c. per 1,000 c. f.

Value of gas supplied, for year, \$50,000.

Supplies local industries at Ada, Okla.

Channel Oil Co., Oklahoma City.

Executive office, 914 Colcord Building.
 Capital stock, \$60,000.
 President, C. F. Colcord.
 Secretary, Edwin C. Ruff.
 Treasurer, John Maney.
 Oil wells drawn from, 3.

Cimarron Oil and Gas Co., Oklahoma City.

Executive office, 914 Colcord Building.
 Capital stock, \$100,000.
 President, C. F. Colcord.
 Sec'y and treas., Irving H. Wheatcroft.
 Oil wells drawn from, 8.

Fortuna Oil Co., Oklahoma City.

Capital stock, \$200,000.
 President, A. P. Crockett.
 Secretary, C. E. Johnson.
 Treasurer, R. E. Cox.
 Supt. and pur. agent, T. W. Taylor.
 No. oil wells drawn from, 3; gas wells, 10.
 Well pressures from 525 to 850 lbs.
 Field in Yale, Cushing, Ingalls, Morrison and Cement, Okla.

Lucky Tiger Oil and Gas Co., Oklahoma City.

Executive office, 607 Colcord Building.
 Capital stock, \$148,250.
 President, Myer A. L. Frank.
 Sec'y and treas., Geo. H. Dodson.
 General manager, W. B. Bahn.
 Supt. and pur. agt., F. J. Hammon.
 Oil wells drawn from, 8.

North Pool Oil Co., Oklahoma City.

Executive office, 914 Colcord Bldg., Oklahoma City, Okla.
 Capital stock, \$50,000.
 President, John Maney.
 Secretary, Edwin C. Ruff.
 Treasurer, Irving H. Wheatcroft.
 No. of producing oil wells, 4.

Ole Oil and Gas Co., Oklahoma City.

Capital stock, \$200,000.
 President and treas., J. A. Christensen.
 Secretary and manager, Victor Swanson.
 Annual production: crude oil, 10,000 bbls.

Southwestern Petroleum Co., Oklahoma City.

Executive office, 914 Colcord Bldg., Oklahoma City, Okla.
 Capital stock, common, \$50,000.
 President, C. F. Colcord.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Secretary. Edwin C. Ruff.
Treasurer. John Maney.
No. of producing oil wells, 1.

Kingwood Oil Co., Okmulgee.

(Formerly Southern Gas Co.)
Capital stock, \$50,000.
President and manager, J. T. King.
Secretary and treas., W. E. Wood.
Purchasing agent, W. C. Rollins.
Superintendent, Chas. Bergquist.
Auditor, F. M. Wood.
Location of fields: Okmulgee, McIntosh, Okfuskee Co., Okla.
Wells drawn from, 33 oil; 25 gas.
Miles of gas pipe line, 35.
Two gasoline plants.
Supplies Okmulgee, Weleetka and smelters at Kusa.

Foster and Davis, Inc., Osage.

Executive office, Union Bank, Bldg., Bartlesville, Okla.
Capital stock, \$100,000.
President, H. V. Foster.
Secretary, P. F. Dahlgren.
Treasurer, Wm. N. Davis.
Purchasing agent, P. F. Dahlgren.
Gen'l mgr. and supt., P. F. Dahlgren.
3,860 acres leased in Osage, Bartlesville and Hominy.
Oil wells drawn from, 36.
Gas wells drawn from, 1.
Annual production, crude oil, 166,667.05 bbls.

Alamo Petroleum Corporation, Tulsa.

Exec. office, 7 Nebraska Bldg.
Capital stock, \$150,000.
President, Geo. C. Kelley.
Secretary, Wm. F. Haney, Jr.
Treasurer, T. D. Cléage.
Manager, Geo. B. Kelley.
Annual production, crude oil, 1,825 bbls.
Annual prod., gasoline, 90,500 gals.

The Akin Oil Co., Tulsa.

Executive office, 501-3 Exchange Nat'l Bank Bldg.
Capital stock, \$50,000.
President, D. A. Bartlett.
Sec'y and treas., L. S. Randolph.
Manager, F. L. Bartlett.
Annual prod., crude oil, 70,000 bbls.

Astra Oil and Gas Corp., Tulsa.

Office, 61 Broadway, New York.
Capital stock, \$500,000.
President, George Bullock.
Secretary, B. M. Lance.
Treasurer, I. C. Stites.
5,165 acres leased in Tulsa County, Okla.
Oil wells drawn from, 12.
Gas wells drawn from, 2.
Annual production, crude oil, 35,324.5 bbls.
Annual production, gas, 141,353,531 c. f.
Annual sales, crude oil: Local, 35,324.5 bbls.
Output sold to Jenks Gas Co., Jenks, Okla.

Devonian Oil Co., Tulsa.

501-511 Unity Bldg., Tulsa, Okla.
Capital, common, authorized \$1,000,000; issued \$1,000,000.
President, J. R. Leonard.
Vice-President, J. H. Evans.
General superintendent, A. W. Leonard.
Secretary and treasurer, W. H. Albro.

Elby Oil and Gas Co., Tulsa.

Exec. office, Kennedy Bldg.
Capital stock, \$150,000 pref.; \$350,000 com.
President, E. J. Lambert.
Secretary, E. E. Feistel.
Treasurer, G. S. Curtis.
Manager, E. J. Lambert.

Gulf Pipe Line Co. of Oklahoma, Tulsa.

President's office, Pittsburgh, Pa.
Capital stock, \$1,000,000.
President, Geo. S. Davison.
Secretary, W. J. Guthrie.
Treasurer, R. B. Mellon.

Homookla Oil Co., Tulsa.

Capital stock, \$500,000.
President, W. J. Milburn.
Secretary and treasurer, N. J. Guhsen.
Manager, W. J. Milburn.
Annual production: crude oil, 100,000 bbls.

Humphreys Petroleum Co., Tulsa.

Capital, common, authorized \$1,000,000; issued \$769,000.
President, A. E. Humphreys.
Vice-Presidents, Thomas A. Merritt and Julius Fohs.
Secretary, N. J. Gubser.
Treasurer, S. W. Eackan.
Managing director, John B. Means.
Production reported at 5,000 bbls. daily.

Kanola Oil Co., Tulsa.

Capital stock, \$125,000.
President, L. L. Hutchinson.
Secretary, I. W. Montgomery.
Treasurer, J. P. Hutchinson.
Manager, L. L. Hutchinson.
Annual production: crude oil, 53,534 bbls.

Massachusetts-Oklahoma Oil Co., Tulsa.

Office, L. & P. Building.
Capital stock, pref., \$500,000; com., \$1,000,000.
President, Stanley L. Smith.
Secretary, George A. Peirce.
Treasurer, W. H. Blood, Jr.
Purchasing agent, J. S. Aler.
Gen'l manager, Earle G. Hastings.
Superintendent, C. C. Mead.
240 acres owned; 3,620 acres leased in State of Okla.
Oil wells drawn from, 82.
Miles of oil pipe line, 15.
Annual production, crude oil, 120,000 bbls.
No. of oil storage tanks: Steel and wood: capacity, 5,000 bbls.
By-products: Casing-head gas.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Petroleum Producing and Refining Co., Tulsa.

Office, 101 West 4th St.
 Capital stock, \$5,000,000.
 President, Geo. H. Bradford.
 Secretary, R. T. Epperson.
 Treasurer, N. F. Lauener.
 Gen'l. mgr. and pur. agent, Ed. C. Reynolds.
 Asst. manager, N. F. Lauener.
 25,000 acres owned, 25,000 acres leased, in
 Kansas and Oklahoma.
 Oil wells drawn from, 21.
 Gas wells drawn from, 10. Miles of pipe
 line, 4.
 Maximum day's output, crude oil, 200 lbs.
 Average price per bbl., \$2.00.
 Sells to Kansas Natural Gas Co.

Pleasant Hill Oil Co., Tulsa.

Executive office, 318-319 Central National
 Bank Bldg.
 Capital stock, \$16,000.
 President, John R. Hadley.
 Vice-president and secretary, L. L. Marcell.
 Treasurer and general mgr., John R. Hadley.
 Location, Cushing field.
 Oil wells drawn from, 2.
 Average day's output, crude oil, 60 bbls.

Roxana Petroleum Co. of Oklahoma, Tulsa.

New York City office, 50 Broad Street.
 Secretary, T. F. Lydon.
 Company undergoing reorganization 1918.

Savoy Oil Co. (N. J.), Tulsa.

New York office, 2 Rector Street.
 Capital stock, \$600,000.
 President, Leopold Feist.
 Vice-president, Jacob Cahn.
 Secretary and treasurer, Dave S. Joseph.
 General manager, C. E. Strouville.
 4,330 acres developed, leases in Oklahoma and
 Louisiana; 11,939 acres undeveloped
 leases.
 Oil wells drawn from, 146.
 Receipts, 1917, from oil and gas sales,
 \$295,122.

The Texas Pipe Line Co. of Okla., Tulsa.

Office, 17 Battery Place, New York, N. Y.
 Capital stock, \$6,000,000.
 Miles of oil pipe line, 495.
 Carrier for The Texas Co. of Houston, Tex.

Tidal Oil Co., Tulsa.

Controlled by Tide-Water Oil Co., New York.
 Office, 6th and Cheyenne Sts., Tulsa, Okla.
 Capital stock, \$583,000.
 President, Dickson Q. Brown.
 Secretary and treas., C. E. Hane.
 6,331 acres owned, 34,994 acres leased, in
 Okla., Ky., and Kan.
 Oil wells drawn from, 2,174.
 Gas wells drawn from, 15.
 Annual production, crude oil, 3,043,324.1 bbls.
 Average price per bbl., \$1.965.
 Number of oil storage tanks: Steel, 2; ca-
 pacity, 55,000 bbls.

Iokla Oil and Gas Co., Waurika.

Capital stock, \$7,000.
 President, F. E. Watkins.
 Secretary, A. J. Walker.
 Treasurer, A. D. Horton.
 Supt. and pur. agt., A. J. Walker.
 1,664 $\frac{1}{2}$ acres owned, 2,105 acres leased, in
 Healdton, Okla.; Ada, Okla., and Brown-
 wood, Texas.
 Oil wells drawn from, 27, owned by Co.; one-
 eighth royalty in 28 wells.
 Annual prod., crude oil, 118,401.48 bbls., (in-
 cludes royalty.)
 Average price per bbl., \$1.20.
 Sells direct to pipe lines.

PENNSYLVANIA.**T. W. Phillips Gas and Oil Co., Butler, Pa.**

(See report in Natural Gas Dept.)

West Penn Oil and Gas Co., Butler.

Capital stock, \$200,000.
 Annual dividend, 20 per cent.
 President, E. H. Smith, Cleveland, O.
 Secretary, Curtis L. Webb, Meadville, Pa.
 Treasurer, John W. Brandon.
 Purchasing agent, Alfred A. Schenck.
 General superintendent, C. C. Strance, North
 Washington, Pa.
 820 acres owned in Butler Co., Pa., and 1,500
 in Kentucky. (Kentucky properties have
 not been drilled.)
 Oil wells drawn from, 42.
 Gas wells drawn from, 20.
 Average day's output, crude oil, 28 bbls.
 Average price per gal., \$3.10.
 By-products: Casing-head gasoline, 1,000
 gals. daily capacity.

Duff City Gas Co., Ingomar.

(See report in Natural Gas Dept.)

Bingham Estate, Mt. Alton.

(See report in Natural Gas Dept.)

Shear Oil & Gas Co., Mt. Morris.

Capital stock, \$16,000.
 President, M. B. Clovis.
 Treasurer, J. H. Barrick.
 Manager and secretary, Robert Shear.
 Pur. agent, Robert Shear.
 4 acres owned; 522 leased in Dunkard and
 Perry Townships, Greene Co., Pa.
 Oil wells, 6.
 Gas well, 1; product used in operating six
 oil wells.
 Well pressure, 40 lbs.
 Annual prod., crude oil, 4,637.52 bbls.
 Average, price oil, per bbl., \$3.24.
 Max. day's output, 12.70 bbls.
 Annual sales, crude oil, shipments, 4,637.52
 bbls.

Kentucky River Oil Co. Inc., Philadelphia.

Capital stock, 10,000 shares (no par value).
 Bonds, \$211,000; due 1927; interest, 6 p. c.
 President, G. L. Estabrook.
 Vice-pres., H. L. Clark.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Secretary and treasurer, William Lilly.
4,920 acres leased in Estill, Lee, Montgomery,
Morgan and Owsley Counties, Kentucky.
Oil wells drawn from, 51.
Average price per gal., \$2.60.
Storage tanks: capacity, 3,000 bbls.
Annual sales, crude oil: Shipments, 26,937
bbls.
(See report in Natural Gas Dept.)

Elizabeth Oil Co., Pittsburgh.

Exec. office, 1410 Commonwealth Bldg.
Capital stock, pref., \$100,000; com., \$100,000.
President, P. S. Ache.
Secretary, W. B. McCrory.
Treasurer, C. F. Kirschler.
Manager, R. C. Chambers.
Development in Coleman County, Tex. Pro-
duction sold to Magnolia Petroleum Co.,
which company has line to tanks upon
property.

The Fisher Oil Co., Pittsburgh.

Office, 421 Wood St.
Capital stock, \$300,000.
President, J. A. Fisher.
Secretary, A. L. Gill.
Treasurer, H. I. Fisher.
Superintendent, A. J. Hoy.
Field in Ohio, W. Va., Ill., Ky. and Tenn.

Alum Rock Gas Co., Oil City.

(See report in Natural Gas Dept.)

Gulf Oil Corporation, Pittsburgh.

(See "Parent Companies.")

Hazelwood Oil Co., Pittsburgh.

Executive office, Oliver Building.
Capital stock, authorized \$400,000; issued,
\$350,000.
President, R. W. Cummins.
Secretary, C. A. Norton.

Gulf Production Co., Pittsburgh.

Controlled by Gulf Oil Corp.
Capital stock, \$2,250,000.
President, Geo. S. Davison.
Secretary, W. J. Guthrie.
Treasurer, R. B. Mellon.

The Manufacturers Light and Heat Co., Pittsburgh.

Executive office, Columbia Bank Bldg.
For capitalization, bonds, etc., see Parent
Companies and Appendix.
President, John E. Gill.
Secretary, H. E. Seibert.
Treasurer, G. W. Ratcliffe.
General manager, T. O. Sullivan.
336,578 acres leased in Penna., Ohio, W. Va.,
Ky. and Kan.
Oil wells drawn from, 373.
Annual production, crude oil, 261,321.09 bbls.
Average day's output, crude oil, 715.95 bbls.
By-products: Daily production, gasoline, 10,-
000 gals.
(See report in Natural Gas Department.)

Philadelphia Oil Co., Pittsburgh.

Exec. office, 435 6th Ave.
President, J. H. Reed.
Secretary, W. B. Carson.
Treasurer, C. J. Braun, Jr.
Manager, Carol Miller.
Annual production, crude oil: 111,422 bbls.;
gasoline, 1,654,574 gals.
Annual sales of gasoline: shipments, 1,654,574
gals.

The Pittsburgh Petroleum Co., Pittsburgh.

Exec. office, 516 Federal St., N. S.
Capital stock, \$50,000.
Secretary, Jas. M. Clarke.

Pittsburgh Pipe Line Construction Co., Pittsburgh.

Controlled by Robinson Oil Corp.
President, W. Champlin Robinson.
Secretary, L. K. High.
Treasurer, C. Braxton Dallam.
Gen'l manager, A. Mandell.
Company operates in Penna., Ohio and W. Va.

Union Natural Gas Corp., Pittsburgh.

Executive office, 1607 Union Bank Bldg.
For capitalization, etc., see Parent Companies
and Appendix.
President, E. P. Whitcomb.
Secretary and treas., W. R. Hadley.
General manager, E. P. Whitcomb.
Asst gen'l mgr. and pur. agt., A. A. Armstrong.
Asst. sec'y and asst. treas., Geo. R. Brink.
631,429.23 acres leased, and one-half interest
in 137,669.90 acres in Ohio, Penn. and W.
Va.
Oil wells drawn from, 150.
(See report in Natural Gas Dept.).

Ridgway Light and Heat Co., Ridgway, Pa.

(See Natural Gas Department.)

RHODE ISLAND.

American Oil Co., Providence.

Capital stock, \$50,000.
President, Geo. A. Keeney.
Sec'y and treas., Frederick Lockwood.

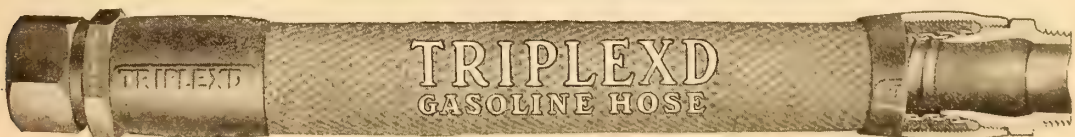
TEXAS.

Moran Oil & Gas Co., Baird.

Capital stock, \$65,000.
President, T. E. Powell.
Sec'y and treas., F. L. Driskill.
Pur. agent and gen. mgr., G. G. Clough.
56 acres owned; 1,500 acres leased in Moran,
Tex.
Now drilling for oil.

Atlantic and Gulf Petroleum Co., Houston.

Exec. office, 909 Carter Bldg.
Capital stock, \$1,500,000.
Bonds, \$1,000,000; due July 1, 1926; int., 6
p. c.
President, R. E. Burt.
Secretary J. G. Bancroft.
Treasurer, W. R. Alexander.
Manager, R. E. Burt.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Clarion Oil Co., Houston.

Exec. office, 606 Goggan Bldg.
Capital stock, \$100,000.
President, W. T. McKallip.
Vice-pres. and mgr., J. C. McKallip, Sr.
Secretary, J. C. McKallip, Jr.
Treasurer, J. C. McKallip, Jr.
Production in Oklahoma.

Community Oil Co., Houston.

Exec. office, 1211 Carter Bldg., Houston.
President, J. N. Groesbeck.
Secretary, J. M. Baird.
15 acres owned in Calcasieu Parish, La.

Gulf Pipe Line Co., Houston.

Controlled by Gulf Oil Corp., Pittsburgh, Pa.
Capital stock, \$3,500,000.
Bonds, \$3,500,000; due, 1923.
President, Geo. S. Davison.
Secretary, W. J. Guthrie.
Treasurer, R. B. Mellen.

Gulf States Oil Co., Houston.

Executive office, 329 First National Bank.
Capital stock, \$500,000.
President and mgr., J. E. Fowler.
Secretary, J. L. Mitchell.
Treasurer, E. V. Black.
Annual production, crude oil, 15,000 bbls.

The Invincible Oil Co., Houston.

Office, Carter Bldg.
Capital, common, auth \$100,000; issued \$100,000.
President, Niels Esperson.
Vice-Pres., John Fields.
Sec'y and Treas., F. A. Helbig.

The Texas Company, Houston.

Office, 17 Battery Place, New York.
Capital stock, \$69,375,000.
Bonds, \$16,058,000; due, 1931; int., 6 p. c.
President, E. C. Lufkin.
Secretary, C. P. Dodge.
3,600 acres owned, in Tex.; 3,000 in Okla.; 11,000 in La.; 1,100,000 acres leased in Tex.; 214,000 in Okla.; 262,000 in La.; 27,000 in Kan.; 19,000 in Wyo., and 45,000 in other territory.
Daily prod., crude oil, approx., 40,000 bbls.
Number of oil storage tanks: Steel, capacity, 28,000,000 bbls. Emergency; capacity, 3,000,000 bbls.

The Texas Pipe Line Co., Houston.

Office, 17 Battery Place, New York, N. Y.
Capital stock, \$14,000,000.
Miles of oil pipe line, 1,415.
Carrier for The Texas Co.

Sandy Oil and Gas Co., Shippensville.

(See report in Natural Gas Dept.)

Adams Oil Co., Wichita Falls.

President, T. P. Adams.
Secretary, C. W. Snider.
Treasurer, Fred Lehmann, Jr.
Manager, W. B. Guthrie.
Annual production, crude oil, 150,000 bbls.

WEST VIRGINIA.**Ohio Cities Gas Co. (W. Va. Div.)**

Executive office, Columbus, O.
(For capitalization, officers, etc., see Parent Companies and Appendix.)
156,841 acres leased.
Oil wells drawn from, 66.
Gas wells drawn from, 20.
Annual production, crude oil, 653,731 bbls.
By-products: Daily production, gasoline, 1,000 gals.

Republic Oil and Gas Co., Charleston.

President, C. W. Swisher.
Secretary and treas., J. W. R. Cooper.
Purchasing agent, J. C. Blain.
General manager, J. C. Blain.
Superintendent, William Fautz.
2,200 acres leased, in Roane and Kanawha Counties, W. Va.
No. of oil wells, 110.
Gas wells drawn from, 2.
Well pressures, 320 lbs.
Maximum day's output, crude oil, 375 bbls.
Average price per bbl., \$3.50.
Annual sales, crude oil: Shipment, 115,000 bbls.

Clendenin Oil and Gas Co., Clendenin.

(See report in Natural Gas Dept.)

The Crawford Oil and Gas Co., Friendly.

Executive office, Meadville, Pa.
Capital stock, \$25,000.
President, P. J. Shaughnessy.
Secretary and treasurer, Dr. C. C. Hill.
General manager, Dr. C. C. Hill.
400 acres leased in Tyler County, W. Va.
Oil wells drawn from, 16.
Annual production, crude oil, 2,573 bbls.
Average day's output, crude oil, 7 bbls.
Average price per bbl., \$3.50.
Number of oil storage tanks: Steel, 4; capacity, 60 bbls.
By-products: Annual production, gasoline, 6,325 gals. Sales, gasoline, 6,325 gals.
Annual sales, crude oil: Shipments, 2,573 bbls.

Richter Oil Co., Hartley.

Gen'l office, Williamstown, W. Va.
Manager, M. Richter.
Wells drawn from, 6; (oil wells.)
Miles of pipe line, 4.
Annual prod., 5,000,000 c. f.
No. domestic consumers, 54.
Price of gas, gross, dom., 18c. per 1,000 c. f., per mo.
Gas is furnished (saved), from oil wells.
Supplies Hartley and Munday P. O. and W. Va.

Harshburger Oil and Gas Co.

(See report in Natural Gas Dept.)

Casto Oil Co., St. Marys.

(Not incorporated.)
Secretary and treas., Ross Wells.
Manager, Ira Williams.
Annual production: crude oil, 4,000 bbls.; gasoline, 36,000 gals.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Chase Oil and Gas Co., Sistersville.

Office, Thistle Building.
 Capital stock, \$50,000.
 President, Joseph McKay.
 Sec'y and gen'l mgr., J. J. McKay.
 Treas. and supt., C. A. McKay.
 526 acres leased in Allen Co., Kan. and Monroe Co., Ohio.
 No. producing oil wells, 13.

Barnett Oil & Gas Co., Wheeling.

Office, 621 Schmulback Building.
 Chicago office, 1606 Tribune Building.
 Capital stock, \$966,724.
 Annual dividend, 24 p. c.
 Vice-president, Randolph Stalmaker.
 Sec'y and treas., Chas. Madden.
 Pur. agent, H. M. McGregor.
 Superintendents, W. E. Culp, C. S. Shriver.
 210 acres owned, 8,556 acres leased in W. Va. and Ky.
 Oil wells drawn from, 48.
 Miles of oil pipe line, 17.
 Annual production, crude oil, 191,623 bbls.
 Oil purchased, 268,190 bbls.
 Max day's output, crude oil, 800 bbls.
 Average price per bbl. W. Va., \$3.60; Ky., \$2.40.
 No. oil storage tanks, steel, 51; capacity, 12,000 bbls.
 By-products: Annual prod., gasoline, 2,263,457 gals; sales gasoline, 2,244,732 gals.

Richter Oil Co., Williamstown.

(See report under Hartley, W. Va.)

WISCONSIN.**Minnehaha Oil Co., Menasha.**

Capital stock, \$70,000.
 President, W. M. Gilbert.
 Secretary, T. H. Hanna.
 Treasurer, Fred Huband.
 Manager, J. J. Freiburger.
 Annual production: crude oil, 9,000 bbls.
 Location oil lease, Washington Co., Okla.

WYOMING.**Dakota-Wyoming Oil, Gas & Refining Co., Casper.**

Office, Aberdeen, So. Dak.
 Capital stock, \$900,000.
 President, B. B. Ward.
 Secretary, L. P. Wells.

Treasurer, F. H. Gannon.

Agent and gen'l mgr., B. B. Ward.

1,080 acres leased, in Big Muddy field, Casper, Wyo.

Oil purchased, 1,500 bbls.

No. oil storage tanks; steel, 5; capacity, 1,500 bbls.

Enalpac Oil and Gas Co., Casper.

Capital stock, \$5,000,000.
 President, W. D. Waltman.
 Secretary, A. C. Campbell.
 Treasurer, W. D. Waltman.
 Manager, W. D. Waltman.
 50,000,000 cu. ft. gas shut in 3 wells.

Franco Wyoming Oil Co., Casper.

Exec. offices: Paris, Casper and Cheyenne, Wyo.
 Capital stock, pref., \$1,000,000; com. \$4,500,000.
 President, H. Faulon de Vault, Paris.
 Asst. secretary B. O. Lummis, Cheyenne, Wyo.
 Treasurer, A. de Chazouliere, Paris.
 Manager, W. D. Waltman, Casper.
 Miles of pipe line owned, 50.

Glen Rock Oil Co., Casper.

(See "Parent Cos.")

Wyoming Oil Fields Co., Casper.

Capital stock, \$8,000,000.
 Vice-pres., W. D. Waltman.
 Secretary, B. O. Lummis.
 Treasurer, W. D. Waltman.
 Manager, W. D. Waltman.
 Annual production, crude oil, 1,200,000 bbls.

CANADA.**American-Canadian Oil and Gas Co., Wellandport.**

(See report in Natural Gas Dept.)

MEXICO.**Southern Oil and Transport Co., Tampico.**

Executive office, 120 Broadway.
 Capital stock, \$11,650,000.
 President, Charles F. de Ganahl.
 Secretary and treasurer, C. L. Ward.
 Purchasing agent, W. L. Webel.
 Annual production, crude oil, 3,650,000 bbls.
 Maximum day's output, crude oil, 10,000 bbls.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

THE GAS AGE

America's Leading Periodical Devoted to Gas

SUBSCRIPTION PRICE \$3 PER YEAR

52 Vanderbilt Avenue, New York

OIL REFINERS

ARKANSAS

Ozark Refining Co., Fort Smith.

Capital stock, \$50,100.
 President, Alex. Calvert.
 Secretary, Chas. C. Ditto.
 Treasurer, Alex. Calvert.
 Manager and pur. agent, Chas. C. Ditto.
 Superintendent, F. R. Wicker.
 Capacity, 200 bbls. per day.

CALIFORNIA

Associated Oil Co., Avon.

General office, Sharon Building, San Francisco, Cal.
 Capital stock, \$39,756,600.
 Bonds, \$11,608,000; due 1930; int. 5 p. c.; and \$1,812,000; due 1922; int., 5 p. c.
 President, Wm. Sproule.
 Vice-President, R. P. Schwerin.
 Secretary, P. G. Williams.
 Treasurer, W. A. Sloan.
 General manager, R. P. Schwerin.
 Purchasing agent, A. J. Frey.
 Superintendent, C. H. Stamm.
 Refineries at Avon and Martinez, Cal.
 Distributing stations in California, Oregon and Nevada.
 Miles of pipe line owned, 140.
 Distillation process used.
 Annual production, gasoline, 52,453,131 gals.
 In storage: Oil, 194,314 bbls.; fuel oil, 114,731 bbls.; gasoline, 4,853,763 gals.; distillates, 531,537 gals.
 Quality of oil: Naphtha, 48 degrees Baume; gasoline content, 15 p. c.; sulphur, $\frac{3}{4}$ of 1 p. c.
 Annual sales, gasoline: Shipments, 28,142,848 gals.
 No. of tank cars owned, 341; leased, 45.
 (See report under Gaviota also.)

King Refining Co., Bakersfield.

Executive office, San Francisco.
 Capital stock, \$20,520.
 Dividend paid, annual rate, 17 p. c.
 President, Fred L. Lezinsky.
 Manager, Fred L. Lezinsky.
 Secretary, S. G. O. King.
 Purchasing agent, S. G. O. King.
 Depository, Bank of California.
 Superintendent, C. Applegarth.
 Location of refinery, Kern River Oil Fields, Bakersfield, Cal.
 Location of distributing stations, Bakersfield, Cal.
 Process used, Steam.
 Annual production: Gas oil, 600,000 gals.; lubricating oils, 600,000 gals.
 In storage: Oil and fuel oil, nominal.

Producers Refining Co., Bakersfield.

Capital stock, \$50,000.
 President, A. H. Liscomb.
 Secy. and treas., C. L. Seager.
 Manager, C. L. Seager.
 Location of refinery, Kern River Field.
 Miles of pipe line owned, $2\frac{1}{2}$ miles.
 Annual production: Gas oil, 216,000 gals.; gasoline, 25,000 gals.; lubricating oils, 220,000 gals.
 Quality of oil: Naphtha, gravity of 45 degrees; gasoline content, 15 p. c.; sulphur content, trace.
 Annual sales, gasoline, local, 25,000 gals.

Associated Oil Co., Gaviota.

Executive office, Sharon Building, San Francisco, Cal.
 (For capitalization, bonds, officers, etc., see this company's report under Avon, Cal.)
 Superintendent, J. C. Christensen.
 Refinery at Gaviota.
 Distributing stations in California.
 Distillation process used.
 Annual production, gasoline, 1,521,282 gals.
 In storage: Crude oil, 75,769 bbls.; fuel oil, 105,687 bbls.; gasoline, 125,370 gals.; distillates, 885,024 gals.
 Quality of oil: Naphtha, 48 degrees Baume; gasoline content, 15 p. c.; sulphur content, $\frac{3}{4}$ of 1 p. c.
 Annual sales, gasoline: Shipments, 648,885.
 (See report under Avon, Cal., also.)

California Oil and Asphalt Co., Los Angeles.

(Not incorporated.)
 Proprietor, Fred P. Sheather.
 Location of refinery, Vernon, Cal.
 Crude oil purchased from General Petroleum Corporation.
 Annual sales, gasoline: (Local business only.)

Capitol Crude Oil Co., Los Angeles.

Executive office, 637 Consolidated Realty Bldg.
 President, M. H. Sherman.
 Manager, A. I. Smith.
 Asst. secretary, A. I. Smith.
 Purchasing agent, H. F. Mackie.
 Superintendent, W. M. Stein.
 Refinery and distributing stations at Santa Paula, Cal.
 Number of tank cars owned, 1.

A. F. Gilmore Co., Los Angeles.

Office, 700 I. N. Van Nuys Bldg.
 Capital stock, \$50,000.
 President and gen'l mgr., E. B. Gilmore.
 Vice-president, Mary E. Gilmore.
 Secy., treas. and asst. mgr., C. S. Beesmyer.
 Refineries located in Salt Creek and Santa Maria oil fields.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Natural gas production.
Makers of casinghead gasoline.
Manufacturers and dealers in fuel and road oils.

Golden State Oil Co., Los Angeles.

Executive office and refinery at 2334 E. 27th Street.

Capital stock, \$50,000.

Annual dividend, 20 p. c.

President, S. A. Thompson.

Secretary, S. E. Keiser.

Treasurer, S. W. Keiser.

$\frac{1}{2}$ mile of pipe line owned.

Annual production: Gas-oil, 600,000 gals.; gasoline, 300,000 gals.

In storage: Gasoline, 20,000 gals.; distillates, 40,000 gals.

Quality of oil: Naphtha, gravity, 52-54 deg.; gasoline content, 40 p. c.

Annual sales: Shipments, 225,000 gals.; local, 75,000 gals.

Jordan Oil Co., Los Angeles.

Capital stock, auth., \$100,000; issued, \$81,760; com., \$50,000; pref., \$31,760.

Annual dividend, 6 p. c.

President and gen'l mgr., James T. Jordan.

Secretary and treasurer, Ralph Martin.

Refinery at Los Angeles.

Richfield Oil Co., Los Angeles.

Executive office, 933 Van Nuys Bldg.

Capital stock, \$150,000; issued, common, \$150,000.

President, F. R. Kellogg.

Secretary, G. I. Symington.

Treasurer, J. R. Jacobs.

Purchasing agent, J. R. Jacobs.

Manager, C. M. Fuller.

Location of refinery, Los Angeles and Bakersfield, Cal.

Location of distributing stations, Los Angeles and Bakersfield.

Refineries capacity, 100,000 bbls. per month.

No. of tank cars owned, 8.

Union Oil Co., of California, Los Angeles.

Executive office, Union Oil Building.

Capital stock, \$39,510,100.

Annual dividend, 6 p. c.

Bonds, \$9,328,000; due 1931; int., 5 p. c.

President, W. L. Stewart.

Secretary, John McPeak.

Treasurer, R. J. Keown.

Purchasing agent, F. M. Berry.

Manager, E. W. Clark.

Comptroller, R. D. Matthews.

Refineries at Oleum, Orcutt, Avila, Maltha, Cal.

Distributing stations throughout California; also in Washington, Oregon, Nevada and Arizona.

Continuous distillation process used.

Annual production: Gas oil, 22,627,047 gals.; gasoline, 45,967,819 gals.

In storage: Oil, 1,785,000; gasoline, 6,196,187 gals.; distillates, 4,161,922 gals.

Quality of oil: Naphtha, 52-55 degrees Baume; gasoline content, 65 p. c.

Annual sales, gasoline: Shipments, 45,998,694 gals.

No. of tank cars owned, 114.

Ventura Refining Co., Los Angeles.

Office, 458 South Spring St.

Controlled by Ventura Consolidated Oil Fields.

Capital stock, \$500,000.

President, W. P. Hammon.

Secy. and treas., A. E. Boynton.

Purchasing agent, E. A. Hills.

Sales manager, T. W. Okey.

Refinery at Fillmore, Cal.

Vernon Oil Refining Co., Los Angeles.

Capital stock, \$25,000.

President, J. A. Brower.

Secretary, W. N. Brower.

Gen'l supt., H. S. Penn.

Manager, J. A. Brower.

Annual prod., gasoline, 1,400,000 gals.

Annual sales, gasoline: Shipments, 100,000 gals.; local, 1,300,000 gals.

Wilshire Oil Co., Los Angeles.

Executive office 27th St. and Santa Fe Ry. tracks.

Capital stock, \$148,600.

President, Geo. L. Machris.

Secretary, Victor A. Machris.

Treasurer, Alfred P. Machris.

Purchasing agent, Geo. L. Machris.

Manager, Geo. L. Machris.

Location of refinery, 28th St. and Santa Fe Ry. tracks.

Location of distributing stations, 27th St. and Santa Fe Ry. tracks.

Miles of pipe line owned, 4.

Process used, Stills.

Annual production: Gas oil, 1,500,000 gals.; gasoline, 3,600,000 gals.

In storage: Oil, 25,000 bbls.; gasoline, 100,000 gals.; distillates, 150,000 gals.

Quality of oil: Naphtha, gravity of 54 and 47 degrees.

Annual sales, gasoline: Local, 3,000,000 gals.

No. of tank cars owned, 2.

Shell Company of California, Martinez.

Executive office, 343 Sansome St., San Francisco, Cal.

Capital stock, \$33,535,575.

President, W. Meischke-Smith.

Secretary, R. A. Lewin.

Treasurer, John Lauder.

Purchasing agent, G. C. Noble.

Refineries at Martinez and Coalinga, Cal.

Rice Ranch Oil Co., Orcutt.

Executive office, Los Angeles, Cal.

Capital stock, \$300,000.

President, C. J. Kubach.

Secretary, E. A. Rang.

Annual prod., crude oil, 80,000 bbls.

Annual prod., gasoline, 101,750 gals.

Standard Oil Company (California), San Francisco.

Office, Standard Oil Building.

Capital stock, auth., \$100,000,000; issued, \$99,373,310.83.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Annual dividend 10 p. c.
 President, W. S. Rheem.
 Vice-presidents, K. R. Kingsbury, W. S. Miller, F. H. Hillman.
 Secretary, H. M. Storey.
 Treasurer, R. J. Hanna.
 Purchasing agent, A. B. Brooks.
 Refineries at Point Richmond, El Segundo and Bakersfield.

General Petroleum Corp., Vernon.

Head office, Alaska Commercial Bldg., San Francisco, Cal.
 Capital stock, pref., \$3,212,200; common, \$13,490,200.
 Annual dividend preferred, 7 p. c.; common, 10 p. c.
 Bonds, \$900,000; due 1926; int. 6 p. c.
 Notes, \$1,650,000; due 1922; int. 6 p. c.
 President, John Barneson.
 Secretary, C. R. Stevens.
 Treasurer, Robert Mitchell.
 Capacity of plant, 32,500 bbls.
 (See report in Oil Producers Dept. also.)

ILLINOIS

Barnett Oil and Gas Co., Blue Island.

Executive office, Wheeling, W. Va.
 Operative office, Chicago, Ill.
 Capital stock issued, \$966,724.
 Dividend paid, annual rate (1917), 24 p. c.
 Vice-president, Randolph Stalnaker.
 Secretary, Chas. Madden.
 Treasurer, Chas. Madden.
 Superintendent, Arthur Butcher.
 Refinery at Blue Island, Ill.; distributing stations, Waukegan, Antioch, Grays Lake.
 Miles of pipe line owned, 15, in Kentucky field.
 In storage: Fuel oil, 2,928,912 gals.; gasoline, 2,566,884 gals.; distillates, 2,419,560 gals.
 Annual sales, gasoline: Shipments, 2,566,884 gals.; local, 2,566,884 gals.
 No. of tank cars owned, 100.

Vacuum Gasoline Co., Bridgeport.

Capital stock, \$100,000.
 President, Thos. F. Morrissey.
 Sec'y and treas., W. A. Hagan.
 Manager, R. D. Green.
 Annual prod., gasoline, 645,117 gals.
 Annual sales, local, 645,117 gals.

Consumers Refining Co., Chicago.

Office, 76 West Monroe St.
 Capital stock, \$500,000.
 President, C. B. Shaffer.
 General manager, Geo. N. Moore.
 Secy. and treas., A. W. Evans.
 Sales manager, W. H. Cannady.
 Refinery at Cushing, Okla.

Garden City Oil Co., Chicago.

(Distributors.)
 Capital stock, \$300,000.
 President, O. M. Anda.
 Secretary and treas., Frank P. Mies.
 No. tank cars owned, 600 cars.

Gas Oil Co., Chicago.

Executive office, 1113 Peoples Gas Building.
 Capital stock, \$25,000.
 President, Edward G. Pratt.
 Secretary and treasurer, H. M. Curtis.
 Manager, E. G. Pratt, Jr.
 Distributing station at West Hammond, Ill.
 Produce and sell "Gasoil," fuel oil and casing-head gasoline.

Peerless Oil Co. (Jobbers), Chicago.

Office, 5927 Union Ave.
 Capital stock, \$5,000.
 President, J. E. McArdle.
 Treasurer, A. L. McArdle.

Sinclair Refining Co., Chicago.

Capital stock, \$8,000,000.
 President, W. H. Isom.
 Secretary, J. R. Murray.
 Treasurer, J. F. Farrell.
 Sales manager, H. F. Wilkins.
 No. of tank cars, 2,800.
 Refineries at East Chicago, Ind.; Argentine, Chanute and Coffeyville, Kan.; Vinita, Cushing and Muskogee, Okla.

Standard Oil Co., (Indiana), Chicago.

Principal office, 72 West Adams St.
 Capital stock, authorized, \$100,000,000; issued, \$30,000,000.
 President, William P. Cowan.
 First vice-pres., Lauren J. Drake.
 Second vice-pres., William M. Burton.
 Sec'y and treas., George W. Stahl.
 Companies operated: Whiting (Ind.) Refinery Works, Sugar Creek (Mo.) Refinery, Refinery at Wood River, Ill. Refinery at Casper, Wyo.

Western Petroleum Co., Chicago.

Executive office, 208 S. LaSalle St.
 President, F. S. Black.
 Secretary, David O. Standbury.
 Treasurer, E. L. Hughes.
 No. of tank cars owned, 50; leased, 75.
 Controls output of Sapulpa Refining Co.

Consolidated Oil and Refining Co., East St. Louis.

Exec. office, St. Louis, Mo.
 Capital stock, \$2,010,000.
 President, Chas. J. Greenstreets.
 Vice-pres., F. G. Colby.
 Secretary, B. L. Huber.
 Treasurer, Raymond H. Kinneear.
 Manager, Raymond H. Kinneear.
 Refineries at East St. Louis, Ill.
 Process used, Greenstreet.

Illinois Oil Co. of Rock Island, Rock Island.

Capital stock, \$500,000.
 Annual dividend, 32 p. c.
 President and manager, F. P. Welch.
 Treas. and pur. agt., J. M. Welch.
 Secretary, David Warwick.
 Superintendent, C. E. Welch.
 Refinery at Cushing, Okla. Distributing stations in Iowa, Ill., Wis., Minn., Mo. and Ky.
 Miles of pipe line owned, 15.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Annual prod., gas oil, 400,000 gals.; gasoline, 5,000,000 gals.
 Fuel oil in storage, 60,000 bbls.; gasoline, 400,000 gals.; distillates, 250,000 gals.
 No. of oil storage tanks: Steel, 85; earthen, 16.
 Capacity of tanks: Steel, 55,000 bbls.; earthen, 1,000 bbls.
 Annual sales, gasoline: Shipments, 5,000,000 gals.
 No. of tank cars owned, 95.

Elmore Oil Co. (Oil Jobber), Sycamore.

Indian Refining Co., Lawrenceville.

Executive office, 44 Whitehall St., New York City.
 Capital stock, pref., \$3,000,000; common, \$3,000,000.
 Annual dividend, pref. 7 p. c., common 12 p. c.
 President, T. L. Pomeroy.
 Treasurer, T. L. Pomeroy.
 Secretary, ——— Billingslea.
 Pur. agent, Max Graft.
 Sales manager, Geo. F. Fox.
 Superintendent, G. C. Armstrong.
 No. tank cars owned, 1,200.

IOWA

Indian Petroleum Co., Cedar Rapids.

(Jobbers only.)
 Capital stock, \$100,000.
 President, John Hall.
 Secretary, M. V. Long.
 Business started Feb. 23, 1918.

KANSAS

The Lesh Refining Co., Arkansas City.

Capital stock, \$250,000.
 Annual dividend, 12 p. c.
 President, A. J. Lesh.
 Secretary and treasurer, W. L. Lesh.
 Purchasing agent, W. L. Lesh.
 Manager, A. F. Morrison.
 Superintendent, Chas. Linnen.
 Distributing stations in Kansas and Okla.
 Miles of pipe line owned, 4.5; interested in 20-mile line.
 Process: Straight distillation.
 Annual prod., gasoline, 3,778,941 gals.
 In storage: Oil, 1,080 bbls.; fuel oil, 1,000 bbls.; gasoline, 67,868 gals.; distillates, 18,800 gals.
 Annual sales, gasoline: Shipments, 3,711,073 gals.
 No. of tank cars owned, 34.

Bliss Oil and Refining Corporation, Augusta.

Executive office, Tulsa, Okla.
 Capital stock issued: Preferred, \$150,000; common, \$675,000.
 Dividend paid, annual rate: Preferred, 12 p. c.
 President, Charles W. Bliss.
 Secretary, G. L. Parris.
 Treasurer, T. B. Bliss.
 Manager, A. L. Grigg.

Superintendent, John T. Miller.
 Location of refinery: Augusta, Kan.
 Location of distributing stations: Three in Butler Co., Kan.
 Miles of pipe line owned, 25.
 No. of tank cars owned, 41.

White Eagle Petroleum Co., Augusta.

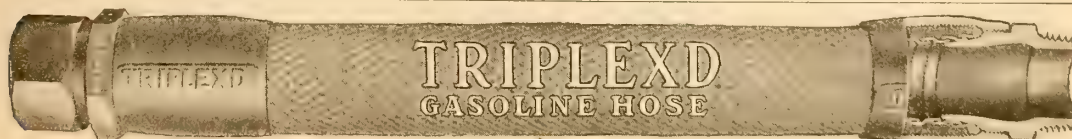
Executive office, Chanute, Kan.
 Capital stock, \$300,000.
 President, L. L. Marcell.
 Secretary, F. L. Miller.
 Purchasing agent, F. L. Miller.
 Treasurer, A. N. Allen.
 Manager, J. H. Miller.
 Superintendent, E. C. Marshall.
 Miles of pipe line, 8.
 Process: Ordinary distillation.
 Annual production, gasoline, 11,600,000 gals.
 In storage: Oil, 50,000 bbls.; fuel oil, 17,000 bbls.; gasoline, 300,000 gals.; distillates, 150,000 gals.
 Quality of oil: Naphtha, 50-51 deg.
 Annual sales, gasoline: Shipments, 10,600,000 gals.; local, 150,000 gals.
 No. of tank cars owned and operated, 240.

The Kansas Co-operative Refining Co., Chanute.

Executive office, 307 Interstate Bldg., Kansas City, Mo.
 Capital stock, \$50,000.
 President, O. H. Williams.
 Sec'y and treas., A. Herning.
 Manager, O. H. Williams.
 Superintendent, R. A. Waxler.
 Location of refinery, Chanute, Kan.
 Location of distributing stations: Abilene, Burlington, Bonner Springs, Caldwell, Chanute, Emporia, Garden City, Harper, Lindsburg, Moline, Severy, Kan., and Independence and Lamar, Mo.
 Annual production: Gas oil, 452,742 gals.; gasoline, 1,103,100 gals.; lubricating oils, 369,854 gals.
 In storage: Fuel oil, 1,117 bbls.; gasoline, 80,934 gals.; distillates, 93,243 gals.
 Quality of oil: Gasoline content, 20 p. c.
 Annual sales, gasoline: Shipments, 1,207,655 gals.; local, 111,695 gals.
 No. of tank cars owned, 33.

Kansas Oil Refining Co., Coffeyville.

Capital stock, pref., \$165,000; common, \$100,000.
 Annual dividend, preferred, 7 p. c.
 President, A. A. Ashworth.
 Secretary and treasurer, A. P. Irvin.
 Manager, A. A. Ashworth.
 Superintendent, J. W. Cash.
 Distributing stations in Kansas, Missouri and Arkansas.
 Miles of pipe line owned, 75.
 Annual prod.: Gas oil, 2,000,000 gals.; gasoline 4,000,000 gals. (Installing lubricating plant.)
 In storage: Oil, 35,000 bbls.; fuel oil, 40,000 bbls.; gasoline, 250,000 gals.; distillates, 300,000 gals.
 Quality of oil: Naphtha, gravity 47 to 54 deg.; gasoline content, 18 p. c.; no sulphur.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Annual sales, gasoline: Shipments, 4,000,000 gals.

No. tank cars owned and leased, 225.

National Refining Co., Coffeyville.

Executive office, Cleveland, O.

Capital stock, pref., \$4,986,400; common, \$3,877,400.

Dividend paid, annual rate, pref., 8 p. c.; common, 16 p. c.

President, J. I. Lamphrecht.

Secretary, A. H. Beck.

Treasurer, W. H. Lamprecht, 2d.

Pur. agent, Geo. J. Miller.

Manager, Frank B. Fretter.

Superintendent, H. B. Setzler.

Refineries in Coffeyville, Kan., and Findlay, O. 77 distributing stations.

Miles of pipe line owned, 400.

No. of tank cars owned, 750.

The El Dorado Refining Co., El Dorado.

Capital stock, \$300,000.

Annual dividend, 6 p. c.

President and manager, J. J. Taxman.

Secretary, Ben Taxman.

Treasurer, M. Taxman.

Superintendent, J. C. Curan.

Refinery $\frac{1}{2}$ mile north of El Dorado.

Miles of pipe line owned, 10.

Process: Continuous stills.

No. of tank cars owned, 126.

The Railroad Men's Refining Co., El Dorado.

Capital stock, \$50,000.

President, E. H. Johnson.

Sec'y and treas., D. A. Goodwin.

Manager, E. H. Johnson.

Miles of pipe line, 3.

(Started refining operations in 1918.)

Trapshooters Refining Co., El Dorado.

Capital stock, \$200,000.

President, W. B. Harrison.

Sec'y, treas. and pur. agt., C. R. Edgecomb.

Manager, C. R. Edgecomb.

Superintendent, R. B. Hovis.

Location of refinery, El Dorado, Kan.

Miles of pipe line owned, 16.

Process used, Burrton.

No. of tank cars owned, 25.

Great Western Oil Refining Co., Erie.

Capital stock, \$500,000.

Vice-president, Ossian Cameron.

Secretary and treasurer, John M. Cameron.

Manager, John M. Cameron.

Distributing station in Kansas City.

Miles of pipe line owned, 12.

Process: Horizontal stills and special.

Annual prod., gas oil, 3,500,000 gals.; gasoline, 6,000,000 gals.; lubricating oils, 2,100,000 gals.

Quality of oil: Naphtha, gravity 0.54 to 0.62 deg.

Tank cars owned, 82.

Great Western Petroleum Corporation, Erie.

Executive office, 10 S. La Salle St., Chicago, Ill.

Capital stock issued, \$2,605,873.60.

Bonds outstanding, \$94,750; due 1927; int., 6 p. c.

President, W. R. Jones.

Sec'y, treas., and mgr., John M. Cameron.

Location of refinery, Erie, Kan.

Location of distributing stations: Kansas City, Chicago, Iowa, Minnesota, Illinois, Michigan, Wisconsin and Indiana.

Miles of pipe line owned, 15.

Process used: Cameron.

Annual production: Gas oil, 2,520,000 gals.; gasoline, 3,500,000 gals.; lubricating oils, 1,500,000 gals.

In storage: Oil, 25,000 bbls.

Quality of oil: Naphtha, 56-58 degrees Baume; gasoline content, 30 p. c.; sulphur content, trace.

Annual sales, gasoline: Shipments, 3,500,000 gals.

No. of tank cars owned, 82.

Miller Petroleum Refining Co., Humboldt.

Executive office, Chanute, Kan.

Capital stock, \$75,000.

President, J. H. Miller.

Secretary and treasurer, F. L. Miller.

Manager, J. H. Miller.

Pur. agent, F. L. Miller.

Superintendent, G. L. Rowsey.

Process: Ordinary distillation.

Annual production, gasoline, 2,585,000 gals.

In storage: Oil, 3,000 bbls.; fuel oil, 6,835 bbls.; gasoline, 10,145 gals.; distillates, 24,164 gals.

Quality of oil: Naphtha, 50 to 51 deg.

Annual sales, gasoline: Shipments, 2,520,000 gals.; local, 65,000 gals.

No. of tank cars owned, 40.

General Refining Co., Kansas City.

Executive office, Tulsa, Okla.

Capital stock, \$3,000,000.

President, J. B. Ryan.

Secretary, John E. Sharp.

Treasurer, Harry Bell.

Manager, J. B. Ryan.

No. of tank cars, 175.

The Uncle Sam Oil Co., Kansas City.

President, H. H. Tucker, Jr.

Secretary, B. F. Billingsley.

Treasurer, Frank P. Lucas.

Pur. agent, L. E. Thomson.

Refineries at Cherryvale, Kan.; West Tulsa, Okla.; Kansas City, Kan. Paraffine wax plant at Cherryvale, Kan.

Distributing stations in Missouri, Kansas and Oklahoma.

Miles of pipe line owned, 200.

Process: Anderson.

No. of tank cars owned, 97.

Commonwealth Oil and Refining Co., Moran.

Executive office, Kansas City, Mo.

Capital stock, \$600,000.

President, S. A. Darrough.

Secretary, R. A. Darrough.

Treasurer, R. A. Darrough.

Manager, S. A. Darrough.

No. of tank cars, 23.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

The Standard Oil Co., (a Kansas Corporation), Neodesha.

Capital stock, \$2,000,000.
 Dividend paid, annual rate, 24 p. c.
 President, J. C. McDonald.
 Secretary and treasurer, E. A. Warren.
 Manager, Thos. Black.
 Superintendent, A. S. Hopkins.
 Purchasing agent, W. H. Hill.
 Process used: Burton.
 Quality of oil: Naphtha, gravity 52 deg., Be;
 gasoline content, 10 p. c.
 Capacity, 8,000 (42 gals.) bbls. per day.

O. K. Refining Co., Niotaze.

Operated by Kansas Refining Co., Tulsa, Okla.
 Executive office, Hutchinson, Kan.
 Capital stock, \$80,000.
 President, F. D. Larabee.
 Sec'y and treas., Walter Grundy.
 Manager, L. V. Fox.
 Refinery at Niotaze, Kan.
 Annual prod., gas oil, 3,780,000 gals.; gasoline,
 4,536,000 gals.; lubricating oils, 1,512,000
 gals.
 In storage: Crude oil, 17,750 bbls.
 Quality of oil: Naphtha, 52 degrees; gasoline
 content, 30 p. c.; sulphur, none.
 Annual sales, gasoline: Shipments, 4,536,000
 gals.
 No. tank cars owned, 45.

Oklahoma Kansas Refining Co., Niotaze.

Executive office, Tulsa, Okla.
 Capital stock, \$1,000,000.
 President, C. J. Benson.
 Vice-pres., Geo. S. Hoagland.
 Secretary, M. A. Isaacs.
 Treasurer, Moritz Hilder.
 General manager, Geo. S. Hoagland.
 No. of tank cars, 269.

Morgan Oil and Refining Co., Rollins.

Executive office, 703 New Ridge Arcade, Kan-
 sas City, Mo.
 Capital stock issued, 40,445½ shares without
 par value.
 President, D. H. Morgan.
 Secretary, W. H. Lynn.
 Treasurer, O. J. Brady.
 Refinery at Rollins, Kan.
 Process used, M. & M.

North American Refining Co. of Kansas, Rosedale.

Executive office, Independence Rd. and Blue
 River, Kansas City, Mo.
 Capital stock, \$50,000.
 President, Roy Colcord.
 Secretary, Leon S. Ditzell.
 Treasurer, John Maney.
 Manager and pur. agent, Leon S. Ditzell.
 Superintendent, John G. Nobles.
 Miles of pipe line owned, 15.
 Parker process-straight run down, and Dr.
 Cross process.
 Capacity, 1,000 bbls.
 No. tank cars owned, 50.
 Annual prod., gasoline, 3,066,000 gals.

Golden Rule Refining Co., Wichita.

(Began operations June 20, 1917.)
 Capital stock, \$50,000.
 President, Elbert S. Rule.
 Secretary and treasurer, C. P. Hale.
 Manager and pur. agent, Elbert S. Rule.
 Superintendent, Eugene Gibbs.
 Process: Straight run.
 Quality of oil: Naphtha, 50 to 51 deg.; gaso-
 line content, 58 to 59 p. c.
 No. of tank cars owned, 20.
 Daily capacity of plant, 500 to 800 bbls.

The Cumberland Petroleum and Refining Co., Wichita.

Capital stock, \$1,000,000.
 President, R. C. Clapp.
 Secretary and treasurer, Elizabeth McCorkle.
 Manager, R. C. Clapp.
 Refinery under construction.

The Sterling Oil and Refining Co., Wichita.

Capital stock, \$2,000,000.
 President, S. H. Hale.
 Secretary and treasurer, A. E. Moore.
 Manager, C. L. Henderson.
 Miles of pipe line, 75.
 No. of tank cars, 143.
 Annual prod., crude oil, 700,000 bbls.
 Annual sales, gasoline, 5,000,000 gals.

Wichita Independent Consolidated Companies, Wichita.

Capital stock, \$1,477,000.
 President, S. H. Hale.
 Secretary and treasurer, A. E. Moore.
 Manager and pur. agent, C. L. Henderson.
 20 distributing stations in Kansas.
 Miles of pipe line owned, 52.
 Process: Skimming plant, continuous stills.
 Annual prod., gas oil, 6,000,000 gals.; gaso-
 line, 7,500,000 gals.
 No. of tank cars owned, 143.

KENTUCKY**The Kentucky Independent Oil Co., Inc., Covington.**

Executive office, 2036 Madison Avenue.
 Capital stock, \$75,000.
 President, R. H. Bramlage.
 Secretary and treasurer, E. H. Gierach.
 Manager, B. H. Bramlagé.
 Annual sales gasoline, local, 1,450,000 gals.

Aetna Refining Co., Louisville.

Office, Inter-Southern Building.
 New York office, 17 Battery Place.
 President, James King Duffy, New York, N. Y.
 Manager, R. E. Wood, Louisville, Ky.
 Refinery on Ohio river, near Louisville, Ky.

The Consumers Oil Co., Louisville.

(Jobbers only.)
 Capital stock, \$60,000.
 President, W. Hume Logan.
 Secretary, R. O. Bailey.
 Treasurer, R. O. Bailey.
 Manager, E. Hilpp.
 Annual sales gasoline: Shipments, 20,000 bbls.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

LOUISIANA

Standard Oil Company of Louisiana, Baton Rouge.

(Subsidiary of Standard Oil Co. (New Jersey).)

Capital stock, \$10,000,000.

President, F. W. Weller.

Vice-presidents, P. S. Morris, F. H. Bedford.

Secretary and treasurer, A. K. Gordon.

Refinery at Baton Rouge, La.

Distributing stations in Louisiana, Arkansas and Tennessee.

Casinghead gasoline plant at Trees City, La.

Louisiana Oil Refining Corp., Gas Center.

Executive office, Shreveport, La.

Capital stock, pref. \$350,000; common, \$550,000.

Bonds, \$1,250,000; due 1927; int., 6 p. c.

President, E. R. Ratcliffe.

Treasurer, John Adams.

Asst. treasurer, R. H. Frost.

Purchasing agent, G. H. Curry.

Miles of pipe line owned, 30.

Process: Skimming.

Annual production: Gas oil, 720,000 gals.; gasoline, 2,400,000 gals.

In storage: Oil, 16,000 bbls.; fuel oil, 3,500 bbls.; gasoline, 30,000 gals.; distillates, 140,000 gals.

Annual sales, gasoline: Shipments, 1,200,000 gals.; local, 1,200,000 gals.

No. of tank cars owned, 61.

Gulf Refining Co., of Louisiana, New Orleans.

Capital stock, \$1,000,000.

President, Geo. S. Davison.

Secretary, J. S. James.

Treasurer, R. B. Mellon.

Liberty Oil Co., Ltd., New Orleans.

Capital stock, auth., \$500,000; issued, \$200,000.

President, Thos. C. Anderson.

Vice-President, Frederick Nicaud.

Gen. mgr. and treas., Louis P. Samsot.

Secretary, P. A. Lavedan.

Refinery and distributing station at New Orleans, La.

Pelican Oil Refining Co., New Orleans.

Executive office, 1103 Hennen Building.

Capital stock issued: Preferred, \$50,000; common, \$50,000.

President, Chas. T. Madison.

Secretary, E. M. Felle.

Treas. and pur. agent, J. C. Copping.

Manager, Chas. T. Madison.

Superintendent, E. M. Felle.

Location of refinery, Port Chalmette (New Orleans), La.

Location of export docks and station, Port Chalmette, La.

Miles of pipe line owned, 5 (gathering line).

Annual sales, gasoline: Domestic and export, \$2,130,035.85.

No. of tank cars owned, 10; leased, 35.

Bayou Gasoline Co., Inc., Shreveport.

Refinery at Oil City, La.

President, C. E. Clancy.

Sec'y and Mgr., C. E. Clancy.

Treasurer, P. J. White.

Miles of pipe line, 6.

Ann. sales, gasoline: Shipments, 110,000 gals.

Caddo Oil and Refining Co. of La., Inc., Shreveport.

Refinery located at Shreveport. Branch at Philadelphia, Pa.

Capital stock, \$10,000,000.

Bonds, \$2,341,000; due 1927; int., 6 p. c.

President, G. W. Kendrick, 3d.

Vice-pres. and gen'l mgr., J. B. Atkins.

Vice-president, E. K. Smith.

Sec'y and treas., G. L. Estabrook.

Asst. secretary, William Lilley.

Asst. treasurer, Edward Kippax.

Acres owned and leased, 43,880 (32,000 acres owned in fee); 2,880 in Caddo oil field.

Miles of pipe line, 85.

Daily capacity of refinery, 2,000 bbls.

No. of producing oil wells, 75.

No. producing gas wells, 8.

No. of tank cars owned, 85.

Central Oil and Gasoline Co., Inc., Vivian.

Executive office, Shreveport, La.

Capital stock, \$25,000.

President, R. L. Crook.

Secretary, W. R. Spann.

Treasurer, W. R. Spann.

Manager, W. R. Spann.

Annual production, gasoline, 250,000 gals.

Annual sales: Shipments, 250,000 gals.

Red River Refining Co. Inc., Shreveport.

Capital stock, \$150,000.

President, Thos. Flynn.

Secretary, R. A. Fouts.

Treasurer, R. S. Todd.

Mgr., supt. and pur. agt., R. A. Fouts.

Location of refinery, Crichton, La.

Ordinary refining process.

Annual production: Gas oil, 8,000,000 gals.; gasoline and naphtha, 3,000,000 gals.

No. of tank cars owned, 25.

MARYLAND

Central Oil Co. (Jobbers), Baltimore.

President, Henry Knoche.

Secretary, Frank Knoche.

Treasurer, Charles Knoche.

Manager, Ernest Knoche.

The Island Petroleum Co., Baltimore.

President, W. H. Fehsenfeld.

Vice-president, V. B. Ward.

Secretary and treasurer, L. K. High.

Manager, Harold C. Eaton.

Producers, transporters and refiners.

Refinery at Neville Island, Allegheny Co., Pa.

Prudential Oil Corp., Baltimore.

Executive office, 17 Battery Place, New York City.

Capital stock, auth., \$5,000,000; issued, \$4,000,000, of which \$3,000,000 is common and \$1,000,000 preferred.

Annual dividend, preferred, 7 p. c.

President, B. W. Dudley.

Treasurer, W. E. Freeman.

Refinery at Baltimore, Md.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Wm. C. Robinson & Son Co., Baltimore.

Office, 32 South St.
 President, W. Champlin Robinson.
 Asst. secretary, Edw. G. Cole.
 Treasurer, C. B. Dallam.
 Branches in the following cities: Philadelphia.
 Boston, New York, Pittsburgh, Charlotte.
 Birmingham, Cumberland, Savannah.

MINNESOTA**Pure Oil Co., Minneapolis.**

Executive office, 1306 First St., South.
 Capital stock, pref., \$200,000; com., \$500.
 President, L. B. Hancock.
 Secretary, E. E. Durrin.
 Treas. and mgr., L. B. Hancock.
 No. of tank cars, 20.

MISSOURI**Evans Thwing Refining Co., Kansas City.**

Branch at Wichita, Kan.
 Capital stock, \$1,000,000.
 President, H. M. Evans.
 Vice-pres., act'g gen'l mgr. and treas., F. H. Thwing.
 Secretary, E. D. Ellison.
 Asst. sec'y and treas., L. A. Oliver.
 Sales agents, Riley Bros. Oil Corp.
 Refineries at Kansas City, Mo., Wichita, Kan.
 Daily capacity, 6,000 bbls.

North American Refining Co. of Missouri, Kansas City.

Office, Independence Rd. and Blue River.
 Capital stock, \$100,000.
 President, C. F. Colcord.
 Secretary, James E. Goodrich.
 Treasurer, John Maney.
 Manager and pur. agent, Leon S. Ditzell.
 Superintendent, John G. Nobles.
 Refinery (Sheffield) at Kansas City, Mo.
 Parker process—straight run down.
 Capacity, 4,000 bbls.
 No. tank cars owned, 150.

Mutual Oil Co., Kansas City. (Jobbers.)

Office, 100 Interstate Building.
 Capital stock, pref., \$100,000; common, \$200,000.
 Annual dividend, pref., 7 p. c.
 President, J. B. Russell.
 Secretary and treasurer, O. H. Williams.
 Manager and pur. agent, O. H. Williams.
 Superintendent, W. J. Coleman.
 Distribute oils from various fields.
 Distributing stations in Missouri, Kansas, Nebraska, Montana, So. Dakota and Colorado.
 No. of tank cars owned, 113.

St. Joseph Viscosity Oil Co., St. Joseph.

Capital stock, \$10,000.
 President, Adelbert Simmons.
 Secretary, P. P. Welty.
 Treasurer, Adelbert Simmons.
 No. of tank cars, 6.

C. L. Smith Oil and Gasoline Co., St. Louis.

Office, 500-510 So. Theresa Ave.
 Capital stock, \$39,000.
 President, C. L. Smith.
 Secretary, Leo Z. Grace.
 Treasurer, Wm. H. Worgers.

The Milliken Co., St. Louis.

Capital stock, auth., \$12,000,000.
 President, John T. Milliken.
 Vice-pres. and gen'l mgr., G. S. Forcier.
 Sec'y and treas., C. L. Painter.
 Refinery at Arkansas City, Kan.

Union Oil Works, St. Louis.

(Not incorporated.)
 Executive office, 423 Commercial Bldg., St. Louis, Mo.
 Proprietor and manager, L. A. Ryan.
 (Jobber in gas oil, fuel oil, gasoline and kerosene.)

NEBRASKA**Standard Oil Company, (Nebraska) Omaha.**

Capital stock issued, \$1,000,000.
 President, A. H. Richardson.
 Secretary, H. L. Alleman.
 Treasurer, R. C. McIntosh.
 Purchasing agent, H. W. Pierpont.
 Marketing company only.

NEW YORK**Oil Products and Chemical Co., New York.**

Office, 426 W. 52d St.
 Manager, Gustav J. Sorensen.

Oklahoma Producing and Refining Co., New York.

14 Wall St., New York City.
 Capital stock, auth., \$10,000,000; issued, \$9,845,000.
 President, John M. Crawford.
 Vice-president, Homer M. Preston.
 Treasurer, John L. Weeks.
 Secretary, T. O. Lilystrand.

Pierce Oil Corporation, New York.

Executive office, 25 Broad St., New York.
 Western office: 420 Olive St., St. Louis, Mo., or Praetorian Bldg., Dallas, Tex. Mexico office, Mexico City.
 Chairman and president, H. C. Pierce.
 Vice-presidents, C. A. Pierce, Eben Richards and C. W. Cahoon.
 Treasurer, J. H. Brookmire.
 Secretary and comptroller, F. G. Colley.
 Purchasing agent, C. J. Schaub.
 Managers: Dallas office, J. E. Forrest; St. Louis office, S. K. Wheeler; Mexico office, J. N. Galbraith.
 Capital stock, auth., \$33,000,000; issued, \$17,485,750.
 Refineries at Sand Springs, Okla., Tampico, Mex., Fort Worth, Tex., and Texas City, Tex.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Utilities Oil & Refining Corp., New York City.

Office, 61 Broadway.
 President, W. B. Emmert.
 Vice-president, E. G. Connette.
 Vice-president, O. A. Wright.
 Asst. sec'y and treas., A. L. Linn, Jr.
 Sec'y and asst. treasurer, J. A. McKenna.
 Clerk, James E. Manter.

Vacuum Oil Co., Rochester.

Office, Rochester Savings Bank Bldg.
 New York office, 61 Broadway.
 Capital stock, \$15,000,000.
 Annual dividend, 6 p. c. (2 p. c. extra div. in 1917).
 President, Edward Prizer.
 Vice-presidents, G. P. Whaley and Chas. E. Bedford.
 Treasurer, Herbert Baker.
 Secretary, W. M. Smith.
 Refineries at Olean and Rochester, N. Y.,
 Bayonne and Paulsboro, N. J.

Valvoline Oil Co., New York.

Executive office, 11 Broadway.
 Branches at Boston, Philadelphia, Chicago, Cincinnati, St. Louis, Minneapolis, Denver, San Francisco, Los Angeles, Portland and Liverpool.
 Capital stock, authorized, \$3,000,000.
 Pres. and gen'l mgr., W. Dixon Ellis.
 Secretary, Wm. James Goulding.
 Treasurer, Geo. A. Ellis.
 Refineries at Edgewater, N. J., Butler, Pa., and Warren, Pa.

Wellsville Refining Co., Wellsville.

Controlled by Union Petroleum Co. of Philadelphia.
 Capital stock, \$200,000.
 President, A. C. Woodman.
 Vice-pres., E. M. Lyons.
 Secretary, O. W. Walchli.
 Treasurer, W. J. Richardson.
 Refinery at Wellsville, N. Y.

OHIO**Moore Oil Co., Cincinnati. (Dealers).**

Capital stock, pref., \$350,000; common, \$200,000.
 President, C. E. Mather.
 Manager, John Edwards.
 Sec'y, treas., and pur. agt., A. W. H. Jamieson.
 Factory at Cincinnati.
 Distributing stations, Cincinnati, O.; Columbus, O., and Logansport, Ind.

Am. Petroleum Products Co., Cleveland.

President, E. G. Hukin.
 Treasurer, P. A. Rehr.
 Wholesale dealers only.
 Own the Seaboard Oil Corp. (11 Broadway, New York).

The Canfield Oil Company, Cleveland.

Capital stock, pref., \$150,000; common, \$300,000.
 President, Geo. R. Canfield.

Secretary, H. M. Carruth.
 Treasurer, C. G. Barkwill.
 Refineries at Cleveland, O., and Coraopolis, Pa.

The Great Western Oil Co., Cleveland.

(Close corporation.)
 President and treasurer, B. W. Browne.
 Secretary, M. T. Healey.
 Distributors of gasoline, lubricating oils, and all petroleum products, greases, etc.
 Distributing stations: Cleveland, O.; Toledo, O.; Harrisburg, Pa.; Buffalo, N. Y.; North Tonawanda, N. Y.; Detroit, Sault Ste Marie, Alpena, Grand Rapids, Kalamazoo, Muskegon, Traverse City, Owosso, and Shelby, Mich.; Indianapolis, Ind.; Denver, Colo.; El Paso, Tex.; San Francisco, Cal.

The Lubric Oil Co., Cleveland.

Capital stock, pref., \$200,000; com., \$300,000.
 President, R. R. Squire.
 Sec'y and treas., R. C. Heil.
 Manager, R. P. Beardslee.
 Refineries at Marietta and Cleveland.
 No. of tank cars, 50.
 Value of gasoline shipments, 1917, \$3,000,000.

Vulcan Oil Refining Co., Cleveland.

President, L. B. Cuddy.
 General manager, J. A. Stuber.
 Secretary, W. T. Tredway.
 Treasurer, W. M. Baldwin.
 Refinery at Coraopolis.
 Refiners of Penna. crude oil.

The Noble Refining Co., Cleveland.

Capital stock, \$25,000.
 President, L. A. Ritzman.
 Secretary, C. L. Ficken.
 Treasurer, L. A. Ritzman.
 Manager, L. A. Ritzman.

The Middle West Refining Co., Columbus.

Controlled by Bartles-Sweney Oil Co.
 Capital stock, \$50,000.
 President, G. I. Sweney.
 Gen'l mgr. and treas., H. L. Deming.
 Secretary, R. E. Westfall.
 Refinery at Columbus, O.
 Annual prod., crude oil, 120,000 bbls.
 Annual prod., gasoline, 36,000 bbls.

Solar Refining Co., Lima.

Capital stock, \$2,000,000.
 Annual dividend, 10 p. c. (25 p. c. extra 1917)
 President, J. G. Neubauer.
 Vice-president, F. T. Guthbert.
 Second vice-pres. and treas., F. G. Borges.
 Secretary, N. D. Keys.
 General manager, J. G. Neubauer.
 General superintendent, J. W. McCarthy.
 Refinery at Lima.
 Distributing stations in Ohio, Kentucky, Indiana and Michigan.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

The Craig Oil Co., (Ironville) Toledo.

Executive office, 319 Gardner Building, Toledo.
Capital stock, \$250,000.

President, Pressly T. Craig.

Sec'y and treas., Lewis A. Edwards.

Manager and pur. agent, Arthur C. Budd.

Superintendent, I. P. Doucet.

Annual production, gas oil, approx., 5,000,000 gals.; gasoline, approx., 2,500,000 gals.; lubricating oils, approx., 3,000,000 gals.

In storage: Crude oil (Jan. 1, 1918), 14,000 bbls.; fuel oil, 25,000 bbls.; gasoline, 500,000 gals.; distillates, 250,000 gals.

Quality of oil: Gasoline content, 15 p. c.; sulphur, less than one per cent.

Annual sales, gasoline: Shipments, 2,500,000 gals.

No. of tank cars owned, 136.

The Paragon Refining Co., Toledo.

Capital stock, pref., auth. \$2,500,000, issued \$2,250,000; common, auth. and issued, \$5,000,000.

President, C. A. Ulsh.

First vice-pres., W. C. Carr.

Second vice-pres. and gen'l mgr., J. C. Smith.

Sec'y and treas., Thos. D. Kelly.

Asst. sec'y, C. J. Leroux.

No. of steel oil storage tanks, 2; capacity, 55,000 bbls. each.

OKLAHOMA**Imperial Refining Co., Ardmore.**

Executive office, Tulsa, Okla.

Capital stock, \$226,000.

President, S. H. Frederick.

Secretary, E. B. Mitchel.

Treasurer, R. D. Lepley.

Manager, O. B. Males.

Superintendent, Wm. A. Hickey.

Chickasaw Refining Co., Ardmore.

(Plant under construction.)

Executive office, Von Weise Bldg.

Capital stock, pref., \$550,000; com., \$1,950,000.

President, S. A. Apple.

Sec'y and treas., John S. Owens.

Manager, D. J. Childs.

Superintendent, J. L. McCormick.

Miles of pipe line owned, 3.

Process, Tower.

Capacity of refinery, 3,000 bbls. per day.

Oil in storage, 55,000 bbls.

Quality: Naphtha, gravity, 54 to 60 degrees; gasoline content, 56 p. c. (up); sulphur, none.

No. of tank cars owned, 150.

Ohio Cities Gas Co., Ardmore and Cushing.

Successor to Ardmore Refining Co. and International Refining Co.

Executive office, Columbus, O.

See company's report in "Parent Cos." and "Appendix."

Daily capacity, 11,000 bbls. crude oil.

Annual production, oil, 444,394 bbls.

Annual production, gasoline, 153,249 bbls.; gas oil, 135,640 bbls.; fuel oil, 569,351 bbls.

Empire Gasoline Co., Bartlesville.

Capital stock, \$2,000,000.

President, G. C. Blankner.

Secretary, C. E. Murray.

Treasurer, E. H. Johnston.

Distributing stations in Arkansas City, Bigheart, Cushing, Caney and Gordon, Kan.

Annual sales, gasoline, 1,603,368.37 gals.

Empire Petroleum Co., Bartlesville.

Capital stock, \$2,000,000.

President, Geo. C. Blankner.

Secretary, C. E. Murray.

Treasurer, E. H. Johnston.

Empire Refineries, Inc., Bartlesville.

Manager, P. M. Miskell.

Purchasing agent, H. H. Sloan.

Companies operated:

Refineries: No. 1, Okmulgee, Okla.; No. 2, Ponca City, Okla.; No. 3, Cushing, Okla.; No. 4, Cushing, Okla.; No. 5, Oklahoma City, Okla.

Producers Refining Co., Gainesville, Tex.

Standard Asphalt Refining Co., Independence, Kan.

Distributing stations in Oklahoma and Texas. (See Parent Co.'s also.)

Producers Refining Co., Bartlesville.

Subsidiary of Empire Refining Co.

Capital stock, \$400,000.

President, J. C. McDowell.

Secretary, C. E. Murray.

Treasurer, R. C. Russum.

Standard Asphalt and Refining Co., Bartlesville.

Subsidiary of Empire Refining Co.

Capital stock, \$5,000,000.

President, J. C. McDowell.

Secretary, C. E. Murray.

Treasurer, R. C. Russum.

Bigheart Petroleum Refining Co., Bigheart.

Executive office, Tulsa, Okla.

Capital stock, pref., \$375,000; com., \$375,000.

Annual dividend, pref., 8 p. c.

President, Stanley L. Smith.

Sec'y and treas., Earle G. Hastings.

Manager, Earle G. Hastings.

Purchasing agent, J. S. Allen.

Superintendent, E. B. Gray.

Miles of pipe line owned, 12.

Refinery capacity, 1,280 bbls. daily.

Process, Skimming (Cracking process to be installed.)

In storage: Oil, 7,000 bbls.; fuel oil, 5,000 bbls.; gasoline, 25,000 gals.; distillates, 15,000 gals.

Quality of oil: Gasoline, 22 p. c.; sulphur, none.

No. of tank cars leased, 40 (60 to be purchased.)

The Globe Oil & Refining Co., Blackwell.

Capital stock, \$450,000.

President, I. A. O'Shaughnessy.

Secretary, O. S. Smithhesler.

Superintendent, C. B. Houn.

Miles of pipe line owned, 10.

Capacity, 1,500 bbls.

Refinery completed in 1918.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Modern Refining Co., Blackwell.

Capital stock, \$100,000.
 President, T. S. Chambers.
 Secretary, G. M. Cassity.
 Treasurer, A. G. West.
 Purchasing agent, T. S. Chambers.
 Manager, T. S. Chambers.
 Superintendent, J. W. Squire.
 Refinery at Blackwell, Okla. (under construction).
 Miles of pipe line owned, approx., 6.
 Process used, D'Yarmett-Combination of Compression, Absorption and Distillation.
 Annual production: Gasoline, estimated, 16,000,000 gals.
 Quality of oil as shown by tests: Gasoline from 60 to 72 degrees.

Eagle Refining Co., Cushing.

Capital stock, \$200,000.
 (Plant under construction.)

Hillman Oil & Gas Co., Cushing.

Executive office, Oklahoma City, Okla.
 Capital stock, \$1,100.
 President, C. F. Hillman.
 Secretary, J. A. S. Wright.
 Vice-president, C. T. Clarke.
 Miles of pipe line owned, 20.
 Oil in storage: 15,000 bbls.; fuel oil, 3,000 bbls.; gasoline, 1,000 gals.; distillates, none.
 Quality of oil: Naphtha, 58 degrees.
 Annual sales, gasoline: Shipments, 3,650,000 gals.
 No. of tank cars owned, 59.

Illinois Oil Co. of Rock Island, Cushing.

Executive office, Rock Island, Ill.
 Capital stock, \$500,000.
 Annual dividend, 32 p. c.
 President, F. P. Welch.
 Secretary, David Warwick.
 Treas. and pur. agent, J. M. Welch.
 Manager, F. P. Welch.
 Superintendent, C. E. Welch.
 Refinery at Cushing, Okla.
 Distributing stations: 117 in Iowa, Illinois, Wisconsin, Minnesota, Missouri and Kentucky.
 Miles of pipe line owned, 15.
 Annual prod., gas oil, 400,000 gals.; gasoline, 5,000,000 gals.
 In storage: Fuel oil, 60,000 bbls.; gasoline, 400,000 gals.; distillates, 250,000 gals.
 Annual sales, gasoline: Shipments, 5,000,000 gals.
 No. of tank cars owned, 95.

The Diamond Gasoline Co., Delaware.

Location of Casinghead Plant, Delaware, Okla.
 Executive office, 1012 Baltimore Ave., Kansas City, Mo.
 Capital stock, \$150,000.
 President, W. H. McCoun.
 Secretary, B. E. Bush.
 Treasurer, W. H. McCoun.
 Manager, John J. McPherson.
 Miles of pipe line owned, 70.

No. of tank cars, 45.

Annual production gasoline, 5,000,000 gals.
 Annual sales gasoline: Shipments, 5,000,000 gals.

Danciger Oil and Refining Co., Drumright.

Executive office, Kansas City, Mo.
 Capital stock, \$300,000.
 President, Dan Danciger.
 Secretary and treasurer, A. Danciger.
 Manager, Jack Danciger.

Champlin Refining Co., Enid.

Owner, H. H. Champlin.
 General manager, V. E. Boline.
 Capacity, 2,000 bbls. daily.

Oil State Refining Co., Enid.

Capital stock, \$250,000.
 President, John S. Graham.
 Secretary, E. B. Wallace.
 Treasurer, E. P. Kilgore.
 Manager, E. P. Kilgore.
 Purchasing agent, John S. Graham.
 Superintendent, E. P. Kilgore.
 Process: Cracking.
 Quality of oil: Naphtha, 49.1 degrees; gasoline content, 56 p. c.
 (Plant under construction: will begin operations May 1, 1918.)

Southwestern Oil Corporation, Enid.

Executive office, Campbell Bldg., Oklahoma City, Okla.
 Capital stock, \$150,000.
 President, C. C. Von Stein.
 Sec'y and treas., J. L. Dickey.
 Manager, Edw. L. Kittredge.
 Purchasing agent, Edw. L. Kittredge.
 Skimming plant, 1,000 bbls. capacity.

Forty-sixth Star Refining Co., Healdton.

Capital stock, \$100,000.
 President, William Elliott.
 Vice-pres., A. J. Welsh.
 Secretary, H. E. Welsh.
 Treasurer, C. E. Morris.
 Superintendent, A. B. Gregg.
 Refinery under construction.
 Daily capacity, estimated 2,500 bbls.

Henryetta Oil and Refining Co., Henryetta.

Capital stock, \$250,000.
 President, Wm. Brink.
 Vice-president, J. G. Edwards.
 Secretary, J. C. Cline.
 Treasurer, J. R. Vaughan.
 Producers of crude oil and natural gas.
 Refiners and distributors of refined products.
 Refinery under construction.

Wabash Refining Co., Hominy.

Executive office, Tulsa, Okla.
 Capital stock, pref., \$350,000; com., \$150,000.
 President, L. W. Baxter.
 Vice-President, C. E. King.
 Sec'y and treas., D. G. Kehrer.
 Manager, C. E. King.
 Superintendent, Geo. B. Dartois.
 Process used: Dartois.
 Capacity of plant, 1,200 bbls. per day.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Totem Gasoline Co., Jenks.

Executive office, Tulsa, Okla.
 Capital stock, \$1,000,000.
 President, F. S. Larabee.
 Secretary, W. E. Burk.
 Treasurer, R. B. Pringle.
 Manager, R. B. Pringle.
 Annual prod., gasoline, 1,000,000 gals.
 Annual sales, gasoline, 1,000,000 gals.

In storage: Oil, 18,128 bbls.; fuel oil, 34,253 bbls.; gasoline, 99,342 gals.
 Annual sales, gasoline: Shipments, 2,269,944 gals.
 No. of tank cars owned, 30.

Lawton Refining Co., Lawton.

Capital stock, \$25,000.
 President and gen'l mgr., J. R. Travis.
 Secretary and treasurer, A. E. Senter.
 Refinery at Lawton.

Naphthiol Manufacturing Co., Oklahoma City.

(Plant under construction.)
 Capital stock, \$50,000.
 President, J. P. Williams.
 Vice-president, H. C. Hyde.
 Sec'y and treas., Guy F. Shields.
 Purchasing agent, H. C. Hyde.
 Manager, Dr. F. C. Thiele, Chemist.
 Superintendent, Chas. F. Thiele.
 Process: Thiele.
 Capacity, 500 bbls. per day.

Muskogee Refining Co., Muskogee.

Capital stock, \$500,000.
 Annual dividend, 20 p. c.
 President, John M. Crawford.
 Sec'y and treas., A. J. Vaughan.
 Manager, A. A. G. Scherbel.
 Superintendent, J. J. Cassidy.
 Process: Straight distillation.
 No. of tank cars owned, 250.

Allied Refining Co., Okmulgee.

Executive office, Tulsa, Okla.
 Capital stock, \$250,000.
 Annual dividend, 10 p. c.
 President, E. L. Robinson.
 Secretary, E. A. Ewing.
 Manager, supt., pur. agt., Benj. Kalkhoff.
 Process: Continuous distillation and Jenkins cracking stills.
 Quality of oil produced: Naphtha, 35 degrees gravity, crude. Gasoline content, 17 p. c.; a trace of sulphur.
 No. of tank cars owned, 89; leased, 102.

North American Oil & Refining Corp., Oklahoma City

Executive office, 914 Colcord Bldg.
 Capital stock, \$3,000,000.
 President, Irving H. Wheatcroft.
 Secretary, Edwin C. Ruff.
 Treasurer, John Maney.
 Manager, Murray H. Warren.
 Location of 3 refineries: Pemeta, Okla.; Rose-dale, Kan.; Sheffield, Mo.
 Miles of pipe line owned, 30.
 Process used, Parker.
 Production: Gas oil, 20,000 gals. daily; gasoline, 30,000 gals. daily.
 No. of tank cars owned, 256.

Okmulgee Producing and Refining Co., Okmulgee.

Capital stock, com., auth. \$5,000,000, issued, \$4,000,000.
 Annual div., 10 p. c.; extra div., 5 p. c.
 President, E. G. Crocker.
 Vice-pres. and gen'l mgr., F. A. Young.
 Asst. gen'l mgr., W. C. Mee.
 Treasurer, Harlan Read.
 Secretary, Harlan Read.
 Refinery at Okmulgee, Okla.

Oneta Refining Co., Oneta.

Capital stock, \$250,000.
 President, J. P. Howe.
 Secretary, H. C. Meier.
 Treasurer, J. M. Roland.
 Manager, D. T. Caspary.
 Miles of pipe line owned, 25.
 No. of tank cars, 53.
 Production, crude oil, 400 bbls. per day.

Crescent Refining Co., Newkirk.

Capital stock, \$752,075.
 Annual dividend, 24 p. c.
 President, J. R. Utterbach.
 Secretary, W. A. Doty.
 Treasurer, W. T. Utterbach.
 Manager, J. R. Utterbach.
 Superintendent, H. C. Moore.
 Miles of pipe line owned, 20.
 Blaisdell continuous process used.
 Tank cars owned, 80.
 Daily capacity, 1,000 bbls.

The Osage Gasoline Co., Ochelata.

Executive office, 1012 Baltimore Ave., Kansas City, Mo.
 Capital stock, \$300,000.
 President, W. H. McCrum.
 Secretary, B. E. Bush.
 Treasurer, W. H. McCrum.
 Manager, John J. McPherson.
 Miles of pipe line owned, 65.
 No. of tank cars, 24.
 Annual prod., gasoline, 1,000,000 gals.
 Annual sales, gasoline, 1,000,000 gals.

Equality Refining Co., Oilton.

Executive office, 509 Majestic Bldg., Oklahoma.
 Capital stock, pref., \$50,000; com., \$50,000.
 President, Robert A. Lysle.
 Sec'y and treas., J. D. Bunou.
 Manager and pur. agent, F. E. Hooper.
 Superintendent, E. S. Bennett.
 Process: Straight refining.
 (Will be in operation about Feb. 1, 1918.)

Atwood Refining Co., Oklahoma City.

Capital stock, pref., \$104,330; com., \$271,405.
 Annual dividend paid, pref., 10 p. c.; com., 10 p. c.
 President and manager, Weston Atwood.
 Secretary, I. S. Mahan.
 Treasurer, J. L. Wilkin.
 Superintendent, E. H. Long.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

The Akin Gasoline Co., Tulsa.

Location of plants, Bartlesville, Dewey and Bixby, Okla.
 Capital stock, \$40,000.
 President, D. A. Bartlett.
 Secretary, F. L. Bartlett.
 Treasurer, L. S. Randolph.
 Miles of pipe line owned, 50.
 No. of tank cars, 10.
 Annual production, gasoline, 1,100,000 gals.

Constantin Refining Co., Tulsa.

Office, 1016 Kennedy Building.
 Capital stock, \$75,000.
 President, E. Constantin.
 Secretary, O. Bourg.
 Treasurer, M. Constantin.
 Manager, E. Constantin.
 Superintendent, J. Constantin.
 Refinery at West Tulsa.
 Miles of pipe line owned, 23.
 Daily capacity, 12,000 bbls.
 Process, Skimming.
 No. of tank cars owned, 288.

Consumers Oil and Refining Co., Tulsa.

Capital stock, \$500,000.
 President, F. C. Hoyt.
 Secretary, Mathews Nelson.
 Treasurer, Mathews Nelson.
 Miles of pipe line owned, 10.

Duluth-Augusta Petroleum Co., Tulsa.

Location of plant, Sapulpa, Okla., and Augusta, Kan.
 Secretary, Leo Kaufman.
 Manager, Leo Kaufman.
 No. of tank cars, 30.
 (This company is merely a selling organization taking the output of the above two refineries.)

Great American Refining Co., Tulsa.

Capital stock, issued, preferred \$500,000.
 Annual dividend, 7 p. c.
 President and mgr., Jos. O. More.
 Vice-pres., T. J. Ryan.
 Sec'y and treas., R. M. Blackmore.
 Superintendent, Joseph Donnelly.
 Refinery at Jennings, Okla.
 Miles of pipe line owned, 10.
 Process, Continuous.
 Annual production: gas oil, 3,000,000 gals.; gasoline, 5,748,750 gals.; distillates, 4,599,000 gals.
 Quality of oil: Naphtha, 58-60 degrees.
 No. of tank cars owned, 96.

Mid-Co. Gasoline Co., Tulsa.

President, M. M. Travis.
 Sec'y and treas., L. E. Z. Aaronson.
 Manager, Cornelius Kroll.
 Pur. agent, G. W. Allen.
 Superintendent, Cornelius Kroll.
 Refinery located in West Tulsa, Okla.
 Annual production, gas oil, 17,000,000 gals.; gasoline, 38,000,000 gals.
 No. of tank cars owned, 500.

Mileage Gasoline Co., Tulsa.

Executive office, 206-8 Kennedy Bldg., Tulsa.
 Location of plants, Bartlett, Red Fork, Bald Hill, Okla.
 Capital stock, \$530,000.
 President, H. Appleman.
 Secretary, A. M. Appleman.
 Treasurer, A. J. Lewis.
 Manager, A. J. Lewis.
 Miles of pipe line owned, 25.
 No. of tank cars, 26.
 Annual production, gasoline, 2,000,000 gals.

Pan-American Refining Co., Tulsa.

Capital stock, pref., \$600,000; com., \$399,988.
 Annual dividend, pref., 7 p. c.; com., 7 p. c.
 Bonds, \$750,000; due 1920; int., 7 p. c.
 President, J. M. Burk.
 Secretary, Myers Gross.
 Treasurer, J. W. McNeal.
 Purchasing agent, J. M. Killian.
 Manager, C. F. Hopkins.
 Superintendent, Westen Coast.
 Refinery at West Tulsa, Okla.; distributing station in Tulsa.
 40 miles of 6-in. and 22 miles of 4-in. pipe in yards.
 Process: Ordinary (6,000 bbls. per day) and Cosden High Pressure Stills (2,000 bbls. per day.)
 Annual prod.: Gas oil, 2,500,000 gals.; gasoline, 7,500,000 gals.; no lubricating oils.
 In storage: Crude oil, 100,000 bbls.; gasoline, 10,000 bbls.; distillates, 25,000 bbls.
 Annual sales: Shipments, 7,500,000 gals.; local, 500,000 gals.
 No. of tank cars owned, 600.

Petroleum Producing and Refining Co., Tulsa.

President, Geo. H. Bradford.
 Secretary, R. T. Epperson.
 Treasurer, N. F. Lauener.
 Manager and pur. agent, Ed. C. Reynolds.
 Asst. manager, N. F. Lauener.
 (Plant under construction.)

Stewart Refining Co., Inc., Tulsa.

President, W. R. Stewart.
 Treasurer, E. M. Cowkey.
 Manager, G. W. Snedden.
 Location of refinery, West Tulsa, Okla.

Tulsa Gasoline Manufacturing Co., Tulsa.

Executive office, 310 Scott Bldg.
 Capital stock, \$15,000.
 President, T. C. Hughes.
 Secretary, W. E. Rohde.
 Treas. and mgr., W. E. Rohde.
 Miles of pipe line owned, 8.
 No. of tank cars, 1.
 Annual prod., gasoline, 200,000 gals.
 Annual sales, gasoline, 200,000 gals.

Wright Producing and Refining Corporation, Tulsa.

Capital stock, auth., \$5,000,000; issued, \$450,000.
 Bonds outstanding, \$500,000; due annually to 1922; int. rate, 6 p. c.
 President, G. N. Wright.
 Secretary, W. A. Brownlee.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Treasurer, James A. Hobson.
 Purchasing agent, E. L. Talman.
 Superintendent, E. M. Corah.
 Location of refinery, Cherryvale, Kan.
 Process used, Converter system.
 Quality of oil: Naphtha; gravity of, 52-54 degrees.
 No. of tank cars owned, 26.
 (Refinery is just completed; unable to give information as to output, sales, etc.)

Wilson Refining Co., Wilson.

Exec. office, New Wilson, Okla.
 Capital stock, \$75,000.
 President, Wm. A. Rogers.
 Secretary, W. B. Gill.
 Treasurer, W. J. Hickman.
 Superintendent, E. W. Piper.
 Miles of pipe line owned, 4½.
 Process used: Straight run stills, with steamer and agitator, treating with chloride of lime and soda.

Home Oil Refining Co., Yale.

Executive office, 504 So. Boston, Tulsa, Okla.
 Capital stock issued, \$290,000.
 Dividend paid, annual rate, 12 p. c.
 President, Bendet Isaacs.
 Secretary, Fay T. Chew.
 Treasurer, Moritz Hilder.
 Purchasing agent, M. A. Isaacs.
 Manager, M. A. Isaacs.
 Superintendent, Eugene Solow.
 Location of refinery, Yale, Okla.
 Process used, Lorch.
 Annual production: Fuel oil, 350,000 bbls.; gasoline, 5,500,000 gals.
 In storage: Crude oil, 2,500 bbls.; fuel oil, 7,500 bbls.; gasoline, 100,000 to 125,000 gals.
 No. of tank cars leased, 175.
 Above figures are approximated as company has not been in existence a whole year.

Southern Oil Corporation, Yale.

Executive office, 1,005 Kennedy Bldg., Tulsa, Okla.
 President, R. A. Ayers.

Yale Oil Corporation, Yale

Capital stock, auth., \$50,000; issued, \$44,200.
 President, L. B. Hancock.
 Sec'y and treas., F. B. Hancock.
 Superintendent, C. H. Gifford.
 Refinery at Yale.

PENNSYLVANIA

Bradford Oil and Gasoline Co., Bradford.

Location plant, Bills Camp, McKean Co., Pa. (Partnership.)
 W. T. Daugherty and H. K. Daugherty.
 Secretary and manager, H. K. Daugherty.
 Miles of pipe line owned, 24 miles.
 Annual production, gasoline, 250,000 gals.

Emery Manufacturing Co., Bradford.

Proprietor, Lewis Emery, Jr.
 Manager, Lewis Emery.
 Sales Manager, W. A. McCafferty.

Superintendent, A. Lackman.
 Miles of pipe line owned, 69.
 No. of tank cars owned, 92.

Kendall Refining Co., Bradford.

Capital stock, \$750,000.
 Annual dividend, 10 p. c.
 President, Otto Koch.
 Sec'y and treas., P. C. Hubbard.
 Distributing stations at Buffalo and Dunkirk, N. Y., and Hartford, Conn.
 No. of tank cars owned, 35.

Pennsylvania Gasoline Co., Bradford.

Executive office, Bradford, Pa.
 Refiners at Bradford and Guffey, Pa., and Bolivar, N. Y.
 Capital stock, pref. (8 p. c.), issued, \$200,000; common, \$1,500,000.
 President, Chas. D. Warren.
 Secretary and treasurer, J. L. Brayley.
 Manager, Chas. D. Warren.
 No. of tank cars, 11.

Butler County Oil Refining Co., Bruin.

Executive office, Butler, Pa.
 Capital stock issued: Preferred, \$428,500; common, \$427,800.
 Dividend paid, annual rate: Preferred, 14 p. c. in 1917.
 President, H. C. Litzinger.
 Secretary, Lewis P. Litzinger.
 Treasurer, J. F. Hutzler.
 Purchasing agent, P. F. Conerty.
 Manager, P. F. Conerty.
 Superintendent, W. R. Roach.
 Location of refinery, Bruin, Pa.
 Miles of pipe line owned, approx., 200.
 Process used, Steam.
 Annual production: Gas oil, 2,980,375 gals.; gasoline, 2,814,906 gals.; lubricating oils, 2,022,280 gals.
 In storage: Fuel oil, 25,450 gals.; gasoline, 263,418 gals.; distillates, 214,685 gals.
 No. of tank cars owned, 92.

Clarendon Refining Co., Clarendon.

Capital stock, authorized, \$500,000; issued, \$500,000.
 President, Geo. E. Colvin.
 Vice-pres. and gen'l mgr., J. W. Colvin.
 Second vice-pres., E. E. Norton.
 Secretary, L. C. Jamieson.
 Treasurer, K. M. Lyons.
 Purchasing agent, K. M. Lyons.
 Sales manager, L. C. Jamieson.
 Refinery at Clarendon, Pa.
 Branches at New York, Pittsburgh and Detroit.

Levi Smith Refining Co., Clarendon.

Capital stock, \$400,000.
 President, E. H. Beshlin.
 Gen'l mgr. and treas., H. F. Heilman.
 Secretary, C. D. Blair.
 Refinery at Clarendon, Pa.

Tiona Refining Co., Clarendon.

Executive office, Widener Building, Philadelphia, Pa.
 Capital stock, common, \$30,000; preferred, \$10,000.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

President, H. E. Worthington.
 Vice-president, E. M. Lyons.
 Sec'y and treas., C. H. Elmerman.
 Refinery at Clarendon, Pa.
 Products marketed by Union Petroleum Co.,
 Widener Bldg., Philadelphia.

The Canfield Oil Co., Coraopolis.

(See report under Cleveland, O.).

Pittsburgh Oil Refining Co., Coraopolis.

Executive office, Pittsburgh, Pa.
 President, C. Braxton Dallam.
 Sec'y and treas., Edw. G. Cole.
 Superintendent, J. E. Hammond.
 No. tank cars owned, 81.

Pennsylvania Oil Products and Refining Co., Eldred.

Capital stock, pref., \$250,000; com., \$250,000.
 Annual dividend, pref., 6 p. c.
 President, M. F. Cowden.
 Sec'y and treas., F. F. Mack.
 Refinery at Eldred, Pa.
 Miles of pipe line owned, 100.
 No. of tank cars owned, 50.
 Annual prod., crude oil, 180,000 bbls.
 Annual prod., gasoline, 50,000 bbls.

Warren Gasoline Co., Eldred.

Executive office, 101 Main St., Bradford, Pa.
 Capital stock, \$148,000.
 President, R. T. Zoot.
 Sec'y and treas., Wm. J. Sloan.
 Manager, R. T. Zoot.
 Miles of pipe line, 50.
 No. of tank cars, 12.
 Annual prod., gasoline, 799,017 gals.
 Annual sales: Shipments, 799,017 gals.

Emlenton Refining Co., Emlenton.

Capital stock, \$200,000.
 President, P. J. Bayer.
 Secretary, T. B. Gregory.
 Treasurer and manager, S. Messer.
 No. of tank cars owned, 48.

Bayerson Oil Works, Erie.

Capital stock, \$100,000.
 President, P. J. Bayer.
 Secretary, W. K. Bayer.
 Treasurer, C. P. Grunden.
 Compounding plant at Erie, Pa.
 Distributing stations at North East, and
 Girard, Pa.
 Owns no pipe line nor tank cars.

The B. B. Stroud Co., Farmers Valley.

Executive office, Bradford, Pa.
 Capital stock, \$1,000,000.
 President, F. G. Bishoff.
 Secretary, Frank K. Leighton.
 Treasurer, Frank K. Leighton.
 Manager, B. B. Stroud.
 Miles of gas pipe line owned, 70.
 No. of tank cars, 10.
 Annual sales, gasoline, 2,160,000 gals.

Foco Oil Co., Franklin.

Capital stock, \$20,000.
 President and mgr., H. F. Grant.
 Sec'y and treas., G. W. Black.
 Superintendent, C. E. McElheney.
 Refinery under construction.

Franklin Oil Works, Franklin.

Capital stock, \$20,000.
 President, J. Reamer.
 Annual production, crude oil, 240 bbls.
 Annual sales, shipments, 24,000 gals.
 Compounding only; no stills.

Galena-Signal Oil Co., Franklin.

Capital stock, pref., \$2,000,000; com., \$12,-
 000,000.
 Annual dividend, pref., 8 p. c.; com., 12 p. c.
 President, Gen. Charles Miller.
 Sec'y and treas., J. French Miller.
 Pur. agent, Geo. C. Miller.
 Superintendent, Chas. A. Miller.
 Location of plants: Franklin, Pa.; Bayway,
 N. J.; Parkersburg, W. Va.; Whiting,
 Ind.; Rouen, France.
 26 distributing stations in the United States.
 Manufacturers and compounders of lubricat-
 ing and illuminating oils and greases.
 No gas oil.

The Freedom Oil Works Co., Freedom.

President, P. L. Craig.
 Sec'y and treas., C. E. McKee.
 Manager and pur. agent, E. J. Bischoffberger.
 Distributing stations in Pennsylvania, New
 York State, West Virginia, Maryland and
 Ohio.
 No. of tank cars, owned, 97.

Kane Gasoline Co., Kane.

Executive office, Bradford, Pa.
 Capital stock, \$50,000.
 President, R. T. Zoot.
 Secretary and treasurer, Wm. J. Sloan.
 Manager and pur. agent, R. T. Zoot.
 Superintendent, H. P. Atwell.
 Process used, Bessemer.
 Annual prod., gasoline, 956,049 gals.
 Annual sales, gasoline: Shipments, 956,049
 gals.
 No. of tank cars owned, 10.

Pennsylvania Refining Co., Ltd., Karns City.

Capital stock, \$15,000.
 Annual dividend, 30 p. c.
 President, J. A. Beck.
 Secretary, W. W. Beck.
 Treasurer, Geo. E. McGill.
 Gen'l manager, J. A. Beck.
 Refinery at Karns City, Pa.
 Process, Straight distillation.
 Annual production: Gas oil, 107,400 gals.;
 gasoline, 122,045 gals.; petrolatum, 1,368,-
 456 lbs.
 In storage: crude oil, 416 bbls.; fuel oil, 574
 bbls.; gasoline, 18,911 gals.
 Quality of oil: Naphtha, 54 degrees; gasoline
 content, 29 p. c.
 Annual sales, gasoline: Shipments, 93,130 gals.
 No. tank cars owned, 5.

Starlight Refining Co., Karns City.

(Partnership.)
 President, W. H. Pickard.
 Sec'y, treas. and pur. agt., W. J. Anderson.
 Manager, W. J. Anderson.
 Superintendent, C. E. Pickard.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Refinery and distributing stations. Karns City, Pa.

Annual production: Fuel oil, 240,000 gals.; gasoline, 96,000 gals.

Annual sales, gasoline: Shipments, 96,000 gals.

No. of tank cars owned, 4.

(Specialize in petrolatum, 500 bbls. per mo.)

Continental Refining Co., Oil City.

Location of refinery, Cornplanter Township, Venango County, Pa.

Capital stock, \$50,000.

President, A. F. Anderton.

Secretary, J. W. Anderton.

Treasurer, T. A. Anderton.

Superintendent, W. J. Anderson.

Annual production: Gas oil, \$1,520,000 gals.; gasoline, 1,612,000 gals.; lubricating oils, 1,750,000 gals.

In storage: Oil, 26,000 bbls.; fuel oil, 6,000 bbls.; gasoline, 253,000 gals.; distillates, 50,000 gals.

Quality of oil: Naphtha, 0.54 to 0.72.

Annual sales, gasoline: Shipments, 1,500,000 gals.

No. of tank cars owned, 50.

Cumberland Pipe Line Co., Inc., Oil City.

(Engaged in the transportation and storage of crude petroleum in the State of Kentucky only.)

The Eureka Pipe Line, Oil City.

(Engaged in the transportation and storage of crude petroleum oil in the State of West Virginia only.)

Penn American Refining Co., Oil City.

Capital stock, \$2,000,000.

President and treasurer, C. L. Suhr.

Secretary, D. J. Cavanaugh.

Superintendent, Plant No. 1, L. D. Fulton.

Superintendent, Plant No. 2, D. J. Harvey.

Refineries at Oil City and Ransville.

Refine: Penna. Crude.

Capacity, 2,500 bbls. daily.

No. tank cars owned, 225.

South West Penna. Pipe Lines, Oil City.

(Engaged in the transportation and storage of crude petroleum oil in the State of Pennsylvania only.)

W. H. Daugherty & Son Refining Co., Petrolia.

New York City office, 262 Pearl St.

Capital stock, \$100,000.

President, Dr. F. Sonneborn.

Vice-president, S. B. Sonneborn.

Gen'l mgr. and sec'y, F. S. Stern.

Treasurer, M. Pick.

Refinery at Petrolia.

Atlantic Refining Co., Philadelphia.

Office, 3144 Passyunk Ave.

Capital stock, auth. and issued, \$5,000,000.

President, J. W. Van Dyke.

Vice-president, W. P. Cutler.

Vice-pres. and gen'l mgr., W. M. Irish.

Secretary, W. D. Anderson.

Treasurer, Henry S. Mustin.

Refineries located at Philadelphia, Pa.; Pittsburgh, Pa., and Franklin, Pa.

Distributing stations in Pennsylvania, Delaware, and Eastern States.

Manufactures lubricating oils.

Crew Levick Company (Del.), Philadelphia.

Capital stock, 100,000.

President, Wm. P. Lehrer.

Secretary, E. E. McWhiney.

Treasurer, Thomas A. Wallace.

Miles of pipe line owned, 210.

Capacity of refineries, 80,000 bbls. per month.

No. of tank stations, 149.

No. of tank cars, 196.

Ohio Cities Gas Co. (Marcus Hook), Philadelphia.

Executive office, Columbus, O.

(See this company's report in "Parent Cos." and "Appendix.")

Capacity, 4,000 bbls.

Storage capacity, 880,000 bbls.

Crude runs, 1,066,107 bbls.

Beaver Refining Co., Pittsburgh.

Location of plants, Washington, Pa.

Capital stock, \$500,000.

President, Harry N. Dauler.

Secretary, H. C. TerBush.

Treasurer, C. B. Mercer.

Manager, H. H. Fuller.

No. of tank cars, 25.

Miller's A. D. Sons Co., Pittsburgh.

Proprietors, R. B. Miller, John B. Miller and A. D. Miller, Jr.

Refinery at Pittsburgh, Pa.

Annual production: Gasoline, 1,236,300 gals.; lubricating oils, 618,165 gals.

In storage: Crude oil, 3,675 bbls.; fuel oil, 341 bbls.; gasoline, 131,957 gals.; distillates, 70,350 gals.

Quality of oil: Naphtha, 54 degrees; gasoline content, 30 p. c.

Annual sales, gasoline: Shipments, 142,347 gals.; local, 1,717,653 gals.

No. tank cars owned, 26.

Riverside Eastern Oil Co., Pittsburgh.

Office, Benedum Trees Building.

Capital stock, pref., \$1,000,000; common, \$2,000,000.

Annual dividend, pref., 7 p. c.; common, 3 p. c.

President, O. D. Robinson.

Secretary and treasurer, E. D. Robinson.

Purchasing agent, F. G. Peters.

Superintendent, A. N. Kerr.

Plants and blending stations in Pennsylvania and West Virginia.

Miles of pipe line owned, 61.

Manufacture gasoline from casing-head gas by compression.

Annual production, gasoline, 1,628,856 gals.

In storage: Gasoline, 256,560 gals.

Annual sales, gasoline: Shipments, 2,047,008 gals.

No. tank cars owned, 32.



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Riverside Western Oil Co., Pittsburgh.

Office, Benedum Trees Building.
Capital stock, pref., \$986,200; common,
\$1,500,000.

Annual dividend, pref., 7 p. c.; common, 6 p. c.
President, O. D. Robinson.
Secretary and treasurer, E. D. Robinson.
Purchasing agent, F. G. Peters.
Manager, H. C. Meyers.
Superintendent, A. N. Kerr.
Refineries in Delaware and Eram, Okla.
Miles of pipe line owned, 70.
Process: Compression and condensation of
casing-head gas.

Annual production, gasoline, 2,600,000 gals.
In storage: Gasoline, 520,567 gals.
Annual sales: Shipments, 8,000,000 gals.
No. tank cars owned, 65.

Waverly Oil Works Co., Pittsburgh.

Executive office, 54th St. and A. V. R. R.
Capital stock, \$400,000.
President, David E. Weir.
Secretary and treasurer, Harry H. Willock.
Purchasing agents: (Office) G. J. Willock;
(works) D. E. Weir.
Manager, George J. Willock.
Superintendent, David E. Weir.
Process: Continuous distillation.
No. of tank cars owned, 44.

Crystal Oil Works, Rouseville.

Executive office, Oil City, Pa.
Partners, J. A. Fawcett and E. V. D. Selden.
No. of tank cars, 44.
Annual prod., crude oil, 200,000 bbls.

Maloney Oil and Manufacturing Co., Scranton.

New York office, 17 Battery Place.
President, Martin Maloney.
Vice-pres. and treasurer, M. W. Collins.
Plants at Scranton, Pottsville, Carbondale
and Wilkes-Barre, Pa.
This company specializes in paraffin base gas
and fuel oils free from sulphur; also re-
finers and manufacturers of gasoline and
lubricating oils and greases.

Empire Oil Works, Reno.

Executive office, Oil City, Pa.
Proprietor, A. L. Confer.
Secretary, J. F. Means.
Treasurer, E. W. Chase.
Refinery at Reno, Pa. Distributing station,
Montreal, Que.
No. of tank cars owned, 76.

The Fred. G. Clark Co., Warren.

Executive office, Cleveland, O.
President, Wm. E. Wall.
Secretary, F. I. Harding.
Treasurer, R. J. Wall.
Refinery at Warren, Pa. Distributing sta-
tions in Cleveland, Chicago, Minneapolis.

Mutual Refining Co., Warren.

Capital stock, \$200,000.
President, W. F. Bennett.
Secretary, A. W. Eaton.
Treasurer, Geo. H. Jackson.

Manager, H. G. Eaton.
Superintendent, A. T. Eaton.
No. of tank cars owned, 28.

Pennsylvania Oil Products Refining Co., Warren.

(See report under Eldred, Pa.)

Superior Oil Works, Warren.

Capital stock, \$175,000.
President, Frank Morrison.
Secretary, Fred B. Jackson.
Treasurer, Herbert G. Eaton.
Manager, Herbert G. Eaton.

Beaver Refining Co., Washington.

Office, 555 Union Arcade, Pittsburgh, Pa.
Capital stock, \$300,000.
President, H. N. Dauler.
Secretary, H. C. TerBush.
Treasurer, C. B. Mercer.
Superintendent, H. W. March.
Sales mgr., H. H. Fuller.
Distributing stations at Pittsburgh, Pa., Belle
Vernon and Waynesburg, Pa.
No. tank cars owned, 11.

Wayne Naphtha Co., Waynesburg.

Executive office, 308 Columbia Bank Bldg.,
Pittsburgh.
Capital stock, \$15,000.
President, H. A. Quay.
Secretary, E. E. Duvall.
Treasurer, R. W. Hay.
Manager, S. C. Preston.
Annual prod., gasoline, 50,000 gals.
Annual sales, gasoline: Shipments, 20,000
gals.; local, 30,000 gals.

TEXAS**Magnolia Petroleum Co., Dallas.**

Refineries at Beaumont, Corsicana and Fort
Worth, Tex.
Capital stock, auth., \$30,000,000; issued,
\$22,000,000.
Bonds, \$9,603,000; due 1937; int., 6 p. c.
President, John Sealy.
Vice-president, E. R. Brown.
Secretary, Courtney Marshall.
Treasurer, W. C. Froctor.
Pipe lines in Texas extend to Healdton and
Cushing oil fields.
Supply stations through Texas, Oklahoma,
Kansas and Arkansas.
Production, approx., 30,000 bbls. crude oil per
day, in Texas, Oklahoma and Kansas.

Great State Oil and Refining Co., Humble.

Executive office, Houston, Tex.
Capital stock, \$150,000.
President, J. H. McCracken.
Secretary, C. C. Cannan.
Treasurer, C. C. Cannan.
Manager, J. H. McCracken.
Annual production, crude oil, 3,000 bbls.
(Gasoline skimming plant not yet in opera-
tion.)



METAL HOSE AND TUBING CO., BROOKLYN, N.Y.

Humble Oil and Refining Co., Houston.

Capital stock, \$4,000,000.
 President, R. S. Sterling.
 Secretary, F. M. Sterling.
 Treasurer, F. M. Sterling.
 Pur. agent, S. A. Giraud.
 Refineries at San Antonio and Humble, Tex.
 Distributing stations at Houston and San Antonio.
 Miles of pipe line owned, 10.
 No. of tank cars owned, 105.

Petroleum Refining Co., Houston.

Executive office, 1502 Carter Bldg.
 Capital stock, \$1,000,000.
 President, F. C. Smith.
 Secretary, W. N. Long.
 Treasurer, L. J. Drake, Jr.
 Pur. agent, A. M. Bowman.
 Superintendent, E. R. Lederer.
 Refinery at Galena, Tex.
 No. tank cars leased, 250.

The Texas Co., Houston.

New York office, 17 Battery Place.
 (For capitalization, bonds, etc., see Parent Cos.)
 President, E. C. Lufkin.
 Secretary, C. P. Dodge.
 Refineries at Port Arthur, Port Neches, Dallas, Tulsa and Lockport.
 Capacity, 70,000 bbls. per day.
 Storage capacity: Steel, 28,000,000 bbls.; emergency, 3,000,000 bbls.
 No. tank cars owned and leased, 2,970.

Wichita Valley Refining Co., Iowa Park.

Capital stock, \$50,000.
 President, John T. Overburg.
 Sec'y and treas., J. F. Royal.
 Manager, John T. Overburg.
 Superintendent, Geo. A. Sourickier.
 Miles of pipe line owned, 8.
 Annual production, gasoline, 5,040,000 gals.
 Annual storage: Crude oil, 910 bbls.; fuel oil, 252 bbls.; gasoline, 322,660 gals.; distillates, 1,570 gals.
 Quality of oil: Gasoline content, 59-60 p. c.
 Annual sales: Shipments, 5,176,888 gals.
 No. of tank cars owned, 30.

Avis Refining Co., Jacksboro.

Capital stock, \$150,000.
 President, J. Davis.
 Sec'y and treas., W. F. Weeks.
 Manager, Elmer Gatewood.
 Superintendent, W. A. Davis.
 Miles of pipe line owned, 10.
 Oil in storage, 5,000 bbls.

Gulf Refining Co., Port Arthur.

Sales office, Pittsburgh, Pa.
 Capital stock, \$7,500,000.
 Investment, \$325,000.
 President, Geo. S. Davison.
 Secretary, W. J. Guthrie.
 Treasurer, R. B. Mellon.
 Refineries at Port Arthur and Fort Worth, Tex.

Hoffman Oil & Refining Corporation, Port Houston.

Executive office, Houston, Tex.
 Capital stock, \$10,000,000.
 President, H. H. Hoffman.
 Sec'y and treas., I. L. Allen.
 Manager, R. C. Russell.
 Sales manager, W. B. Young.
 Superintendent, E. T. Worley.
 ½ mile of pipe line owned.
 Steam process used.
 Annual production, lubricating oil, 500,000 gals.
 Oil in storage, 14,000 bbls.; fuel oil, 2,000 bbls.; distillation, 2,500 gals.
 Quality: Naphtha, gravity 34 deg.; gasoline content, 15 per cent; sulphur content, 4½ per cent.

Panhandle Refining Co., Wichita Falls.

Capital stock, \$200,000.
 Annual dividend, 12 p. c.
 President, Frank Brown.
 Sec'y and treas., Roy B. Jones.
 Purchasing agent, Roy B. Jones.
 Manager, Roy B. Jones.
 Superintendent, O. B. Monross.
 Miles of pipe line owned, 18.
 Process: Skimming.
 Annual production: Kerosene, 5,650,000 gals.; gasoline, 12,500,000 gals.; fuel oils, 18,144,000 gals.
 Quality of oil: Naphtha, 50-52 degrees; gasoline content, 30 p. c.
 Annual sales, gasoline: Shipments, 12,500,000 gals.
 No. of tank cars owned, 100.

UTAH.**Bennett Gasoline and Oil Co., Salt Lake City.**

(Distributors only.)
 Capital stock, \$25,000.
 President, John F. Burnett.
 Secretary, W. J. Burnett.

Utah Oil Refining Co., Salt Lake City.

Executive office, 702-8 Newhouse Bldg., Salt Lake City.
 Capital stock, \$200,000.
 President, John C. Howard.
 Secretary, W. B. Sage.
 Treasurer, W. B. Sage.
 Manager, John C. Howard.

VIRGINIA**Columbia Oil Co., Rosslyn.**

Executive office, 32 South Street, Baltimore, Md.
 President, W. H. Fehsenfeld.
 Secretary, C. B. Dallam.
 Treasurer, W. Champlin Robinson.
 Manager, L. J. Kirtley.

WEST VIRGINIA**Ohio Cities Gas Co., Cabin Creek Junction.**

(Successor to Pure Oil Co.)
 Executive office, Columbus, Ohio.
 (See this company's report in "Parent Cos.")

MADE IN AMERICA for use wherever gas mains ever need repair.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

and "Appendix.")
 236 oil wells; 20 gas wells.
 Daily capacity, 2,885 bbls. crude, Cabin Creek
 and Pennsylvania grade.
 Quality: Naphtha. grav., 47 deg. Bé.
 No. tank cars, 250.
 Storage capacity, 80,000 bbls.
 Annual production, 653,731 bbls.

Elk Refining Co., Falling Rock.

Executive office, Charleston, W. Va.
 Capital stock, \$200,000.
 President, H. A. Logan.
 Secretary, V. B. Ward.
 Treasurer, F. G. Bannerot.
 Manager and pur. agent, V. M. Ward.
 Superintendent, Elmer Anderson.
 No. of tank cars owned, 63.

Zero Oil Co., Parkersburg.

President, Samuel B. Stites.
 Treasurer, Mrs. M. J. Stites.
 Manager, Samuel B. Stites.
 Miles of pipe line, 6.
 Annual prod., lubricating oil, 2,000 bbls.
 Gasoline purchased.

Ohio Valley Refining Co., St. Marys.

Capital stock, \$400,000.
 President, J. P. Flynn.
 Sec'y and manager, P. S. Tarbox.
 Purchasing agent, P. S. Tarbox.
 Treasurer, S. Messer.
 Superintendent, J. B. Northrop.
 Miles of pipe line owned, 25.
 Steam process used.
 Tank cars owned, 70.

WYOMING.

Natrona Pipe Line and Refining Co., Casper.

Address, P. O. Box 618.
 Capital stock, \$1,000,000.
 President, W. D. Waltman.
 Secretary, A. C. Campbell.

Treas. and mgr., W. D. Waltman.
 Location of refinery, Casper, Wyo. (not running).
 Miles of pipe line owned, 45.
 (All facilities and pipe line leased to the Midwest Refining Company and tank cars sold to the same company.)

Northwestern Oil Refining Co., Cowley.

Capital stock, com., \$150,000; pref., auth., \$30,200; issued, \$180,200.
 President, Edward T. Clark.
 Gen'l mgr. and sec'y, Thos. Clarkson.
 Miles of pipe line owned, 14.
 No. of tank cars, 2.

The Midwest Refining Co., Greybull.

Executive office, Denver, Colo.
 Capital stock, \$25,000,000.
 President, H. M. Blackmer.
 Secretary, C. E. Titus.
 Treasurer, H. A. Jones.
 Purchasing Agent, H. B. Steele.
 Refineries at Casper, Wyo., and Greybull, Wyo.

Wyoming Refining Co., Greybull.

Executive office, 628- Cooper Bldg., Denver, Colo.
 Capital stock, \$1,000,000.
 President, J. E. Trinnier.
 Secretary, Geo. P. Larsen.
 Treasurer, C. O. Morrison.
 Refinery under construction at Greybull, Wyo.

CANADA

Canadian Gasoline Corporation, Ltd. Toronto, Ont.

Executive office, Royal Bank Bldg., Toronto.
 Capital stock, \$3,000,000.
 President, H. T. Bush.
 Sec'y and treas., Raymond H. Kinnear.
 (British American Oil Co., Toronto, Canada, leases Greenstreet Process license from Canadian Gasoline Corp.).

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

CHEMICAL CONTROL OF GAS MANUFACTURE

**By W. M. Russell, Mgr., and F. Wills, Gen'l Supt.
 Emporia Gas Co., Emporia, Kansas.**

PART I.—"Practical Application" deals with the retort house. **PART II.**—"Elementary Chemical Theory" provides the necessary fundamentals.

The Book has 140 pages with 47 illustrations and numerous reference tables and diagrams. Smallest possible use of technical language or formulæ is made, and every description of elementary principles is based on actual demonstration to workers, in the writers' experience.

THE GAS AGE

Price \$1.50 Postpaid
 Lots of Five, \$5.00

52 VANDERBILT AVE., NEW YORK

Written for Practical Men
 by Practical Men

PARENT OR OPERATING COMPANIES

CALIFORNIA.

California Petroleum Corporation, Los Angeles.

Office, 1034 Security Building.
Capital stock, pref. auth., \$17,500,000; issued, \$12,343,026; com. auth., \$17,500,000; issued, \$14,877,005.

Annual dividend, pref., 4 p. c.
President, T. A. O'Donnell.
Vice-president, W. D. Stewart.
Sec'y and treas., Norman Bridge.
General manager, T. A. O'Donnell.
Purchasing agent, Edward Everett, Jr.
Superintendent, T. J. Crumpton.

COMPANIES OPERATED.

American Oilfields Co.
American Petroleum Co.
Niles Lease Co.
Petroleum Midway Co., Ltd.
Midland Oilfields Co., Ltd.
Midland Oil Co.

Pan-American Petroleum and Transport Company, Los Angeles.

Capital stock, pref. auth., \$25,000,000; issued, \$10,500,000; com. auth., \$125,000,000; issued, \$30,494,750

Dividend paid, annual rate, pref. 7 p. c. cumulative; com. 7 p. c.

Bonds outstanding, \$4,400,000; due semi-annually; int. 6 p. c.

President, E. L. Doheny.

Vice-presidents, J. M. Danziger, Herbert G. Wylie, Chas. E. Harwood, J. S. Wood, Paul H. Harwood.

Secretary, O. D. Bennett.

Treasurer, Norman Bridge.

Gen'l manager, Herbert G. Wylie.

COMPANIES OPERATED.

Mexican Petroleum Co., Ltd. of Delaware.
Pan-American Petroleum Investment Corporation.

The Caloric Company.

Petroleum Carriers, Ltd.

Pan-American Petroleum Company.

Huasteca Petroleum Company.

Mexican Petroleum Co., (California).

Mexican Petroleum Corporation.

Tuxpam Petroleum Company.

Tamiahua Petroleum Company.

Cia. Naviera Transportadora de Petroleo (S. A.)

Operates in following cities or towns: Los Angeles, New York, New Orleans, Destrehan, La., Carteret, (N.Y. Harbor), Chelsea, (Boston Harbor), Portland, Me., Jacksonville, Fla., Providence, R.I., Norfolk, Va., Tampa, Fla., Rio de Janeiro, Buenos Aires, Bahia, Cristobal and Tampico.

Southern California Edison Co., Los Angeles.

Office, Edison Building, 120 East Fourth St. (For capitalization, bonds, etc., see Appendix.)

Chairman, John B. Miller.

President, W. A. Brackenridge.

Vice-presidents, R. H. Ballard, G. C. Ward, W. R. Staats, J. C. Drake, Geo. I. Cochran.

Secretary, S. M. Kennedy.

Treasurer, W. L. Percey.

Comptroller, A. N. Kemp.

General manager, W. A. Brackenridge.

Purchasing agent, John Otto.

General supt., B. F. Pearson.

Asst. gen. manager, R. H. Ballard.

Gen'l agent, S. M. Kennedy.

This company owns controlling interest in the Santa Barbara (Cal.) Gas and Electric Co. and operates gas plant at Oxnard, Cal.

Southern California Gas Co., Los Angeles.

Principal office, 805 Garland Bldg.

(For capitalization and bonds, see Appendix.)

President, W. G. Kerckhoff.

Vice-pres., A. C. Balch.

Vice-president and gen'l mgr., A. B. Macbeth.

Treas. and controller, A. E. Peat.

Secretary, L. M. Farnham.

Pur. agent, N. L. Morse.

Supt. and engineer, F. J. Schafer.

Engineer, R. S. Fuller.

Plants operated in Los Angeles, Riverside, San Bernadino and Colton, Cal.

Southern Counties Gas Co. of California, Los Angeles.

General office, 724 South Spring St.

(For capitalization, etc., see Appendix.)

President, Ferdinand R. Bain.

First vice-pres., Rufus C. Dawes.

Second vice-pres., Chas. H. Dickey.

Third vice-pres., A. S. Bradford.

Secretary, W. S. McFarland.

Treasurer, J. Allen Osmun.

General manager, F. R. Bain.

Engineer, M. R. Thompson.

Auditor, W. S. McFarland.

Supt. of operation, F. S. Wade.

Entire system, covering following cities, served with natural gas: Anaheim, Arcadia, Azusa, Brea, Buena Park, Chino, Claremont, Covina, Culver City, El Modena, El Monte, Fullerton, Garden Grove, Glendora, Huntington Beach, La Habra, La Verne, Lordsburg, Long Beach, Monterey, Monterey Park, Newport, Ocean Park, Ontario, Orange, Palms, Placentia, Pomona, Santa Ana, San Dimas, San Pedro, Santa Monica, Sawtelle, Sierra Madre, So. San Anita, Seal Beach, Tustin, Uplands, Venice, Whittier and Wilmington.

Union Oil Co. of California, Los Angeles.

Capital stock, authorized \$50,000,000; issued \$39,510,100.

Annual dividend, 6 p. c.

Bonds, \$9,328,000; due 1931; int. 5 p. c.

President, W. L. Stewart.

Vice-pres., E. W. Clark.

Secretary, John McPeak.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

Treasurer, R. J. Keown.
 Purchasing agent, F. M. Berry.
 Comptroller, R. D. Matthews.
 Gen'l manager, E. W. Clark.
 Engineer, Ralph J. Reed.

COMPANIES OPERATED

Newlove Oil Co., Los Angeles, Cal.
 California Coast Oil Co., Los Angeles, Cal.
 Also interested in the following:
 Claremont Oil Co., Coalinga, Cal.
 Lakeview Oil Co., Maricopa, Cal.

Coast Valleys Gas and Electric Co., Monterey.

Principal office, 58 Sutter St., San Francisco, Cal.

(For capitalization, bonds, etc., see Appendix.)

President H. F. Jackson.
 Vice-president, P. M. Hoskins.
 Vice-president, Warren Gregory.
 Sec'y and treas., F. J. Blanchard.
 Pur. agent, L. C. Helfrich.
 Gen. manager, H. F. Jackson.
 Engineer, J. E. Woodbridge.
 Superintendent, M. C. McKay.
 Company owned, Monterey and Pacific Grove Railway.

Property operated: Gas and electric plants at Monterey, Pacific Grove and Salinas; electric in King City, Soledad, Gonzales Chular, Spreckles and Carmel and has extensive water distribution systems in Salinas and King City.

Amalgamated Oil Co., San Francisco, Cal.

Office, Sharon Bldg., 55 New Montgomery St.
 Controlled by Associated Oil Co.
 Capital, \$5,000,000.
 President, W. Sproule.
 Secretary, P. G. Williams.
 Treasurer, W. A. Sloan.

COMPANIES CONTROLLED.

Arcturas Oil Co.
 Salt Lake Oil Co.
 Utah-California Consolidated Oil Co.

Associated Oil Company, San Francisco.

Office, 55 New Montgomery St.
 Capital stock, \$40,000,000; issued \$39,756,581.
 Dividend paid, annual rate, 5 p. c.
 Bonds outstanding, \$1,812,000 (1st mortgage), due 1922; int. 5 p. c.; \$11,608,000 (1st ref. mortgage), due 1930; int. 5 p. c.

President, Wm. Sproule.
 Vice-pres., R. P. Schwerin.
 Secretary, P. G. Williams.
 Treasurer, W. A. Sloan, San Francisco.
 Pur agent, A. J. Frey.
 Gen'l manager, R. P. Schwerin.
 Engineer, A. F. L. Bell.

Supt., L. J. King, Fellows.
 Refineries operated at: Avon, Contra Costa County and Gaviota, Monterey County, Cal.

The W. F. Boardman Co., San Francisco.

Principal office, 718 Mission Street.
 President, W. F. Boardman.
 Vice-president, Tom P. Robertson.
 Secretary, Geo. H. Eckert.
 Treasurer, Geo. H. Eckert.

COMPANIES OPERATED

Oregon Gas and Electric Co., Grants Pass, Medford, Ashland and Roseburg, Ore.
 Ukiah Gas Co., Ukiah, Cal.
 Compania de Gas de Guadalajara, Guadalajara, Jalisco, Mex.

California Light and Fuel Co., San Francisco.
(No report).**Coast Counties Gas and Electric Co., San Francisco.**

Principal office, 454 California Street.
 (For capitalization and bonds, see Appendix.)
 President, S. Waldo Coleman.
 Vice-president, R. M. Hotaling.
 Sec'y and treas., L. W. Pryor.
 Pur. agent, S. W. Coleman.
 General manager, S. W. Coleman.
 Companies operated, Coast Counties Gas and Electric Co., Santa Cruz, Watsonville, Hollister and Gilroy, Cal.

General Petroleum Corporation, San Francisco.

Office, Alaska Commercial Building.
 Capital stock, pref., \$3,212,200; com., \$13,490,-200.
 Annual dividend, pref. 7 p. c., com. 10 p. c.
 Bonds, \$900,000; due 1926; int. 6 p. c.
 Gold notes, \$1,650,000; due 1922; int. 6 p. c.
 President, John Barneson.
 Vice-president, Percy T. Morgan.
 Secretary, C. R. Stevens.
 Treasurer, Robert Mitchell.
 Pur. agent, J. A. Crawford.
 Director of production, F. Chappellet.
 Comptroller, Rodney S. Durkee.
 Plants operated: Production plant at Tampico, Mex., Refinery at (Vernon) Los Angeles, Topping plant at Olinda and General Pipe Line Co., Los Angeles, Cal.

Northern California Power Co., Consolidated, San Francisco.

Office, 995 Market Street.
 (For capitalization, bonds, etc., see Appendix.)
 President, W. F. Detert.
 First vice-president, A. S. Carman.
 Second vice-president, F. Reis, Jr.
 Secretary, W. H. Pearce.
 Asst. secretary, J. M. Rogers.
 Depository, Bank of California (N. B. A.)
 General manager, Edward Whaley.
 Supt. of power houses, G. R. Milford.
 Engineer, L. H. Kistler.

COMPANIES OPERATED.

Northern California Power Co.
 Keswick Electric Power Co.
 Battle Creek Power Co.
 Redding Water Co.
 Gasplants at Redding, Red Bluff and Willows.

Oregon Gas and Electric Co., San Francisco.

Principal office, 718 Mission St.
 Capital stock, authorized, \$1,000,000; issued, \$540,000.
 Bonds, \$386,000; due 1935; int., 6 p. c.
 President, W. F. Boardman.
 Vice-president, L. Feigenbaum.
 Secretary, J. F. Kathriner.

SERVICE CLEANERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our New American Service Cleaners have been improved and they are now sold generally throughout the country.

DRIP PUMPS

These are made of brass and are exceptionally strong and durable.

Treasurer, K. F. Giles.
Gen. mgr. and pur. agent, Geo. H. Eckert.
Engineer and supt., Geo. H. Eckert.
Operates gas plants at Grants' Pass, Roseburg, Talent, Phoenix, Medford and Ashland.

Pacific Gas and Electric Co., San Francisco.

Principal office, 447 Sutter Street.
(For detailed financial information, see Appendix.)
President, Frank G. Drum.
Vice-president and gen. mgr., Jno. A. Britton.
2d Vice-pres. and treas., A. F. Hockenbeamer.
Secretary and asst. treas., D. H. Foote.
Purchasing agent, John H. Hunt.
Engineer gas department, E. C. Jones.
Mgr. com. dept., L. H. Newbert.

Operators and owners of electric power generating and transmission plants, street railroads, municipal and commercial electric lighting and distributing systems, gas generating plants and gas distributing systems, water collection, pumping and distributing systems.

Cities and towns supplied with gas by above company are as follows:

Alameda, Albany, Atherton, Barber, Belmont, Berkeley, Burlingame, Chico, Colma, Colusa, Daly City, Emeryville, Fairfax, Fresno, Grass Valley, Haywards, Hillsborough, Kentfield, Los Gatos, Larkspur, Lomita Park, Marysville, Menlo Park, Millbrae, Napa, Nevada City, Oakland, Palo Alto, Petaluma, Piedmont, Redwood City, Richmond, Ross, Sacramento, San Anselmo, San Bruno, San Carlos, San Francisco, San Jose, San Leandro, San Mateo, San Quentin, San Rafael, Santa Rosa, Sebastopol, So. San Francisco, Stamford University, Vallejo, Woodland, Yuba City, Cotati, Oroville and El Cerrito.

Pacific Lighting Corporation, San Francisco.

Office, 519 California St.
(For financial information, see Appendix.)
President, C. O. G. Miller.
Vice-president, Geo. H. Collins.
Secretary and treasurer, Horace H. Miller.
Owns all the stock of the Los Angeles Gas and Electric Corp., and stocks and bonds of other companies.

Western States Gas and Electric Company (Del.), Stockton.

Controlled by Standard Gas & Electric Co., both companies being under management of H. M. Byllesby & Co., Chicago, Ill.
Principal office, 208 So. La Salle St., Chicago.
Divisional offices at Stockton, Eureka, and Richmond, Cal.

(For detailed financial information, see Appendix.)

President, H. M. Byllesby.
Vice-presidents, F. C. Gordon, Elmer Dover, O. E. Osthoff.
Sec'y and treas., R. J. Graf.
Asst. secretaries and asst. treasurers, M. A. Morrison and Herbert List.

Operates gas and electric companies, Stockton, Cal. and Eureka, Cal., and electric company at Richmond, Cal.; supplies electric energy to the surrounding suburbs of these three divisions.

COLORADO.

Western Light and Power Co., Boulder.

Capital stock, pref. auth., \$1,500,000; issued, \$1,000,000; com. auth. and issued, \$2,000,000.

Bonds, \$2,100,000; due 1925; int. 5 p. c.

President, Guy E. Tripp.

Sec'y and treas., John Seager.

Gen'l manager, H. U. Wallace.

Company controlled: Cheyenne (Wyo.) Light, Fuel and Power Co.

CONNECTICUT.

The Connecticut Light and Power Co., Waterbury.

(Successor to The United Electric Light and Water Co.)

Capital stock, \$6,650,000.

President, Lewis Lillie, Philadelphia.

Vice-presidents, Irwin W. Day, Waterbury, Conn., Walton Clark, Philadelphia, J. Henry Roraback, Canaan, Conn.

Sec. and treas., C. L. Campbell, Waterbury, Conn.

Asst. sec. and asst. treas., I. W. Morris, Philadelphia.

Gen. supt., A. J. Campbell, Waterbury, Conn.

Pur. agent, J. A. Pearson, Philadelphia, Pa.

Engineer, William S. Murray, Waterbury, Conn.

COMPANIES CONTROLLED AND OPERATED.

Above company operates under a 994 year sub-lease from N. Y., N. H. & H. R. R. the gas and electric light properties owned by the Connecticut Railway and Lighting Co.

Housatonic Power Co., The United El. Light and Water Co. and The Seymour El. Light Co. have been acquired and electric current is distributed in the following towns in Connecticut: Waterbury, Naugatuck, Cheshire, Watertown, New Britain, Southington, Plainville, Berlin, Newington, Norwalk, South Norwalk, East Norwalk, New Canaan, Rowayton, Wilton, Beacon Falls, Branford, Greenwich, Guilford, Middlebury, New Milford, Oxford and Seymour.

Manufactures and distributes gas in the towns of Norwalk and South Norwalk.

Buys gas from the Westchester Lighting Co. and distributes same in the village of East Portchester, Conn. Buys gas from the Waterbury Gas Light Co. and distributes same in the town of Naugatuck.

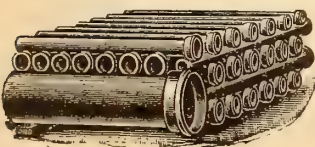
FLORIDA.

Southern Utilities Co., Jacksonville.

Office, 1110 Heard National Bank Bldg.

(For detailed information as to capitalization, see Appendix.)

President, J. H. Pardee.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO.
PHILADELPHIA, PA.

Vice-president and gen. mgr., C. I. Day.
 Vice-pres., J. I. Mange.
 Secretary and treas., T. W. Moffat.
 Purchasing agent, C. S. Bergh.
 Operating managers, J. G. White Management Corporation.

COMPANIES OPERATED.

Palatka Public Service Co., Palatka, Fla.,
 Sanford Public Service Co., Sanford, Fla.
 and about twenty ice and electric companies.

GEORGIA.

Georgia Railway and Power Co., Atlanta.

(Lessees of Georgia Railway and Electric Co.)
 (For capitalization and bonds, see Appendix.)

Chairman of Board, H. M. Atkinson.
 President, P. S. Arkwright.
 Vice-presidents, G. W. Brine and W. H. Glenn.
 Secretary, W. H. Wright.
 Treasurer, I. S. Mitchell, Jr.
 Gen. manager, G. W. Brine.
 Oper. manager, W. H. Glenn.
 Auditor, H. Flynn.

Controls the entire street railway, gas, electric light, heat and power facilities of Atlanta, Ga., and vicinity.

Columbus Electric Co., Columbus.

Capital stock, preferred, \$1,200,000; common, \$1,500,000; annual div., pref., 6 p. c.
 Bonds outstanding, \$758,000; due 1933; int., 5 p. c. Notes, \$1,500,000; due, 1919; int., 6 p. c.

President, Harry H. Hunt.
 Secretary, Alvah K. Todd.
 Treasurer, Henry B. Sawyer.
 Under management of Stone & Webster
 Manager of operating cos., John S. Bleecker.

COMPANIES CONTROLLED AND OPERATED.

Gas Light Co. of Columbus, Ga.
 Columbus (Ga.) Railroad Co.
 The Columbus (Ga.) Power Co.

ILLINOIS.

Illinois Traction Co., Champaign.

Capital stock, pref., auth., \$10,000,000; issued, \$7,289,500; com., auth., \$15,000,000; issued, \$12,331,000.

Annual dividend, pref., 6 p. c.; com., 3 p. c.
 Bonds of subsidiary companies, \$4,562,000.

President, W. B. McKinley.
 Vice-presidents, Geo. M. Mattis, H. E. Chubbuck.

Secretary, T. B. Macaulay.
 Treasurer, Geo. M. Mattis.
 Purchasing agent, H. J. Vance.
 Supt. interurban lines, C. F. Handshy.
 Superintendent gas, F. W. Bedard.
 Superintendent heat, G. L. Flechsenhaar.
 General manager, H. E. Chubbuck.
 Engineer, E. S. Hight.

CITY PROPERTIES OPERATED.

*Danville St. Ry. and Light Co., Danville, Ill.
 Danville and Eastern Illinois Railway Co., Danville, Ill.

Danville & Northern R. R. Co., Danville, Ill.

Danville and Southeastern Ry. Co., Danville, Ill.

Urbana Light, Heat and Power Co., Urbana, Ill.

*Urbana and Champaign Ry., Gas and Electric Co., Champaign, Ill.

*Clinton Gas and Electric Co., Clinton, Ill.

*Decatur Railway and Light Co., Decatur, Ill.
 Bloomington and Normal Railway and Light Co., Bloomington, Ill.

Peoria Railway Co., Peoria, Ill.

Jacksonville Railway Co., Jacksonville, Ill.

*Jacksonville Railway and Light Co., Jacksonville, Ill.

*Madison County Light and Power Co., Carlinville, Ill.

Des Moines Electric Co., Des Moines, Iowa.

St. Louis Electric Terminal Ry. Co., St. Louis, Mo.

St. Louis Electric Bridge Co., St. Louis.

Topeka Edison Co., Topeka, Kan.

Topeka Ry. Co., Topeka, Kan.

Monticello Electric Light Co., Monticello, Ill.

Oskaloosa Traction and Light Co., Oskaloosa Iowa.

*Jefferson City Light, Heat and Power Company, Jefferson City, Mo.

Jefferson City Bridge and Transit Co., Jefferson City, Mo.

*Atchison Railway, Light and Power Company, Atchison, Kan.

Chicago, Ottawa and Peoria Railway Company, Joliet, Ill.

Northern Illinois Light and Traction Company, Ottawa, Ill.

*Galesburg Railway Lighting and Power Co., Galesburg, Ill.

Peoples Traction Co., Galesburg, Ill.

Consumers Water and Light Company, Marseilles, Ill.

Wichita Railroad and Light Company, Wichita, Kan.

Cairo and St. Louis Railway Company, Cairo, Ill.

Cairo Electric and Traction Company, Cairo, Ill.

*Citizens Lighting Company, LaSalle, Ill.

Quincy Railway Company, Quincy, Ill.

*Cairo City Gas Company, Cairo, Ill.

Mound City Light and Water Co., Mound City, Ill.

Colfax Electric Light Co., Colfax, Ia.

Montezuma Electric Light, Power and Heat Co., Montezuma, Ia.

New Valley Junction Water and Light Co., Valley Junction, Ia.

Galva Electric Co., Galva, Ill.

Kereno-Donnewald Coal Co., St. Louis, Mo.

Mills County Light and Power Co., Ralston, Neb.

Omaha and Lincoln Ry. and Lt. Co., Ralston, Neb.

*Oskaloosa Light and Fuel Co., Oskaloosa, Iowa.

Citizen's Pure Ice Co., Jacksonville, Ill.

Danville Consumers Coal Co., Danville, Ill.

Galesburg Artificial Ice Co., Galesburg, Ill.

*Operate gas plants.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

INTERURBAN LINES WITH HEAD OFFICE AT
CHAMPAIGN, ILL.

Bloomington, Decatur and Champaign R. R.
Danville, Urbana and Champaign Ry. Co.
Illinois Central Traction Co.
St. Louis, Springfield and Peoria Railroad.

American Coal and By-Product Coke Co., Chicago.

Main office, 608 So. Dearborn St.
Capital stock, auth., \$5,000,000; issued,
\$1,000,000.

President, Arthur Roberts.
Vice-pres., A. H. Bowman.
Secretary, E. Anderson.
Treasurer, W. M. Hood.
General manager, Arthur Roberts.
Chief engineer, M. W. Ditto.
Asst. chief engineer, Thos. G. Kus.
Constructors of by-product coke ovens.
Roberts fuelless by-product ovens in operation (or under construction) at following plants:

Chattanooga Gas & Coal Products Co., Inc.,
Chattanooga, Tenn.
Chicago Coke and Chemical Co., Chicago, Ill.
Dover By-Products Coke Co., Canal Dover, O.
St. Louis Coke and Chemical Co., Granite
City, Ill.

Beach E. C. & Co., Chicago.

(See Gas & Electric Improvement Co.)

H. M. Bylesby and Co., Chicago.

Principal office, 208 So. LaSalle St.
New York office, 111 Broadway.
Capital stock, pref., auth. \$2,000,000; issued,
\$1,248,600; com., auth., \$2,500,000; issued,
\$1,537,700.

President, H. M. Bylesby.
Vice-presidents, Arthur S. Huey, J. J. O'Brien,
Otto E. Osthoff, G. H. Harries, Elmer
Dover, R. J. Graf.
Secretary, R. J. Graf.

Asst. secretaries, E. Dover, M. A. Morrison,
W. F. Moss, Joseph Briggs, Herbert List.
Treasurer, J. J. O'Brien.

Asst. treasurers, A. S. Huey, R. J. Graf, M. A.
Morrison, B. W. Lynch, W. H. Clarke, E.
Dover.

COMPANIES OPERATED.

Oklahoma Gas and Electric Co., Oklahoma
City, Oklahoma, operating in Oklahoma
City, El Reno, Norman, Drumright, Enid
and Kilfer, Okla. and smaller communi-
ties. and through stock ownership con-
trols

Muskogee Gas and Electric Co., operating in
Muskogee, Fort Gibson and Sapulpa,
Okla.

Ft. Smith Light and Traction Co., Ft. Smith,
and Van Buren, Ark.

Mobile Electric Co., Mobile and Whistler, Ala.
Northern States Power Co., Faribault, Still-
water, Coon Rapids, Mankato, Cannon
Falls, Northfield, White Bear, St. Paul
and So. St. Paul, Minn., Minot, N. D.;
Sioux Falls, S. D.; Fargo and Moorhead
Div. (St. Ry.), Fargo, N. D., and sub-
sidiary companies, viz:

Union Light, Heat and Power Co., Fargo,
North Dakota.

Interstate Light and Power Co., Galena, Ill.
Platteville & Hudson, Wis.

Red River Power Co., Grand Forks, N. D.,
and Red Lakes Fall, Minn.

Minneapolis Gen. Elec. Co., Minneapolis,
Minn.

Mountain States Power Co., Kalispell, White-
fish, Columbia Falls, Big Fork, Polson
and Somers, Mont.; Sandpoint, Idaho,
and Newport, Wash.

Tacoma Gas Co., Tacoma, Wash., which
company controls Olympia Gas Co.,
Olympia, Wash.

Ottumwa Ry. & Light Co., Ottumwa, Iowa.
San Diego Con. Gas & Electric Co., San Diego,
Cal.

Puget Sound Gas Co., Everett, Snohomish
and Monroe Wash.

Oregon Power Company, Marshfield, Eugene,
Albany, Corvallis, Dallas, Independence,
Monmouth, etc., in Oregon.

Southwestern General Gas Co., Ft. Smith,
Ark.

Western States Gas and Electric Co., Stockton,
Richmond and Eureka, Cal.

Arkansas Valley Ry., Lt. & Pr. Co., Pueblo,
Victor, Rocky Ford, La Junta and Canon
City, Colo., and surrounding territory.
Louisville Gas and Electric Co., Louisville,
Ky. and subsidiary companies, viz:

Kentucky Coke Co., Louisville, Ky.

Kentucky Pipe Line Co., Jeffersontown, Ky.

Standard Gas and Electric Company.

Dawes Brothers, Chicago.

Offices, Harris Trust Bldg.

President, Charles G. Dawes.

Vice-pres., R. C. Dawes.

Secretary, Stephen A. Day.

Treasurer, Henry M. Dawes.

Auditor, Clinton W. Demmon

(A holding and operating company.)

COMPANIES CONTROLLED AND OPERATED.

Gulf Cities Gas Co., Biloxi, Miss.

Mobile (Ala.) Gas Co.

Beaumont (Tex.) Gas Light Co.

Gainesville (Tex.) Gas and Electric Co.

Jackson County Light, Heat and Power Co.

Little Rock (Ark.) Gas and Fuel Co.

Mt. Clemens (Mich.) Gas Light Co.

N. Y. & Richmond Gas Co., Stapleton, N. Y.

Seattle (Wash.) Lighting Co.

Southwestern Gas and Electric Co., Shreve-
port, La.

Elston & Co., Chicago.

(See Union Utilities Co., Chicago.)

Gas and Electric Improvement Co., Chicago.

Office, 1223 New York Life Building.

Capital stock, auth., pref., \$1,000,000; com-
mon, \$1,500,000.

Dividend paid, annual rate, preferred, 6 p. c.

President, E. Chandler Beach.

Vice-pres. and engineer, Geo. F. Goodnow.

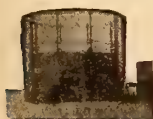
Secretary, C. V. Clark.

Treasurer, A. Volney Foster.

COMPANIES OPERATED.

Benton Harbor-St. Joseph Gas and Fuel Co.,
Benton Harbor, Mich.

Austin Gas Light Co., Austin, Texas.

**HOLDER PAINTS:—**

Our line includes No. 31 Williamsport Red.

The standard holder paint of many of the largest companies. No. 1908 Green
on holder frames makes a pleasing contrast.

Write for

REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Ft. Madison Gas Light Co., Ft. Madison, Ia.
Wausau Gas Co., Wausau, Wis.
Palestine Light, Heat and Power Co., Palestine, Texas.

Michigan Gas & Electric Company, Chicago.

Capital stock, pref. auth., \$600,000; issued, \$400,000; com. auth., \$1,150,000; issued, \$500,000.

Bonds, \$512,000; due Jan. 1st, 1932; int. 5 p. c.
For further financial data, see Appendix.

President, L. E. Myers.

Vice-pres., J. Paul Clayton.

Secretary, O. E. McCormick.

Treasurer, R. W. Waite.

Pur. agents, D. McDougall, Ishpeming, and P. B. Simonds, Three Rivers.

Gen'l mgrs. and Supts., J. D. McDougall and P. B. Simonds.

Northern division: Ishpeming, operating in Ishpeming, Hancock, Houghton, Ripley, Palmer and Negaunee.

Southern division: Three Rivers, operating in Three Rivers, Jones, Constantine, Vandalia, Cassopolis and White Pigeon.

Metropolitan Gas & Electric Co., Chicago.

(A holding company for Dawes Bros. interests.)

Middle West Utilities Co., Chicago.

Principal office, 72 West Adams Street.

(For detailed financial information, see Appendix.)

President, Samuel Insull.

Vice-presidents, Martin J. Insull, John F. Gilchrist.

Secretary, E. J. Doyle.

Treasurer, R. W. Waite.

Asst. sec'y, O. E. McCormick.

GAS COMPANIES OPERATED.

Central Illinois Public Service Co., in Central, Southern and Western Illinois.

Central Indiana Lighting Co., Indiana.

Chickasha (Okla.) Gas and Electric Co.

Citizens Gas Light Co., Jackson, Tenn.

Franklin (Ind.) Water, Light and Power Co.

Illinois Northern Utilities Co., Ill.

Interstate Public Service Co., Indiana.

Kentucky Utilities Co., Shelbyville, Ky.

Michigan Gas and Electric Co., Mich.

Missouri Gas and Electric Service Co., Chicago, Ill.

Nebraska City Utilities Co., Neb.

Twin State Gas and Electric Co., Vt. and N. H.

United Gas and Electric Co., Indiana.

The L. E. Myers Co., Chicago.

Principal Office, Monadnock Building.

Capital stock, pref., \$100,000; common, \$150,000.

Annual div., pref., 7 p. c.

President, L. E. Myers.

Vice-pres., C. E. Collins.

Vice-pres., (chg. oper.) L. N. Boisen.

Secretary and treas., W. H. P. Weston.

Gen'l manager, C. E. Collins.

Gen'l Superintendent, G. N. Britten.

Chief engineer, T. S. Johnston.

Pur. agent, E. H. Herzog.

COMPANIES OPERATED.

Ashland Light, Power & St. Ry. Co.
Central Power Co., Grand Island, Neb.
Ironwood & Bessemer Ry. & Light Co.
Marquette County Gas and Electric Co.
McHenry County Light and Power Co.
Southern Wisconsin Electric Co.
Kearney, (Neb.) Water & El. Power Co.
Ladysmith Lighting Co.
Midway Gas Co., Kearney, Neb.

North American Light & Power Co., Chicago.

Office, 2013 Peoples Gas Bldg.

Capital stock, pref. auth., \$10,000,000; issued, \$850,000; com., auth. and issued, 60,000 shares, (par value \$5.); pref. stock is 7 p. c. cum.

Bonds, \$2,455,000; due, 1937; int., 6 p. c.

Notes \$350,000; due 1920; int., 6 p. c.

President, Clement Studebaker, Jr., So. Bend.

Vice-pres., William A. Baehr, Chicago, Ill.

Secretary, Henry L. Hanley, Chicago, Ill.

Treasurer, Scott Brown, Chicago.

Gen'l manager, William A. Baehr.

Engineer, William A. Baehr.

COMPANIES OPERATED.

Adair County Light, Power and Ice Co., Kirksville, Mo.

Ardmore City Gas Co., Ardmore, Okla.

Citizen's Electric Light Co., Higbee, Mo.

Boonville (Mo.) Light, Heat and Power Co.

Consumers Light and Power Co., Ardmore, Durant, Waurika, Ringling and Madill, Okla.

Huntsville (Mo.) Light and Power Co.

La Plata (Mo.) Light, Heat and Ice Co.

Moberly Light and Power Co., Moberly, Mo.

Missouri Heat, Light and Power Co., Kirksville, Mo.

Southern Okla. Pipe Line Co., Ardmore, Okla.

Washington Gas and Electric Co., Washington C. H., O.

Public Service Co. of Northern Illinois, Chicago.

Principal office, 72 West Adams Street.

(For financial information, see Appendix.)

President, Samuel Insull.

Asst. to president, J. F. Gilchrist.

Vice-presidents, Frank J. Baker, Charles A.

Munroe, John H. Gulick.

Sec'y and treas., P. D. Sexton.

Asst. to vice-pres., John G. Learned.

Asst. sec'y and asst. treas., E. E. Brenneman.

Asst. auditor, H. W. Wyman.

Pur. agent, Geo. R. Jones.

Engineer, gas, C. W. Bradley.

Auditor, S. J. Palmer.

Indus. gas engineer, H. H. Clark.

PLANTS OPERATED.

Gas plants in Streator, Ottawa, Evanston, Oak Park, Blue Island, Pontiac and Kankakee. Operates in approximately 73 cities towns and villages.

Electric plants in Waukegan, Evanston, Maywood, Blue Island, Oak Park, Kankakee (steam and hydro), Joliet (steam and hydro), Wilmington, Streator, Pontiac, Highwood, Lacon, Wyoming and Toulon. Also operates 30 substations. Operates in approximately 170 cities, towns and villages.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Standard Gas and Electric Co., Chicago.

208 So. LaSalle St., Chicago.

New York office, 111 Broadway.

(For detailed financial information, see Appendix.)

President, H. M. Byllesby.

Vice-presidents, Otto E. Osthoff, J. J. O'Brien, F. C. Gordon, Arthur S. Huey, Geo. H. Harries.

Secretary and asst. treas., M. A. Morrison.

Treasurer and asst. sec'y, R. J. Graf.

Asst't sec'y and asst't treas., Herbert List.

Asst't treasurers, M. A. Morrison, J. D. Baker.

General managers, H. M. Byllesby & Co.

Standard Gas and Electric Co. is a company organized to acquire, operate, sell and deal in stocks and bonds of electric light and power, street, railway, gas, water hydro-electric and other properties.

COMPANIES CONTROLLED.

Arkansas Valley Railway Light and Power Co., operating in Pueblo, Victor, Rocky Ford, La Junta, Canon City, Cripple Creek, Fowler, Manzanola, Colo., and surrounding country.

Ft. Smith Light and Traction Co., Ft. Smith and Van Buren, Ark.

Mobile Electric Co., Mobile, and Whistler, Ala. Oklahoma Gas and Electric Co., operating in Oklahoma City, El Reno, Enid and smaller communities, which Company controls Muskogee Gas & Elec. Co.

Ottumwa Railway and Light Co., Ottumwa, Ia.

Puget Sound Gas Co., operating in Everett, Monroe and Snohomish, Wash.

San Diego Consolidated Gas and Electric Co., San Diego, Cal.

Southwestern General Gas Co., Ft. Smith and Van Buren, Ark.

Tacoma Gas Co., Tacoma, Wash., which Company controls Olympia (Wash.) Gas Co.

Western States Gas and Electric Co., Stockton, Eureka and Richmond, Cal.

Mississippi Valley Gas and Electric Co. (holding company) controls jointly with Standard.

Louisville Gas and Electric Co., Louisville, Ky.

Northern States Power Co., operating in Wisconsin, Minnesota, North Dakota, South Dakota and Northern Illinois.

Mountain States Power Co., operating in Montana, Idaho, Washington and Oregon.

Union Carbide Co., Chicago and New York.

Offices, 42d St. Building, New York, and Peoples Gas Building, Chicago.

(Works at Sault Ste. Marie, Mich., and Niagara Falls, N. Y.)

Capital stock, authorized, \$50,000,000; issued, \$39,757,854.

Annual dividend, 8 p. c.

Bonds outstanding, \$318,000; due 1950; int., 6 p. c.

President, Geo. O. Knapp.

Vice-presidents, E. F. Price and G. W. Mead.

Secretary, W. M. Flook.

Treasurer, G. W. Mead.

Gen. manager, W. J. Knapp.

Asst. secretaries, H. F. Southard, A. C. Cornell and J. S. Adams.

Asst. secy. and asst. treas., E. J. E. Ward. Manufacturers of calcium carbide.

Union Utilities Co., Chicago.

(Owned by Elston and Co.)

Office, 39 South La Salle St.

President, I. C. Elston, Jr.

Vice-president, Arthur C. Allyn.

Secretary and treas., Joseph N. McCallum.

Pur. agent, J. N. McCallum.

COMPANIES OPERATED.

Lenawee County Gas and Electric Co., Adrian, Mich.

Indiana Gas Light Co., Noblesville and Tip-ton, Ind.

St. Charles Lighting Co., St. Charles, Mo.

Vicksburg Light and Traction Co., Vicksburg, Miss.

Northern Iowa Gas and Electric Co., operating in Humboldt, Eagle Grove, Clarion, Sioux Rapids, Emmetsburg, Spirit Lake and Forest City, Iowa.

Dubuque Electric Co., Dubuque, Iowa.

Illinois Northern Utilities Co., Dixon.

(Controlled by Middle West Utilities Co. For detailed financial information, see Appendix.)

President, Samuel Insull.

Vice-presidents, E. D. Alexander.

Asst. to vice-pres., O. E. McCormick.

Secretary and treasurer, John H. Gulick.

Asst. sec'y and treas., R. W. Waite.

Pur. agent, W. L. Campbell.

Engineer, L. G. Adams.

Auditor, L. E. Jacobson.

New bus. mgr., C. B. Yonts.

Gas plants operated in the cities of DeKalb, Sterling, Belvidere, Dixon, Geneseo, Mendota and Morrison, with distributing systems in Rock Falls and Sycamore; electric plants in Sterling, Dixon, Belvidere, Oregon, Mendota, Freeport, Aledo, and Geneseo; street railway systems in Sterling, Freeport, Dixon; interurban between Sterling and Dixon. Supplies also the following cities and towns with gas or electricity, Adeline, Ashton, Amboy, Capron, Chemung, Compton, Earlville, Erie, Fulton, Forreston, Franklin Grove, Genoa, Garden Prairie, Hampshire, Hinckley, Kirkland, Kingston, Lee Center, Leland, Lyndon, Mt. Morris, Morrison, Nachuso, Polo, Prophetstown, Plano, Sandwich, Shaws, Somonauk, Sublette, Tampico and West Brooklyn. Also Keithsburg, Alexis, Woodhull, Joy, New Boston, Viola, New Windsor, Alpha, Rio, North Henderson, Seaton, Poplar Grove, Shabonna, Paw Paw, Waterman, Harvard, Caledonia, Walnut, Ohio and Deer Grove.

Central Illinois Public Service Co., Mattoon.

(Controlled by Middle West Utilities Co. For detailed financial information, see Appendix.)

President, Marshall E. Sampsell.

Vice-president, G. W. Hamilton.



Tycos Temperature Instruments for Gas Works

INDICATING-CONTROLLING-RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Pur. agent, D. R. Truax.
 Sec'y and treas., C. E. Cripe.
 General supt., B. F. Tucker.
 Local supt., R. L. Fickes.
 Operates gas and electric plants in Charleston, Macomb, Paris, Taylorville and Beardstown, Ill.

Central Illinois Light Co., Peoria.

Office, 316-318 So. Jefferson Avenue.
 (Controlled by Union Railway, Gas and Elec. Co., New York.)
 (For financial data, see Appendix.)
 President, B. C. Cobb.
 Vice-presidents, W. H. Barthold, R. S. Wallace.
 Secretary, E. E. Corken.
 Treasurer, T. A. Schlink.
 General manager, R. S. Wallace.

COMPANIES OPERATED.

Central Illinois Light Co., gas and electric plants in Pekin and Peoria, Ill., and electric plants in East Peoria, Peoria Heights, Washington, Eureka, Metamora, Averyville, Roanoke, Douglas, Maquon, London Mills, Elmwood, Yates City, Farmington, etc.

INDIANA.

Northern Indiana Gas & Electric Co., Hammond.

(For capitalization, etc., see Appendix.)
 President, C. H. Geist.
 Vice-presidents, B. S. Walters and S. E. Mulholland.
 Secretary, G. W. Curran.
 Treas. and ass't sec'y., H. C. Miller.
 Ass't treasurers, I. W. Morris, W. N. Porter, B. P. Shearon.
 Pur. agent, J. A. Pearson.

COMPANIES IN WHICH INTERESTED.

Lima Gas Light Co., Lima, Ohio.
 Lima Natural Gas Co., Lima, Ohio.
 St. Marys Gas Co., St. Marys, Ohio.
 Wapakoneta Natural Gas Co., Wapakoneta, Ohio.
 Celina Gas Co., Celina, Ohio.
 North Mercer Natural Gas Co., Ft. Recovery, Ohio.
 Peru Gas Co.
 West Hammond Gas and Electric Co.

Interstate Public Service Co., Indianapolis.

General office, 510 Board of Trade.
 Controlled by Middle West Utilities Co.
 Capital stock, pref., auth., \$5,000,000; issued, \$3,370,000; com., auth., \$3,000,000; issued, \$2,000,000.
 Annual div., pref., 6 p. c.
 Bonds outstanding, \$2,997,000; due 1943; int. 5 p. c.
 Underlying bonds, \$972,800; int. 5 and 6 p. c.
 President, Chester P. Wilson.
 Vice-presidents, Harry Reid, E. Van Arsdel.
 Sec'y and treas., Ira E. Guthrie.
 Pur. agent, C. H. Dallow.
 Operating mgr., E. Van Arsdel.
 Engineer, G. C. Hyde.

COMPANIES OPERATED.

Interstate Public Service Co., gas plants in Bedford, New Castle, Seymour and Shelbyville and Greenfield.
 Franklin (Ind.), Water, Light and Power Co.
 Central Indiana Lighting Co., Bloomington, Ind.

W. A. Martin and Associates, La Porte.

COMPANIES IN WHICH INTERESTED.

Greencastle (Ind.) East Electric Co.
 La Porte (Ind.) Gas and Electric Co.
 Rochester (Ind.) Gas and Fuel Co.

IOWA.

Iowa Railway and Light Co., Cedar Rapids.

(For detailed financial information, see Appendix.)

President William G. Dows.
 Vice-pres., Isaac B. Smith, John A. Reed.
 Secretary, C. S. Woodward.
 Treasurer, Isaac B. Smith.
 Pur. agent, S. C. Dows.
 Gen. manager, William G. Dows.
 Engineer, F. W. Laas.
 Operates electric light and steam heating plant at Cedar Rapids, interurban railway between Cedar Rapids and Iowa City and between Cedar Rapids, Mt. Vernon and Lisbon, Iowa; electric light and steam heating plant at Marion, Iowa; electric and gas light plants, and street railway at Marshalltown, Iowa; electric light and steam heating plants, and street and suburban railway at Boone, Iowa; electric light plant at Toledo, Iowa; electric light and steam heating plants at Perry, Iowa; electric light and steam heating plant at Traer, Iowa; electric light plants at Nevada, Belle Plaine, Zeoring and Coon Rapids, Ia.

R. K. Runner and Associates, Charles City.

COMPANIES IN WHICH INTERESTED.

Austin (Minn.), Gas Co.
 Charles City (Ia.) Gas Co.
 Cherokee (Ia.) Gas Co.

Jones & Hovey Co., Independence.

(Not incorporated.)
 President, C. D. Jones.
 Secretary, S. B. Hovey.
 A construction and operating company of gas and electric plants.

COMPANIES OPERATED.

Independence Gas Co., Independence.

KENTUCKY.

Maysville Public Service Co., Maysville.

Capital stock, \$150,000.
 Bonds, (underlying companies) \$242,500; due 1931; int. 5 p. c.
 President, Horace J. Cochran.
 Sec'y and treas., R. A. Cochran.
 COMPANIES CONTROLLED (THROUGH OWNERSHIP OF STOCK.)
 Maysville (Ky.) Gas Co.
 Maysville (Ky.) St. R. R. and Transfer Co.

GAS EXHAUSTERS

Pressure or Suction



GAS BOOSTERS

Any Form of Drive

Paducah Traction and Light Co., Paducah.

Capital stock, pref., auth., \$1,000,000; issued, \$600,000; com., \$1,000,000; ann. div.; pref., 5 p. c.

Bonds, (col. trust) \$599,000; due 1935; int., 5 p. c.
President, Fred'k P. Royce.

Vice-presidents, Dwight P. Robinson and Harry T. Edgar.

Secretary, Alvah K. Todd.

Treasurer, Henry B. Sawyer.

Under the management of Stone & Webster.
Mgr. of operating cos., W. Lawrence Weston.

COMPANIES CONTROLLED AND OPERATED.

Paducah Traction Co.

Paducah Light and Power Co.

LOUISIANA.**American Cities Co., New Orleans.**

Principal office, 201 Baronne St. New Orleans, La.

New York Office, 61 Broadway.

(For detailed financial information, see Appendix.)

President, Francis T. Homer, New York.

Vice-presidents, E. G. Connette, New York and Lee Benoist, New Orleans.

Secretary, Arthur L. Linn, Jr., New York City.

Treasurer, Arthur L. Linn, Jr., New York City
Asst. sec'y, asst. treas., Chas. B. Murphy, New Orleans, La.

Asst. sec'y and asst. treas., Morgan D. Evans, New York City.

COMPANIES CONTROLLED (THROUGH STOCK OWNERSHIP)

*New Orleans Railway and Light Co., New Orleans, La.

*Birmingham Railway, Light and Power Co., Birmingham, Ala.

Memphis Street Railway Co., Memphis, Tenn.

Little Rock Railway and Electric Co., Little Rock, Ark.

Knoxville Railway and Light Co., Knoxville, Tenn.

Houston Lighting and Power Co., 1905, Houston, Texas.

MARYLAND.**Robinson Oil Corporation, Baltimore.**

Office, 32 South Street.

Capital stock, pref. \$1,037,000.00; com. \$1,111,-018.16.

Dividend paid, annual rate, pref. 8 p. c.

President, W. C. Robinson.

Vice-president, C. B. Dallam.

Asst. secretary, E. G. Cole.

Treasurer, A. C. White.

Pur. agent, A. H. Johnson.

Supt. of refinery, J. E. Hammond.

COMPANIES OPERATED.

Wm. C. Robinson and Son Co., Baltimore, Md.

Pittsburgh Oil Refining Co., Pittsburgh, Pa.

Southern Gas and Electric Corporation, Baltimore.

Offices, 213 Courtland St., Baltimore, Md. and

61 Broadway, New York, N. Y.

(For financial information, see Appendix.)

President, Francis T. Homer.

*Operate gas properties.

Vice-presidents, A. C. Howard, L. I. Pollitt.

Secretary and asst. treas., J. A. McKenna.

Treasurer and asst. sec'y, M. D. Evans.

Asst. sec'y and asst. treas., M. C. Banigan.

Gen. manager, L. I. Pollitt

COMPANIES OPERATED.

Bluefield (W. Va.) Gas and Power Co.

Gas Light Co. of Augusta, Augusta, Ga.

Henrico County Gas Co., Richmond, Va.

Suffolk (Va.) Gas-Electric Co.

Sumter (S. C.) Gas and Power Co.

MASSACHUSETTS.**Commonwealth Gas and Electric Companies, Boston.**

Office, 78 Devonshire Street.

Share capital auth., common, 15,005; auth., pref., 18,005; outstanding pref., 15,704 $\frac{1}{4}$; common, 15,005.

Common shares held in trust, 5,962.

Annual dividends, pref. 6 p. c.; 50c. per sh. paid on common.

President, Alonzo P. Weeks.

Secretary, Elihu G. Loomis.

Treasurer, Paul B. Webber.

COMPANIES OWNED.

Marlboro-Hudson Gas Co.

Athol Gas and Electric Co.

Gas and Electric Improvement Co., Boston.

Office, 77 Franklin St.

Capital stock, auth., \$100,000; issued, \$100,000.

Annual dividend, 6 p. c.

President, Guy K. Dustin.

Secretary and treas., C. N. Burnell.

Pur. agent, H. L. Ogden.

Elec. engineer, W. S. Bishop.

Gas engineer, R. Y. Conklin.

Com'l mgr., William Gould.

This company exercises general supervision and direction in the management and operation of several gas and electric light companies, viz:

Adams Gas Light Co., Adams.

Arlington Gas Light Co., Arlington.

Ayer Electric Light Co., Ayer.

Clinton Gas Light Co., Clinton.

Gloucester Gas Light Co., Gloucester.

Harvard Gas and Electric Co., Harvard.

Leominster Gas Light Co., Leominster.

Leominster Electric Light and Power Co.

Lexington Gas Co., Lexington.

Milford Gas Light Co., Milford.

Milford Elec. Light and Power Co., Milford.

Mill River Elec. Light Co., Williamsburg.

Northampton Gas Light Co., Northampton.

Northampton El. Lighting Co., Northampton.

North Adams Gas Light Co., North Adams.

Spencer Gas Co., Spencer.

Williamstown Gas Co., Williamstown.

Worcester City Gas Co., Palmer.

New Smyrna Public Service Co.

Daytona Public Service Co.

The Light, Heat and Power Corporation, Boston.

Principal office, 77 Franklin St.

Capital stock, \$500,000.

Annual dividend 13.5 p. c.

WASH OIL PUMPS

Patented Governors



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

Bonds outstanding, \$100,000; \$50,000 due Oct. 1, 1918; \$50,000 due, Jan. 1, 1929; int. 5 p. c.
 President, Arthur E. Childs.
 Sec'y and treas., C. N. Burnell.

COMPANIES CONTROLLED

Daytona Public Service Co., Daytona, Fla.
 New Smyrna Public Service Co., New Smyrna, Fla.

Massachusetts Gas Companies, Boston.

Office, 111 Devonshire Street.
 (For detailed financial information, see Appendix.)
 President, J. L. Richards.
 Vice-presidents, A. J. Rowan and J. B. Russell, Jr.
 Secretary, Arthur S. Bull.
 Treasurer, E. M. Richards.
 A voluntary association owning practically all the capital stock of the following subsidiary companies:
 Boston Consolidated Gas Co., Boston, Mass.
 East Boston Gas Co., East Boston, Mass.
 Citizens Gas Light Co., Quincy, Mass.
 Newton and Watertown Gas Light Co., Newton, Watertown, Waltham and Wellesley, Mass.
 New England Fuel and Transportation Co.
 Approx. fifty per cent of capital stock of the New England Mfg. Co.

Massachusetts Lighting Companies, Boston.

Office, 77 Franklin St.
 (For detailed financial information, see Appendix.)
 President, Arthur E. Childs.
 Secretary and treas., Geo. F. Howland.
 Asst. secretary, C. N. Burnell.
 Trustees: Arthur E. Childs, William M. Butler, Percy Parker, Chauncey D. Parker, Bowen Tufts.
 Voluntary association owning gas and electric companies. (See Appendix.)

COMPANIES CONTROLLED (THROUGH OWNERSHIP OF CAPITAL STOCK).

Adams (Mass.) Gas Light Co.
 Arlington (Mass.) Gas Light Co.,
 Ayer (Mass.) Electric Light Co.
 Clinton (Mass.) Gas Light Co.
 Gloucester (Mass.) Gas Light Co.
 Harvard Gas and Electric Co.
 Leominster (Mass.) Gas Light Co.
 Leominster (Mass.) Electric Light and Power Co.
 Lexington (Mass.) Gas Light Co.
 Milford (Mass.) Electric Light and Power Co.
 Milford (Mass.) Gas Light Co.
 Mill River Electric Light Co., Williamsburg Mass.
 North Adams (Mass.) Gas Light Co.
 Northampton (Mass.) Electric Lighting Co.
 Northampton (Mass.), Gas Light Co.
 Spencer (Mass.) Gas Co.
 Williamstown (Mass.) Gas Co.
 Worcester County Gas Co., Warren, Mass.
 Also owns The Light, Heat and Power Corporation, Boston, Mass., and the Gas and Electric Improvement Co.

Stone and Webster, Boston.

Office, 147 Milk St. Branches: New York, 5 Nassau St.; Chicago, First National Bank Bldg.

Partners: Charles A. Stone, Edwin S. Webster, Russell Robb, Henry G. Bradlee, Dwight P. Robinson, John W. Hallowell.

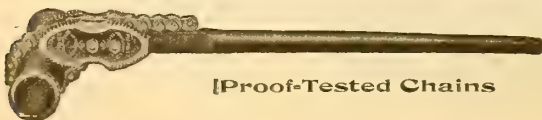
COMPANIES OPERATED.

*Baton Rouge Electric Co.
 *Blackstone Valley Gas and Electric Co.
 Brockton and Plymouth St. Ry. Co.
 Cape Breton Electric Co., Ltd.
 Central Mississippi Valley Elec. Properties.
 *Columbus Electric Co.
 The Columbus Power Co.
 *Connecticut Power Co.
 Eastern Texas Electric Co.
 Edison Electric Illuminating Co. of Brockton.
 The Electric Light and Power Co. of Abington and Rockland.
 El Paso Electric Co.
 Everett Railway, Light and Water Co.
 *Fall River Gas Works Co.
 Galveston Electric Co.
 Galveston-Houston Electric Co.
 Galveston-Houston Electric Railway Co.
 *Haverhill Gas Light Co.
 Houghton County Electric Light Co.
 Houghton County Traction Co.
 Houston Electric Co.
 Jacksonville Traction Co.
 *Keokuk Electric Co.
 Key West Electric Co.
 The Lowell Electric Light Corporation.
 Mississippi River Power Co.
 Northern Texas Electric Co.
 Pacific Northwest Traction Co.
 *Paducah Traction and Light Co.
 Pensacola Electric Co.
 Ponce Electric Co.
 Public Service Investment Co.
 Puget Sound Electric Railway.
 Puget Sound International Ry. and Power Co.
 *Puget Sound Traction, Light and Power Co.
 Railway and Light Securities Co.
 Savannah Electric Co.
 *Sierra Pacific Electric Co.
 Tacoma Railway and Power Co.
 Tampa Electric Co.

Charles H. Tenney and Co., Incorporated, Boston.

Office, 201 Devonshire St.
 President, C. H. Tenney.
 Vice-pres., A. B. Tenney.
 Vice-pres., D. E. Manson.
 Vice-pres., H. T. Sands.
 Secretary, H. P. Wood.
 Treasurer, E. A. Bradley.
 Asst. treas., I. S. Hall.
 Purchasing agent, F. P. Mooney.
 Auditor, H. A. Gidney.
 Engineering manager, Frank C. Sargent.
 Clerk, Allen Hollis, Concord, N. H.
 Directors: Chas. H. Tenney, Albert B. Tenney, and Allen Hollis.

* Operate gas properties.



Proof-Tested Chains

**Williams' Improved "Vulcan"
 Drop-Forged Chain Pipe Wrench**

J. H. WILLIAMS & CO., 74 Richards St.,
 BROOKLYN, N. Y.

COMPANIES IN WHICH INTERESTED.

American Tar Co., Boston, Mass.
 Malden Electric Co., Malden, Mass.
 Haverhill Electric Co., Haverhill, Mass.
 *Suburban Gas & Electric Co., Revere, Mass.
 Exeter & Hampton Electric Co., Exeter, N. H.
 Exeter Ry. & Ltg. Co. Boston, Mass.
 Concord Electric Co., Concord, N. H.
 *Peoples Gas & Electric Co., Oswego, N. Y.
 Exeter, Hampton & Amesbury St. Ry., Hampton, N. H.
 Salem Electric Lighting Co., Salem, Mass.
 *Springfield Gas Light Co., Springfield, Mass.
 *Malden & Melrose Gas Light Co., Malden, Mass.
 *Fitchburg Gas & Electric Light Co., Fitchburg, Mass.
 Montpelier and Barre Light and Power Co., Montpelier, Vt.
 *Rockland Light and Power Co., Nyack, N. Y.
 Rockland Electric Co., Closter, N. J.
 *Bristol and Plainville Tramway Co., Bristol, Conn.
 Barre & Montpelier Traction and Power Co., Montpelier, Vt.
 North Boston Lighting Properties, Boston, Mass.
 Boston Electrolytic Oxygen Co., Everett, Mass.
 Eastern Mass. Electric Co., Boston, Mass.

MICHIGAN.

W. E. Moss & Co., Detroit.

710 Union Trust Building.
 Sec'y and treas., W. E. Moss.
 Gen. manager, B. O. Tippy.
 Consulting engineer, B. O. Tippy.
 Purchasing agent, H. M. Eaton.

COMPANIES OPERATED.

Coldwater Gas Light & Fuel Co., Coldwater, Mich.
 Monroe Gas Light & Fuel Co., Monroe, Mich.
 Hillsdale Gas Light Co., Hillsdale, Mich.
 Columbus Gas Light Co., Columbus, Ind.
 Fulton Fuel & Light Co., Fulton, N. Y.
 Grand Haven Gas Co., Grand Haven, Mich.
 Citizens Gas Co., Hannibal, Mo.
 Winston-Salem Gas Co., Winston-Salem, N. C.

National Gas, Electric Light and Power Co., Detroit.
 (Succeeded by United National Utilities Co., Philadelphia).

The Henry M. Wallace Co., Inc., Detroit.
 (Company out of existence.)

American Public Utilities Co., Grand Rapids.

Office, Grand Rapids Savings Bldg.
 (For detailed information regarding capitalization, bonds, etc., see Appendix.)
 Chmn. of Board, Charles B. Kelsey.
 President, Joseph H. Brewer.
 Vice-president, Adolph H. Brandt.
 Sec'y and pur. agent, Blaine Gavett.
 Treasurer, Willis J. Ripley.

*Operate gas properties.

General manager, Joseph H. Brewer.
 Asst. gen'l mgr., Chas. O'B. Murphy.
 Chief engineer, L. B. Andrus.
 Gas engineer, G. R. Horning.

COMPANIES OPERATED.

Albion (Mich.) Gas Light Co.
 Boise (Idaho) Gas Light and Coke Co.
 Elkhart (Ind.) Gas and Fuel Co.
 Holland City (Mich.) Gas Co.
 Jackson (Miss.) Light and Traction Co.
 Merchants Heat and Light Co., Indianapolis.
 Utah Gas and Coke Co., Salt Lake City, Utah.
 Valparaiso (Ind.) Lighting Co.
 Eastern Wisconsin Elec. Co., Fond du Lac, Wis.
 Wisconsin-Minnesota Light and Power Co., Eau Claire, Ellsworth, Elmwood, La Crosse, Chippewa Falls, Menomonie, Neillsville, Spring Valley, Rice Lake, Sparta, Tomah, Viroqua, Wis., and Red Wing and Winona, Minn.

United Light and Railways Co., Grand Rapids.

Executive offices, Michigan Trust Building, Grand Rapids, Edison Building, Chicago, and Davenport, Iowa.
 (For detailed information regarding capitalization, bonds, etc., see Appendix.)
 President, Frank T. Hulswit.
 First Vice-president, Richard Schaddelee.
 Vice-pres. J. F. Porter.
 Vice-pres. and treas., C. M. Hurd.
 Vice-pres. T. J. Weber, Grand Rapids, Mich.
 Secretary, L. H. Heinke.
 Asst. sec'y., M. E. Armstrong.
 General manager, Richard Schaddelee, Grand Rapids.
 Asst. gen. mgr., B. J. Denman, Davenport, Ia.
 Assistants to President, W. H. Hulswit and F. K. George.
 Pur. agent, Geo. G. Kuhn, Davenport, Ia.
 Engineer, T. J. Weber, Grand Rapids.

GAS COMPANIES OWNED AND OPERATED.

Cadillac Gas Light Co., Cadillac, Mich.
 Chattanooga Gas Co., Chattanooga, Tenn.
 Cedar Rapids Gas Co., Cedar Rapids, Ia.
 Ft. Dodge Gas and Electric Co., Ft. Dodge, Iowa.
 Peoples Gas and Electric Co., Mason City, Ia.
 La Porte Gas and Electric Co., La Porte, Ind.
 Ottumwa Gas Co., Ottumwa, Iowa.
 Also the following companies subsidiary to the Tri-City Railway and Light Co.:
 Iowa City Light and Power Co., Iowa City, Ia.
 Muscatine Lighting Co., Muscatine, Ia.
 Peoples Power Co., Davenport, Ia.
 Peoples Light Co., Rock Island, Ill.

Utilities Operating Co., Kalamazoo.

Office, 310 Peck Bldg.
 President, C. A. Runyan.
 Vice-president, A. C. Runyan.
 Sec'y and treas., L. F. Ryall.
 Pur. agent, L. F. Ryall.
 General mgr., D. F. Burritt.
 Engineer, W. D. Birbeck.
 Gen'l Auditor, Frank Wheeler.



As manufacturers of large lines of Hydraulic Equipment for Steel Work, we are kept in constant touch with the most advanced practice of today.

R. D. WOOD & CO., PHILA., PA.



COMPANIES OPERATED.

Allegan County Gas Co., Otsego, Allegan and Plainwell, Mich.
 Brazil Gas Co., Brazil, Ind.
 Indiana Fuel and Light Co., Auburn, Garrett and Kendallville, Ind.
 Manitowoc Gas Co., Manitowoc, Wis.
 Rochester Utility Co., Rochester, Minn.
 South Haven Gas Co., South Haven, Mich.
 Sturgis Gas Co., Sturgis, Mich.

Michigan Light Company, Jackson.

(For capitalization and bonds, see Appendix.)

President, B. C. Cobb.
 Vice-presidents, W. H. Barthold, and T. A. Kenney.
 Secretary, J. K. Swanson.
 Treasurer, A. B. Simoneau.
 Gen. manager, C. W. Tippy.
 Operates in Bay City, Flint, Jackson, Kalamazoo, Saginaw, Pontiac, Manistee Birmingham and Royal Oak.

Consolidated Gas, Electric and Water Co., Lansing.

(Properties of this company have been taken over by Mr. H. Lindale Smith, of Cleveland, Ohio, and his associates. See report under Cleveland, O.)

Appleby-Wagner Co., Saginaw.

Office, Forresters' Temple.
 (A co-partnership: B. G. Appleby and R. B. Wagner.)
 Gen'l mgr. and engr., R. B. Wagner.

COMPANIES OPERATED.

Gratiot Gas Co., Alma, Mich.
 Washington County Gas Co., Johnson City, Tenn.
 Consumers Gas and Coke Co., Waycross, Ga.

A. C. and C. A. Runyan, So. Haven.

(See Utilities Operating Co., Kalamazoo, Mich.)

MINNESOTA.

Northern Utilities Co., Duluth.

Office, 5130 London Road.
 Capital stock, \$300,000.
 Bonds to be issued \$500,000.
 President, F. B. Myers.
 Vice pres. and treas., J. P. Smith.
 Secretary, T. F. Lynch.
 Pur. agent, J. P. Smith.
 Company has under construction 60 miles of mains, and purposes to supply gas to Hibbing, Chisholm, Buhl, Alice, Brooklyn, Mahoning, Dunwoody, Eveleth, Sparta, Gilbert, McKinley, Biwabik, Fayall, Aurora and Mitchell—all on the Massabe Range, in Minnesota.
 (No report, 1918.)

Northern States Power Co. (of Minn.), Minneapolis.

(Formerly Consumers Power Co.)
 Office, 15 South Fifth Street.
 Chicago office, 208 So. La Salle Street.

(Northern States Power Co. of Del. owns entire capital stock. For detailed information regarding capitalization, bonds, etc., see Appendix.)

President, H. M. Byllesby.
 Vice-presidents, A. S. Huey, F. C. Gordon, O. E. Osthoff, J. J. O'Brien, Geo. H. Harries, R. F. Pack, P. T. Glidden, H. W. Fuller and Isaac Milkewitch.
 Secretary, R. J. Graf.
 Asst. secretaries, Herbert List, W. F. Moss and J. J. Molyneaux.
 Treasurer, J. J. Molyneaux.
 Asst. treasurers, J. J. O'Brien, R. J. Graf, M. A. Morrison and Herbert List.
 Managers, H. M. Byllesby & Co., Chicago, Ill.

COMPANIES OPERATED.

Northern States Power Co., Stillwater, Fari-bault, Mankato, Coon Rapids, Northfield, Cannon Falls, White Bear, St. Paul and So. St. Paul, Minn.; Minot, N. D.; Sioux Falls, S. D.
 Interstate Light and Power Co., Galena, Ill., Platteville and Hudson, Wis.
 Red River Power Co., Red Lake Falls, Minn. and Grand Forks, N. D.
 Union Light, Heat and Power Co., Fargo N. D.; Moorhead and Dilworth, Minn.
 Fargo and Moorhead Street Railway Div., Fargo, N. D.; Moorhead and Dilworth, Minn.
 Minneapolis General Electric Co., Minneapolis, Minn.

Public Improvement Co., Minneapolis.

348 Security Bldg.
 Capital stock, auth. and issued, \$50,000.
 President, D. A. Frerichs.
 Vice-pres. and treas., H. W. Frerichs.
 Sec'y and pur. agent, W. J. Stinson.
 Gen'l mgr. and supt., W. J. Stinson.
 Engineer, W. R. Stinson.

COMPANIES OPERATED.

Bemidji Gas Co., Bemidji, Minn.

MISSOURI.

The Hale Petroleum Co., Kansas City.

Office, Suite 920, Commerce Bldg.
 Capital stock, pref. auth. \$2,000,000, issued \$670,000; com. auth. \$18,000,000, issued \$12,000,000.
 Annual dividend, pref. 7 p. c.
 President, S. H. Hale.
 Vice-presidents, John H. Atwood, O. F. Mehornay.
 Secretary, Burr S. Stottle.
 Treasurer, H. G. Sweet.
 Pur. agent, C. S. Shippey.
 Engineer, C. L. Henderson.

COMPANIES CONTROLLED.

Hale Gas Co., Neodesha, Kan.
 Wichita Independent Consolidated Co., Wichita, Kan.
 Eureka Oil Co. (Del.), whose subsidiaries are: Eureka Oil Co., (Kan.), Neodesha, Kan.
 Keiser Gas Co., Neodesha, Kan.
 Eureka Gasoline Co., Neodesha, Kan.

RELIABLE



RANGES

Special machinery and skilled workmanship contribute to a higher quality of stove construction than heretofore possible. N. C. G. A. specifications strictly followed. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Kansas City Missouri Gas Co., Kansas City.

(For capitalization, etc., see Appendix.)
 President, J. Crawford James.
 Secretary, A. Hurlburt.
 Treasurer, E. L. Brundrett.
 (Not an operating company.)

Union Gas and Traction Co., Kansas City.

Office, 1116 Commerce Bldg.
 Capital stock, \$5,000.
 President, Charles A. Loomis.
 Sec'y and treas., S. J. Mattocks.
 Gen'l mgr. and pur. agent, S. J. Mattocks.
 Superintendent, Wm. A. Boss.
 This company exercises general supervision and direction in the management and operation of gas companies owned by the Union Public Service Co. of Kansas City, Mo.

Union Public Service Co., Kansas City.

Office, 1116 Commerce Building.
 Capital stock, pref., \$135,000; com., \$200,000.
 Bonds, \$508,000; due 1939; int. 6 p. c.
 President, C. A. Loomis.
 Vice-president, J. R. Sutherlin.
 Secretary, F. M. Coffin.
 Treasurer and pur. agt., S. J. Mattocks.
 General manager, S. J. Mattocks.
 Superintendent, William A. Boss.

COMPANIES CONTROLLED.

Gardner (Kan.) Gas Co.
 Edgerton (Kan.) Gas Co.
 Wellsville (Kan.) Gas Co.
 Richmond & Princeton (Kan.) Gas Co.
 Johnson County Gas Co., Merriam, Shawnee, Lenexa and So. Park, Kan.
 Anderson County Light & Heat Co., Colony and Welda, Kan.
 Baldwin Gas Co., Baldwin, Kan.
 Ottawa Gas & Electric Co., Ottawa, Kan.
 Kansas Farmers' Gas Co., rural districts adjacent to above cities.
 Weston (Mo.) Gas & Light Co.
 Miami County Gas Co., Paola and Osawatomie, Kan.
 Nowata (Okla.) County Gas Co., Nowata and Delaware, Okla.
 Union Gas & Traction Co., Kansas City, Mo.
 Beggs (Okla.) Gas Co.
 Weir (Kan.) Gas Co.
 Rantoul (Kan.) Gas Co.
 Tri-City Gas Co., Altoona and Cherryvale, Kan. and Chelsea, Okla.
 Parsons Gas Co., Parsons and Dennis, Kan.

Missouri Gas and Electric Service Co., Lexington.

Main office, Third National Bank Building, St. Louis, Mo.
 Chicago office, 72 West Adams St.
 Capital stock, pref., \$200,000; issued, \$125,000; com., auth., \$300,000; issued, \$130,000.
 Bonds: Underlying bonds outstanding, \$297,000. Debentures, 10 yrs, \$110,000, 6 p. c. and \$201,000 1st mtge.
 President, John F. Gilchrist.
 Vice-pres., A. Hardgrave.
 Secretary, Robert W. Waite.
 Treas. and pur. agent, Worth Bates.
 Operates plants of Missouri Gas and Electric Service Co. at Lexington, Marshall, Richmond, Liberty, Hardin, Henrietta, Orick, Camden and Myrick, Mo.

The Light and Development Co. of St. Louis, St. Louis.

Office, 750 Railway Exchange Bldg.
 Capital stock, \$3,000,000.
 Annual dividend, 4 p. c.
 No bonds.
 President, H. Wurdack.
 Vice-president, John A. Porter.
 Secretary, Horace W. Beck.
 Treasurer, E. M. Kurtz.
 Pur. agent, P. Ziegenfuss.

COMPANIES OPERATED.

Missouri Public Utilities Co., Cape Girardeau, Mo.
 Paris Gas and Electric Co., Paris, Ky.
 Fort Scott Gas and Electric Co., Fort Scott, Kansas.
 Mitchell Power Co., Mitchell, S. D.
 Oberlin Gas and Electric Co., Oberlin, O.
 Monmouth Public Service Co., Monmouth, Ill.
 Ravenna Gas and Electric Light Co., Ravenna, O.
 Company operates various electric light and power companies: Kirkwood, Ill.; Danville, Ky.; St. Louis, Cape Girardeau, Charleston, Dexter, Poplar Bluff, Sikeston, Webb City, Carterville, St. Charles and Wellston, Mo.; Tahlequah, Okla.; Plainview, Lubbock and Lockney, Tex.

Southern Illinois Light and Power Co., St. Louis.

(See report in Appendix.)

The Watts Engineering Co., St. Louis.

Office, 201 N. 4th Street.
 Capital stock, \$20,000.
 President, A. R. Smyth.
 Treasurer, A. R. Smyth.
 Secretary, S. Watts Smyth.
 Purchasing agent, A. R. Smyth.
 Manager, W. H. Watts (Columbia, Mo.)
 Company operated, Columbia Gas Works, Columbia, Mo.

NEBRASKA.

Gas Construction Co., Omaha.

Office, 48th and Leavenworth Sts.
 A co-partnership; partners are John W. Towle, Karl E. Vogel and George Osten.

COMPANIES OPERATED.

Broken Bow (Neb.) Gas Co.

Omaha Electric Light & Power Co., Omaha.

(Succeeded by Nebraska Power Co., which is controlled by the American Power and Light Co. See Appendix for report.)

The Union Power and Light Co., Omaha.

Office, 424 First National Bank Building.
 (Formerly The Union Co. of Omaha.)
 Capital stock, pref. auth., \$500,000; issued, \$330,000; com. auth. and issued, \$1,000,000.
 Annual dividend, pref. 7 p. c.
 President, W. B. Roberts.
 Vice-pres., Willis Todd.
 Secretary, T. S. Davis.

WIRE YOUR ORDER. It will have prompt attention.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Treasurer, C. T. Kountze.
Gen. mgr. and pur. agent, Willis Todd.
Engineer, R. E. Crockett.

GAS PROPERTY OPERATED.

North Platte Light and Power Co., North Platte, Neb.

Southern Iowa Electric Co., Osceola, Ia.

NEVADA.

Sierra Pacific Electric Co., Reno.

(For capitalization, etc., see Appendix.)

President, Alfred de Ropp.

Vice-presidents, Wendell P. Hammon, Fred'k S. Pratt.

Secretary, Alvah K. Todd.

Treasurer, Charles Hayden.

Asst. treas., Henry B. Sawyer.

Under management of Stone & Webster.

Manager of operating companies, Geo. A. Campbell.

COMPANIES CONTROLLED AND OPERATED.

Carson City (Nev.) Coal Gas Co.

Reno (Nev.) Power, Light & Water Co.

Truckee River General Electric Co.

NEW JERSEY.

United Gas and Water Co., Camden.

Office, 104 Market St., Camden, N. J.

Capital stock, authorized, \$500,000; issued, \$118,550.

President, Thos. Linnenbrink.

Sec. and treas., J. C. Lightfoot, Jr.

COMPANY CONTROLLED THROUGH STOCK OWNERSHIP.

Wildwood (N. J.) Gas Co.

Cumberland County Gas Co., Millville.

(Successor to Millville Gas Light Co. and subsidiaries.)

Office, 233 N. High St., Millville, N. J.

Capital stock, \$200,000.

Annual dividend, 4 p. c.

Bonds, \$600,000; int., 5 p. c.

President, Wm. C. Buell.

Vice-president, S. J. Franklin.

Secretary, Chas. M. Nixon.

Treasurer, Walter Wood, 400 Chestnut St., Philadelphia, Pa.

Gen'l mgr. and pur. agent, S. J. Franklin.

Superintendent, W. C. Buell.

COMPANY OPERATES IN FOLLOWING DISTRICTS.

Millville District, Millville, N. J.

Buena Vista District, Minotola, N. J.

Landis Township District, Landis Twp. N. J.

Pittsgrove District, Norma, N. J.

Deerfield District, Rosenhayn, N. J.

Fairfield District, Fairton, N. J.

Vineland District, Vineland, N. J.

Maurice River District, Leesburg, N. J.

Commercial District, Port Norris, N. J.

Downe Township District, Newport, N. J.

Lawrence District, Cedarville, N. J.

Public Service Gas Co., Newark.

Office, 80 Park Place.

(For detailed information regarding capitalization, bonds, etc., see Appendix.)

President, T. N. McCarter.

Vice-presidents, Percy S. Young and Edmund W. Wakelee.

Vice-pres. and gen. mgr., H. D. Whitcomb.

Treasurer, T. Wilson Van Middlesworth.

Secretary, Percy Ingalls.

Purchasing agent, J. A. Pearson.

COMPANIES OPERATED.

Essex division:

Essex & Hudson Gas Co.

The East Newark Gas Light Co.

Morristown Gas Light Co.

Hudson division:

Hudson County Gas Co.

Passaic division:

The Paterson and Passaic Gas and Electric Co.

Southern division:

South Jersey Gas, Electric and Traction Co.

Princeton Light, Heat and Power Co.

Central division:

Somerset, Union and Middlesex Lighting Co.

Gas Light Co. of the City of New Brunswick.

Shore Lighting Co.

Bergen division:

Gas and Electric Co. of Bergen County.

Ridgewood Gas Co.

Florida Utilities Co., Trenton.

COMPANIES IN WHICH INTERESTED.

Ocala (Fla.) Gas Co.

West Palm Beach (Fla.) Gas Co.

NEW YORK.

Iroquois Natural Gas Co., Buffalo.

Principal office, Iroquois Bldg.

Capital stock, auth., \$10,000,000; issued, \$8,032,500.

President, B. C. Oliphant.

Vice-pres., Lyman M. Bass.

Secretary, H. S. Norris.

Treasurer, W. M. Cusack.

Div. Supts., W. Hastings, J. H. Walsh, J. W. Stearns.

This company supplies natural gas to Buffalo, Salamanca, West Salamanca, Springville, Angola, East Aurora, Hamburg, Little Valley, Cattaraugus, Lackawanna, Depew, Lancaster and various towns and villages throughout the State of New York.

(See report in Natural Gas Dept.)

Eastern Oil Co., Buffalo.

Office, 312 Fidelity Bldg.

Capital stock, \$1,000,000.

Annual div. (regular) 6 p. c. Extra dividends as earnings warrant.

No. bonds.

President, George V. Forman.

Vice-president, Howard A. Forman.

Treasurer, C. R. Hawkins.

Secretary, Edw. M. Wheeler.

Purchasing agent, F. D. Tracy.

General manager, Howard V. Thomas.

COMPANIES OPERATED.

West Virginia Central Gas Co., Elkins, W. Va.

West Virginia and Maryland Gas Co., Davis,

W. Va. Cumberland, Md., and other

towns in W. Va. and Md.

"U" Tube Gauges of all sizes and ranges of pressure for every gas works service. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

The Northern Natural Gas Co., Oakland, Md., and other towns in Md., and Terra Alta, W. Va.

West Union Gas Co., West Union, W. Va.

Salem Natural Gas Co., Salem, W. Va.

Glenville Natural Gas Co., Glenville, W. Va.

Empire Coke Co., Geneva.

(For financial data, see Appendix.)

President, E. H. Palmer.

Vice-president, H. O. Palmer.

Secretary, L. G. Hoskins.

Treasurer, C. J. Root.

Pur. agent, W. S. Osborne.

Gen'l mgr., H. O. Palmer.

Engineer, H. O. Palmer.

Superintendent, John O'Malley.

Companies controlled by stock ownership.

Empire Gas and Electric Co., operating in Auburn, Cayuga, Seneca Falls, Waterloo, Geneva, Weedsport, Phelps, Palmyra, Newark, Lyons and Clyde, N. Y.

Owns and leases by-product coke-ovens, and supplies gas to Empire Gas & Electric Co.

Empire Gas and Electric Co., Geneva.

Office, 103 Castle St.

(For financial data, see Appendix.)

President, E. H. Palmer.

Vice-president, H. O. Palmer.

Secretary, L. G. Hoskins.

Treasurer, C. H. Pierce.

Purchasing agent, W. S. Osborne.

General manager, H. L. Coleman.

Engineer, H. O. Palmer.

Indus. fuel engineer, W. P. Moran.

COMPANIES OPERATED.

Empire Gas and Electric Co., operating gas and electric properties in Auburn, Cayuga, Seneca Falls, Waterloo, Geneva, Phelps, Palmyra, Newark, and Lyons, N. Y. and electric properties in Weedsport and Clyde, N. Y.

American Light and Traction Co., New York.

Principal office, 120 B'way, New York City.
Corporate office, 243 Washington St., Jersey City.

(For detailed information regarding capitalization, etc., see Appendix.)

Chairman of the Board, Emerson McMillin.

President, Alanson P. Lathrop.

Vice-pres., Marion McMillin.

Vice-pres., C. N. Jelliffe.

Secretary and treasurer, C. N. Jelliffe.

Asst. sec'y and asst. treas., W. G. de Berg.

Engineer, H. C. Abell.

Counsel, Chas. W. Young.

Auditor, James Lawrence.

A holding company.

SUBSIDIARY COMPANIES.

Binghamton Gas Works, Binghamton, N. Y.
Grand Rapids Gas Light Co., Grand Rapids, Mich.

St. Paul Gas Light Co., St. Paul, Minn.

St. Joseph Gas Co., St. Joseph, Mo.

Consolidated Gas Co. of New Jersey, Long Branch, N. J.

Detroit City Gas Co., Detroit, Mich.

Muskegon Traction and Lighting Co., Muskegon, Mich.

St. Croix Power Co., Somerset, Wis.

Madison Gas and Electric Co., Madison, Wis.

Milwaukee (Wis.) Gas Light Co.

San Antonio Public Service Co., San Antonio, Tex.

(Owning bonds of San Antonio (Tex.) Gas and Electric Co., and San Antonio Traction Co.)

So. St. Paul Gas and Electric Co., So. St. Paul, Minn.

West Allis Gas Co., West Allis, Wis.

Wauwatosa Gas Co., Wauwatosa, Wis.

American Power and Light Co., New York City.

Office, 71 Broadway, New York.

(For detailed information regarding capitalization, bonds, etc., see Appendix.)

Chairman of the Board, S. Z. Mitchell.

President, F. G. Sykes.

Vice-presidents, R. J. McClelland, G. E. Clafflin, E. W. Hill, A. S. Grenier.

Secretary and treas., M. H. Arning.

Asst. sec'y and asst. treas., E. P. Summerson and W. C. Lang.

Engineer and pur. agent, R. J. McClelland.

COMPANIES CONTROLLED.

Portland Gas & Coke Co., Portland, Ore.

Kansas Gas & Electric Co., Wichita, Kan.

Pacific Power and Light Co., North Yakima, Vancouver and Walla Walla, Wash., Astoria, Ore., Lewiston, Idaho.

Nebraska Power Co., Omaha, Neb.

Southwestern Utilities Corporation, a holding company controlling the Southwestern Power and Light Co., which company in turn controls the Texas Power and Light Co., Fort Worth Power and Light Co., El Paso Gas Co., Newton (Kan.) Gas and Electric Co., Hutchinson (Kan.) Gas and Electric Co., and other companies in Texas and the Southwest.

Associated Gas and Electric Co., New York.

Office, 43 Exchange Pl., New York City.

(For capitalization, bonds, etc., see Appendix.)

President, J. H. Pardee.

Vice-presidents, Theo. Roosevelt, Jr., J. I. Mange.

Secretary, and treasurer, T. W. Moffat.

Gen. mgrs., pur. agents and engineers, The J. G. White Management Corp.

Superintendent, G. A. Strain.

Owns and operates gas and electric properties.

COMPANIES OPERATED.

Greenville (O.) Gas Light Co. (Leased).

Homer (N. Y.) and Cortland Gas Light Co.

Ithaca (N. Y.) Gas & Electric Corp.

Norwich (N. Y.) Gas and Electric Co.

Kentucky Public Service Co., Bowling Green, Frankfort, Hopkinsville and Owensboro, Ky.

Clarksville Electric Co., Clarksville, Tenn.

Clarksville Gas Co., Clarksville, Tenn.

Van Wert (O.) Gas Light Co.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

The W. S. Barstow Management Association, Inc., New York.

Office, 50 Pine Street.
 Capital stock, 1,000 common shares of no par value.
 President, E. L. West.
 Vice-pres., Thomas Cheyne.
 Sec'y and treas., O. Clement Swenson.
 Pur. agent, Frank C. Rose.
 Engineer, E. M. Gilbert.

GAS COMPANIES OPERATED.

City and Suburban Gas Co., Wheeling, W. Va.
 Easton Gas Works, Easton, Pa.
 Interurban Gas Co., Nazareth, Pa.
 Rutland Railway Light and Power Co., Rutland, Vt.
 Sandusky Gas and Electric Co., Sandusky O.,
 West Virginia Traction and Electric Co., Morgantown and Wheeling, W. Va.

The Brooklyn Union Gas Co., Borough of Brooklyn, New York City.

Office, 176 Remsen Street, Brooklyn.
 (For capitalization and bonds, see Appendix.)
 President, James H. Jourdan.
 Vice-presidents, William G. Rockefeller and Arthur F. Staniford.
 Secretary, Henry E. McGowan.
 Treasurer, E. R. Chapman.
 Asst. secretary, Frederick R. Wogan.
 Asst. treasurer, T. P. Payne.
 Auditor, James Gilmer.
 Asst. Auditor, T. P. Payne.
 Pur. agent, G. W. Gatehouse.
 Chief Engineer, James H. Jourdan.
 Supt. indus. div., Chas. E. Chapple.

SUBSIDIARY COMPANIES.

Flatbush Gas Co., The 29th Ward, Brooklyn.
 Newtown Gas Co., 2nd Ward, Queens.
 Jamaica Gas Light Co., 4th Ward, Queens.
 Woodhaven Gas Light Co., 4th Ward, Queens.
 Richmond Hill and Queens County Gas Light Co., 4th Ward, Queens.

Brooks, P. W. & Co., Inc., New York.

Office, 115 Broadway.
 (See Ohio and Western Utilities Co., Eastern States Public Service Co. and National Utilities Co.)

Cities Fuel and Power Co., New York City.

Office, 60 Wall Street.
 Capital stock, \$10,000,000.
 Notes outstanding, \$10,000,000; due 1919; int. 7 p. c.
 President, William P. Lehrer.
 Vice-president, Geo. C. Blackner.
 Secretary, Edgar E. McWhiney.
 Treasurer, Louis F. Musil.

COMPANIES OPERATED.

American Pipe Line Co., Caney, Kan.
 Franklin County Pipe Line Co., Ottawa, Kan.
 Glenwood Natural Gas Co., Ltd., Glenwood, Ont., Can.
 Manufacturers Natural Gas Co., Ltd., Hamilton, Ont., Can.
 Sentinel Oil and Gas Co., Ottawa, Kan.

Cities Service Co., New York City.

Office, 60 Wall Street.
 (For detailed information, re-capitalization, see Appendix.)
 President, Henry L. Doherty.
 Vice-presidents, E. Mackay Edgar, E. H. Johnston, Frank W. Frueauff, Thomas I. Carter.
 Secretary, Paul R. Jones.
 Treasurer, Louis F. Musil.
 Pur. agent, Frank J. Petura.
 General manager, Holton H. Scott.

COMPANIES CONTROLLED.

Acme Power Co., Toledo, O.
 Alliance (O.) Gas & Power Co.
 Arkansas Valley Gas Co., Arkansas City, Kan.
 Ashland (O.) Gas and El. Light Co.
 Athens (Ga.) Ry. & Elec. Co.
 Bartlesville (Okla.) Gas & Oil Co.
 Bartlesville (Okla.) Interurban Ry. Co.
 Berea Pipe Line Co., Berea, O.
 Bristol (Va. Tenn.) Gas & El. Co.
 Brush Electric Co., Galveston, Texas.
 Central Ohio Gas and Electric Co. with six subsidiaries.
 Cities Fuel and Power Co. with five subsidiaries, viz:
 Am. Pipe Line Co., Caney, Kan.
 Franklin Co. Pipe Line Co., Ottawa, Kan.
 Glenwood Natural Gas Co., Ltd.
 Mfrs. Natural Gas Co., Ltd.
 Sentinel Oil and Gas Co., Ottawa, Kan.
 City Light & Traction Co., Sedalia, Mo.
 City Light & Water Co., Amarillo, Tex.
 Crew, Levick Co., Philadelphia, Pa.
 Cumberland (Md.) & Westernport El. Ry. Co.
 Danbury (Conn.) & Bethel Gas & El. Lt. Co.
 Denver (Colo.) Gas & El. Light Co.
 Dominion Gas Co., Hamilton, Ont. with six subsidiaries.
 Durham (N. C.) Traction Co.
 Electric Bond Deposit Co.
 Empire District Electric Co., Mo. & Kan., with three subsidiaries.
 Empire Gas and Fuel Co. (Col.)
 Empire Gas and Fuel Co., Inc. (Va.), operating in Oklahoma.
 Empire Gas and Fuel Co. (Me.), operating in Texas.
 Empire Gas & Fuel Co., (Del.), operating in Kansas with 15 subsidiaries.
 Empire Gas and Pipe Line Co. (Me.), operating in Kansas.
 Empire Gasoline Co., Kan. and Okla.
 Empire Oil and Gas Co., (Del.) Ky.
 Empire Petroleum Co., (Del.), operating in Kan., Okla. and Tex.
 Empire Refining Co., Cushing, Okmulgee, Oklahoma City, Ponca City, Okla.; controlling:
 Empire Pipe Line Co., Kansas.
 Empire Refineries, Inc., Okla.
 Producers Refining Co., Gainesville, Tex.
 Standard Asphalt and Refining Co., Independence, Kan.
 Fremont (Neb.) Gas, Electric Light and Power Co.
 Frost Gas Co., Fredonia with three subsidiaries.

SYPHON AND "U"**American Meter Company****561 W. 47th St., New York, N. Y.**

PRESSURE GAUGES. These have been improved so they can be repaired without the use of cement. We also manufacture all types of Arch Pressure Gauges and Single Tube Gauges.

Knoxville (Tenn.) Gas Co.
 Lebanon (Pa.) Gas and Fuel Co.
 Lincoln (Neb.) Gas and Electric Light Co.
 Lorain County Electric Co., Elyria, O.
 Massillon (O.) Elec. & Gas Co.
 Meridan (Miss.) Light & Ry. Co. and subsidiary, viz:
 Hattiesburg (Miss.) Traction Co.
 Montgomery (Ala.) Light & Water Power Co.
 Pueblo (Col.) Gas and Fuel Co.
 Republic Construction Co., Mansfield, O.
 Reserve Gas Co., Okla.
 St. Joseph (Mo.) Ry., Light, Heat & Power Co.
 Salina (Kan.) Light, Power & Gas Co.
 Southern Ontario Gas Co., Ltd., Ont., Can.
 Southwestern Okla. Gas & Fuel Co.
 Spokane (Wash.) Gas & Fuel Co.
 Summit County Power Co., Dillon, Col.
 Toledo (O.) Traction, Light & Power Co. and 7 subsidiaries.
 Trumbull Public Service Co., Warren, O.
 United Water, Gas & Electric Co., Hutchinson, Kan.
 Utilities Construction Co., Lorain, O.
 Venture Gas Co., Nevada and Morrel, O.
 Washita (Okla.) Gas & Fuel Co.
 Watauga (Tenn.) Power Co.
 Western Distributing Co., Kan.
 Western Okla. Gas & Fuel Co., Duncan, Okla.

Commonwealth Power, Railway & Light Co., New York City.

(Incorporated under the laws of Maine.)
 Offices, 14 Wall St., and 188 Middle St., Portland, Me.
 (For detailed information regarding capitalization, etc., see Appendix.)
 President, Anton G. Hodenpyl.
 Vice-presidents, Geo. E. Hardy, C. M. Clark.
 Treasurer and sec'y, Jacob Hekma.
 Asst. sec'y and asst. treas., C. A. Pearson, Jr.
 Asst. sec'y and asst. treas., G. H. Bourne.
 New bus. mgr., H. E. Broughton.
 Indus. fuel mgr., H. E. Broughton.

COMPANIES CONTROLLED AND OPERATED.

Grand Rapids (Mich.) Railway Co.
 Michigan Light Co., Jackson, Mich.
 Consumers Power Co., Jackson, Mich.
 Union Railway Gas and Electric Co.
 Michigan Railway Co.
 Springfield (O.) Light, Heat and Power Co.
 Saginaw-Bay City (Mich.) Railway Co.
 Grand Rapids, Holland and Chicago Ry. Co.
 Michigan United Railways Co.
 Manistee Railway Co.

Consolidated Gas Co. of New York, New York.

Office, 130 East 15th street.
 (For detailed information, regarding capitalization, bonds, etc., see Appendix.)
 President, George B. Cortelyou.
 Vice-presidents, W. R. Addicks, Lewis B. Gawtry and R. A. Carter.
 Secretary, R. A. Carter.
 Asst. secretaries, H. M. Brundage and F. R. Barnitz.
 Treasurer, C. G. M. Thomas.
 Asst. treasurer, Benj. Whiteley.
 Pur. agent, A. F. Macklin.
 Chief engineer, Wm. H. Bradley.

AFFILIATED GAS COMPANIES.

Astoria Light, Heat and Power Co., Queens, New York City, N. Y.
 Central Union Gas Co., Bronx, New York City.
 New Amsterdam Gas Co., Manhattan and Queens, New York City.
 New York and Queens Gas Co., Flushing, N. Y.
 New York Mutual Gas Light Co., Manhattan, New York City.
 Northern Union Gas Co., Bronx, N. Y. City.
 Northern Westchester Lighting Co., Ossining, N. Y.
 Peekskill Lighting and Railroad Co., Peekskill, N. Y.
 Standard Gas-Light Co., Manhattan, New York City.
 Westchester Lighting Co., Mt. Vernon, N. Y.

Doherty Organization, New York City.

60 Wall St.
 President, Henry L. Doherty.
 Vice-pres., Frank W. Frueauff.
 Secretary and treas., Louis F. Musil.
 Pur. agt., F. J. Petura.
 Auditor, Paul R. Jones.
 General manager, H. H. Scott.
 Chief engineer, M. R. Bump.
 Asst. treas., T. A. Wallace.
 Asst. sec'y, E. E. McWhiney.
 Attorney, Charles A. Frueauff.

COMPANIES OPERATED.

The Doherty Organization operates the properties of the Cities Service Co. and the following additional properties, viz:
 Niagara Light, Heat & Power Co., No. Tonawanda, N. Y.
 Ozark Power and Water Co., Branson, Mo.
 Akron (N. Y.) Natural Gas Co.
 Alden-Batavia (N. Y.) Natural Gas Co.
 Attica (N. Y.) Natural Gas Co.
 North Buffalo (N. Y.) Natural Gas and Fuel Co.
 Ontario Gas Co., Honeoye Falls, N. Y.

Eastern States Public Service Co., New York City.

Office, 115 Broadway.
 Capital stock, pref. auth., \$1,500,000; issued, \$100,000; com. auth., \$1,500,000; issued, \$300,000.
 President, A. F. Beringer.
 Secretary, L. M. Symmes.
 Treasurer, E. H. Van Wyck.
 General manager, W. E. McClintock.

COMPANIES OPERATED.

New Jersey Gas & Electric Co., Dover, N. J.
 Newton Gas & Electric Co., Newton, N. J.
 Lambertville (N. J.) Public Service Co.
 (No 1918 report.)

Electric Bond and Share Co., New York City.

Office, 71 Broadway.
 (For detailed information regarding capitalization, etc., see Appendix.)
 President, S. Z. Mitchell.
 Vice-presidents, Fred A. Farrar, G. E. Claffin, C. E. Groesbeck, E. K. Hall, E. W. Hill, L. H. Parkhurst.
 Secretary and asst. treas., H. M. Francis.
 Treasurer and asst. sec'y, A. E. Smith.
 Asst. sec'y and asst. treas., E. P. Summerson.
 Asst. sec. and asst. treas., Wm. Reiser.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY
 111 BROADWAY, NEW YORK

Asst. sec'y, G. C. Hollister.
 Purchasing agent, A. E. Smith.
 Engineer, R. J. McClelland.
 (Not an operating Co.)

COMPANIES FOR WHICH IT ACTS AS FISCAL AGENT:

American Power and Light Co., which company controls: Pacific Power and Light Co., Kansas Gas and Electric Co., Portland Gas and Coke Co., Nebraska Power Co., Southwestern Utilities Corp.

Carolina Power & Light Co., Durham, N. C., which company controls Asheville (N. C.) Power and Light Co., and Yadkin River Power Co.

Utah Securities Corporation, controlling Utah Power and Light Co., which company controls Utah Light and Traction Co.

National Securities Corporation, controlling Idaho Power Co.:

Lehigh Power Securities Corp., controlling Lehigh Navigation Electric Co., Lehigh Valley Transit Co. and companies formerly controlled by Northern Central Co.

Empire Gas and Fuel Co., (Delaware). New York City.

(Operating in Kansas.)
 General office, 60 Wall Street.
 Capital stock, \$12,500,000.
 Bonds, \$12,737,000; due 1926; int., 6 p. c.
 President, J. C. McDowell.
 Vice-presidents, F. W. Frueauff, A. J. Diescher and H. R. Straight.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Gen'l manager, A. J. Diescher.

COMPANIES OPERATED.

Empire Gas & Fuel Co., (Cal.)
 59 Osage Oil Co.
 Indian Territory Illum. Oil Co.
 Keesage Oil Co.
 Lewis Oil Co.
 Midland Oil Co.
 Midland Oil and Gas Co.
 Penn Oil Co.
 Pilgrim Oil Co.
 Plymouth Oil Co.
 Puritan Oil Co.
 Steyner Oil Co.
 Also the following natural gas companies:
 Quapaw Gas Co.
 Wichita Natural Gas Co.
 Wichita Pipeline Co.

Federal Light and Traction Co., New York City.

Principal office, 60 Broadway.
 (For detailed information regarding capitalization, bonds, etc., see Appendix.)
 President, E. N. Sanderson.
 1st Vice-president, Francis Blossom.
 2d Vice-president, Craig Colgate.
 3d Vice-president, L. C. Gerry.
 Secretary, John B. Marsh.
 Treasurer and asst. sec'y, J. Dunhill.
 Gen. superintendent, C. H. Nichols.
 Chief engineer, C. H. Nichols.

GAS COMPANIES OPERATED.

Albuquerque Gas and Electric Co., The, Albuquerque, N. M.
 Tucson Gas, Electric Light and Power Co., The, Tucson, Ariz.

Tucson Rapid Transit Co.
 Springfield Railway and Light Co., controlling: Springfield Traction Co.
 Springfield Gas and Electric Co., Springfield, Mo.
 Trinidad Electric Trans. Railway and Gas Co., The, Trinidad, Colo.
 Central Arkansas Ry. and Lt. Corp. (controlling:
 Consumers Gas Co., Hot Springs, Ark.)
 Citizens Electric Co., Hot Springs, Ark.
 Hot Springs Street Railway Co., Hot Springs, Ark.
 Hot Springs Water Co., Hot Springs Ark.
 Also the following electric or other properties:
 Deming Ice and Electric Co., Deming, N. M.
 Grays Harbor Railway and Light Co., Aberdeen, Wash.
 Hobart Electric Co., Hobart, Okla.
 Las Vegas Transit Co., The, Las Vegas, N. M.
 Las Vegas Light and Power Co., The, Las Vegas, N. M.
 Rawlins Electric Light and Fuel Co., The, Rawlins, Wyo.
 Sheridan County Electric Co., Sheridan, Wyo.

General Gas & Electric Co. (of Maine), New York.

Office, 50 Pine Street.
 (For detailed information, regarding capitalization and bonds, see Appendix.)
 President, W. S. Barstow.
 Vice-pres., Joseph B. Taylor.
 Secretary and treas., O. Clement Swenson.
 Pur. agent, F. C. Rose.
 Engineer, Herbert Nash, Jr.
 Asst. secy. and asst. treas., Wm. J. Reast.

GAS COMPANIES CONTROLLED.

Rutland Railway Light and Power Co., Rutland, Vt.
 Sandusky Gas and Electric Co., Sandusky, O.

Hodenpyl, Hardy & Co., Inc., New York City.

(See Commonwealth Power Ry. and Lt. Co., and Union Railway Gas and Electric Co.)

Humphreys & Miller, Inc., New York City.

Office, City Investing Building.
 President, Alex. C. Humphreys.
 Vice-president, Alten S. Miller.
 Secretary, Robert O. Luqueer.
 Treasurer, Robert O. Luqueer.
 Gen'l Counsel, Howard E. White.

COMPANIES CONTROLLED

Hyattsville (Md.) Gas & Electric Co.

Interstate Electric Corporation, New York City.

Office, 141 Broadway.
 Capital stock, pref. auth., \$1,000,000; issued, \$966,000; com., auth. and issued, \$1,000,000.
 Annual dividend, pref., 7 p. c.; com., 2 p. c.
 Bonds, \$1,257,500; due, 1933; int., 6 p. c.
 President, Wm. Howard Hoople.
 Vice-presidents, M. B. Webster, A. E. Fitkin, Frank Y. Low, N. P. Zeck.
 Secretary, Robert W. Davidson.
 Treasurer, W. C. Harty.
 Pur. agent, H. F. Hoxie.
 Engineers, General Engineering and Mgt. Corp.

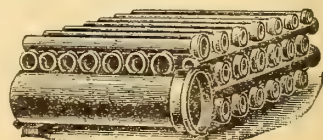
PIPE

We can meet your requirements for cast iron pipe regularly - we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



COMPANIES OPERATED

Ballinger Electric Light and Power Co., Ballinger, Tex.
 Consumers Ice and Fuel Co., Laredo, Tex.
 Corry City Electric Light Co., Corry, Pa.
 Great Bend Water and Electric Co., Great Bend, Kan.
 Hoisington Electric and Ice Co., Hoisington, Kan.
 Laredo Water Co., Laredo, Tex.
 Palestine Ice Co., Palestine, Tex.
 Palestine Water Works Co., Palestine, Tex.
 Peoples Gas & Electric Co., Chillicothe, Mo.
 San Angelo Water, Light and Power Co., San Angelo, Tex.
 Texas Electric and Power Co. (transmission line.)
 Trenton Gas & Electric Co., Trenton, Mo.
 Union City Electric Light Co., Union City, Pa.
 Winters Light and Power Co. Winters, Tex.

Island Oil and Transport Corp., New York City.

Office, 62 Cedar Street.
 Capital stock, \$30,000,000.
 Notes outstanding, \$3,000,000.; due 1920; int. 7 p. c.
 President, R. H. Sears.
 Vice-president, F. B. Lasher.
 Secretary, R. E. Desvernine.
 Treasurer, John A. Young.
 Gen'l manager, D. C. Shaeffer.

PROPERTIES OWNED OR CONTROLLED.

Capuchinas Oil Co., Tampico, Mex.
 Esfuerzo Tampiqueno, S. A., Tepetate, S. A.
 Compania Petrolera, Nayari, S. A.
 Compania Metropolitana de Oleoductos, S. A.
 Compania Mexicana de Petroleo La Libertad, S. A.
 Antillian Corporation, Havana, Cuba.
 Columbia Petroleum Syndicate, Ltd.

Long Island Lighting Co., New York.

Office, 50 Church Street.
 President, E. L. Phillips.
 Vice-pres., G. W. Olmsted.
 Secretary, H. R. Frost.
 Treasurer, G. E. Lott.

COMPANIES IN WHICH INTERESTED.

Long Island Lighting Co., Bay Shore, N. Y.
 Sea Cliff & Glen Cove Gas Co., Glen Cove, N. Y.
 Huntington Gas Co., Huntington, N. Y.
 Patchogue Gas Co., Patchogue, N. Y.

National Fuel Gas Co., New York City.

Transfer office, 26 Broadway.
 Principal office, Hudson Trust Co. Bldg., Hoboken, N. J.
 Capital stock, auth. \$32,000,000; issued, \$18,491,400.
 Div. paid, annual rate, com., 10 p. c.
 President, Walter Jennings.
 Vice-pres., H. M. Tilford.
 Vice-pres., W. J. Judge.
 Treasurer, W. F. Deuel.
 Secretary, W. J. Judge.

COMPANIES CONTROLLED.

United Natural Gas Co., Oil City, Pa.
 Iroquois Natural Gas Co., Buffalo, N. Y.
 Pennsylvania Gas Co., Warren, Pa.
 Provincial Natural Gas & Fuel Co., Niagara Falls, Ont., Can.

National Light, Heat and Power Co., New York City.

(Cont. by Middle West Utilities Co.)

General office, 111 Broadway.
 Capital stock, pref. auth., \$10,000,000; issued, \$1,447,236.67; common, auth., \$20,000,000; issued, \$2,010,600.
 Div. paid, annual rate, pref., 5 p. c.
 Bonds, series A., \$142,500; B., \$500,000; C., \$455,000; due 1919-1935; int. rate, 5 p. c.
 President, W. S. Perry.
 Vice-president, A. H. Bickmore.
 Secretary and treasurer, John F. Reilly.

COMPANIES CONTROLLED.

Twin State Gas and Electric Co., Dover and Rochester, N. H.; Brattleboro and Bennington, Vt.; and Berwick, Me.

National Utilities Company, New York.

Office, 61 Broadway, New York City.
 (For detailed report, see Appendix.)
 Capital stock, pref., auth., \$100,000; issued, \$61,700; com., auth., \$100,000, issued, \$61,700.
 Annual dividend, pref., 6 p. c.
 President, Harry B. Ivers.
 Vice-pres., Albert W. Brooks.
 Secretary, W. H. Newell.
 Treasurer, W. E. McClintock.
 Pur. agent, Harry B. Ivers.
 Engineer, Charles T. Gilmore.

COMPANIES MANAGED.

Ohio & Western Utilities Co., Nevada, Mo.
 Ohio Utilities Co., Columbus, Ohio.
 New Jersey Gas and Electric Co., Dover, N. J.
 Port Arthur (Tex.) Gas and Power Co.
 Lambertville (N. J.) Pub. Service Co.
 Utah Valley Gas and Coke Co., Provo, Utah.
 Hillsboro (O.) Light and Power Co.
 Hillsboro (O.) Ice and Coal Co.
 Gallipolis (O.) Electric Light and Power Co.
 Delaware Electric Light, Heat and Power Co., Delaware, O.
 The Ohio Utilities Co., Columbus, O.
 (No 1918 report.)

The North American Co., New York.

Office, 30 Broad St., New York.
 Main office, 9 Clinton St., Newark, N. J.
 (For information regarding capitalization, etc., see Appendix.)
 Chairman of Board, Geo. R. Sheldon.
 President, James D. Mortimer.
 Asst. to pres., Edwin Gruhl.
 Vice-president, Henry H. Pierce.
 Treasurer, Geo. R. Sheldon.
 Asst. treasurers, Robt. Sealy, Jas. F. Fogarty.
 Secretary, James F. Fogarty.
 Asst. secretaries, F. H. Piske, Robt. Randall.

COMPANIES CONTROLLED.

The Wisconsin Edison Co., which controls or is interested in the following companies:
 The Milwaukee Electric Ry. & Light Co.
 Milwaukee Light, Heat & Traction Co.
 Wisconsin Gas & Electric Co.
 North Milwaukee Light & Power Co.
 Wells Power Co.
 Union Electric Light and Power Co., St. Louis, Mo.
 United Railways Co. of St. Louis, St. Louis, Mo.

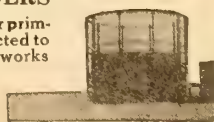


PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



St. Louis County Gas Co., Webster Groves, Mo.
West Kentucky Coal Co., Sturgis, Ky.
The Arrow Engineering Co., St. Louis, Mo.
Mo.-Ark. Telephone Co. Union, Mo.
American Light & Power Co.
The Detroit Edison Co., Detroit, Mich.

Ohio & Western Utilities Co., New York City.

Office 115 Broadway.
Controlled by National Utilities Co., Boston.
For information re-capitalization, see Appendix.

President, L. M. Symmes.
Vice-pres., Harry B. Ivers.
Secretary, A. F. Beringer.
Treasurer, E. H. Van Wyck.
Engineer, Harry B. Ivers.

COMPANIES CONTROLLED

Fort Scott (Kan.) & Nevada (Mo.) Light, Heat,
Water & Power Co.
Chillicothe, O., El. Ry. Light & Power Co.
(No 1918 report.)

Ohio Utilities Co., New York City.

Office, 115 Broadway.
For information, re-capitalization and
bonds, see Appendix.

Pres. and asst. treas., L. M. Symmes.
Vice-pres. and asst. sec'y, A. F. Beringer,
Sec'y and treas., E. H. Van Wyck.
Gen'l manager, Chas. T. Gilmore.

COMPANIES CONTROLLED

Circleville (O.) Light and Power Co.
Delaware (O.) Elec. Light, Heat & Power Co.
*Hillsboro (O.) Light and Fuel Co.
Hills Ice and Coal Co.
Gallipolis Electric and Fuel Co.
(No 1918 report.)

Otto Coking Company, Inc., New York.

Office, 6 Church Street.
President, ———
Asst. to pres., John L. Wilkie.
Vice-pres. and gen'l mgr., Chester A. Jayne.
Secretary and treas., Robert C. Metcalfe.
Constructors of by-product coke and gas
oven plants. Builders of plant of Niagara
Coke Corporation, Lackawanna, N. Y.

Sinclair Gulf Corporation, New York.

Office, 120 Broadway.
Capital stock auth., 1,000,000 shares (no par
value); outstanding 713,852 shares.
Bonds, \$11,015,500; due, 1927; int., 6 per cent.
President, H. F. Sinclair.
Vice-presidents, A. E. Watts, D. L. Hooper
and N. G. M. Luykx.
Secretary, A. Steinmetz.
Treasurer, J. Fletcher Farrell.

COMPANIES CONTROLLED.

Freeport and Tampico Fuel Oil Corp.
Sinclair Central Am. Oil Corp., controlling
Costa Rica Oil Co.
Sinclair Navigation Co.
Sinclair Panama Oil Corp.
Sinclair Gulf Oil Co.
Sinclair Gulf Pipe Line Co.
Sinclair Cuba Oil Co.
Sinclair Gulf Refining Co.
Mexican Sinclair Petroleum Corp.

* Operate gas plant.

Sinclair Oil and Refining Co., New York.

Office, 120 Broadway.
Capital stock, auth. and issued, 1,500,000
shares; outstanding, 1,000,000.
Notes, \$20,000,000; year due, 1920; int. rate,
7 per cent.
President, H. F. Sinclair.
Vice-presidents, Jos. M. Cudahy, W. H. Isom
and D. L. Hooper.
Secretary, A. Steinmetz.
Treasurer, J. Fletcher Farrell.
Asst. sec'y., O. M. Gerstung.
Asst. treas., M. L. Gosney.

COMPANIES OPERATED.

Sinclair Oil and Gas Co.
Sinclair-Cudahy Pipe Line Co.
Sinclair Refining Co.
Exchange Oil Co.

Standard Oil Company (New Jersey), New York City.

Office, 26 Broadway.
Capital stock auth., \$100,000,000; issued, \$98,-
338,300.

Annual dividend, 20 p. c.
Chairman of the Board, A. C. Bedford.
President, Walter C. Teagle.
Vice-presidents, F. W. Weller, F. H. Bedford
and F. D. Ashe.
Secretary, Charles T. White.
Treasurer, S. B. Hunt.

COMPANIES OPERATED.

American Petroleum Co.
Bedford Petroleum Co.
Carter Oil Co.
Clarksburg Light and Heat Co.
Gilbert and Barker Mfg. Co.
Hazelwood Oil Co.
Hope Natural Gas Co.
Imperial Oil Co., Ltd. of Canada.
International Petroleum Co., Ltd.
Interstate Cooperation Co.
Marion Oil Co.
Oklahoma Pipe Line Co.
Pennsylvania Lubricating Co.
Peoples's Natural Gas Co.
River Gas Co.
Romano-American Oil Co.
Standard Oil Co. of Brazil.
Standard Oil Co. of Louisiana.
Taylorstown Natural Gas Co.
Underhay Oil Co.
United Oil Co.
West India Oil Co.
West India Oil Refining Co.
Distributing subsidiaries in foreign coun-
tries.

Standard Oil Co. (New York), New York City.

Office, 26 Broadway.
Capital stock, \$75,000,000.
Annual dividend, 12 p. c.
President, H. C. Fogler.
Vice-presidents, H. L. Pratt and W. R. King.
Secretary, R. C. Veit.
Treasurer, H. H. Stein.

REFINERIES OPERATED.

Pratt Works, Brooklyn, N. Y.
Devoe Works, Long Island City, N. Y.
Sone and Fleming Works, Long Island City.
Atlas Refinery, Buffalo, N. Y.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Distributing stations in New York and New England.
Storage and distributing stations in Europe.
Near East and Far East.
Owns Standard Transportation Co.

Tide Water Oil Co., New York City.

Office, 11 Broadway.
Capital stock, auth., \$40,000,000; issued, \$31,900,000.
Dividends paid, regular 8 p. c.; extra 12 p. c. (1917).
President, R. D. Benson.
Vice-presidents, W. S. Benson & D. Q. Brown.
Secretary, Geo. L. Webb.
Treasurer, W. S. Benson.
Superintendent, S. H. Edwards.
Pur. agent, C. H. Bickell.

COMPANIES OPERATED.

Allegheny Pipe Line Co.
American Oil Co.
Associated Producers Co.
Currier Lumber Corp.
East Jersey R. R. and Terminal Co.
The Tide Water Pipe Co., Ltd.
Tidal Oil Co.
Tide Water Oil Co. of Mass.

Union Railway, Gas and Electric Co., New York City.

(Incorporated under the laws of New Jersey, June 1909.)

Controlled through stock ownership by The Commonwealth Power, Railway and Light Co.

(For capitalization and bonds, see Appendix.)

General office, 14 Wall Street, New York.

President, Geo. E. Hardy.

Vice-president, C. M. Clark.

Vice-president, B. C. Cobb.

Treasurer and sec'y, Jacob Hekma.

Asst. treas. and asst. sec'y, C. A. Pearson, Jr.

Owns practically all of the preferred and common stocks of the following companies:

Springfield Consolidated Railway Co.

Springfield Gas and Electric Co.

Central Illinois Light Co.

Public Utilities Co. of Evansville.

Rockford and Interurban Railway Co., which controls: Rockford City Traction Co.

Janesville Traction Co.

De Kalb, Sycamore and Interurban Traction Co.

United Gas and Electric Co. of N. J., New York City.

Office, 61 Broadway.

(For detailed information regarding capitalization, bonds, etc., see Appendix.)

President, George Bullock.

1st vice-president, R. E. Griscom.

2d vice-president, E. G. Connette.

Sec'y and asst. treas., J. A. McKenna.

Treasurer, and asst. sec'y, A. L. Linn, Jr.

COMPANIES OPERATED.

Altoona (Pa.) Gas Light and Fuel Co.

Colorado Springs (Col.) Light, Heat and Power Co.

Citizens Gas and Fuel Co., Terre Haute, Ind.

Elmira (N. Y.) Water, Light and Railroad Co.

Lockport (N. Y.) Light, Heat and Power Co.

Leavenworth (Kan.) Light, Heat and Power Co.

Richmond (Ind.) Light, Heat and Power Co.

The Wilkes-Barre (Pa.) Co.

The United Gas and Electric Corp., New York City.

Office, 61 Broadway.

(For detailed information regarding capitalization, bonds, etc., see Appendix.)

Chairman of Board, George Bullock.

President, E. G. Connette.

Vice-president, F. T. Homer.

Vice-president, H. J. Pritchard.

Secretary and asst. treas., J. A. McKenna.

Asst. sec'y., Hugh J. Pritchard.

Treasurer, Arthur L. Linn, Jr.

Asst. treas., M. D. Evans.

Auditor, Geo. F. Bauer.

Pur. agent, F. Geo. Robinson.

Engineers, United Gas and El. Eng. Corp.

Holding, handling and operating gas and electric properties and their securities.

COMPANIES CONTROLLED.

United Gas and Electric Co. of New Jersey.

Lancaster County Railway and Light Co.

American Cities Co., New Orleans, La.

Elmira (N. Y.) Water, Light and Railroad Co.

Harrisburg (Pa.) Light and Power Co.

Houston (Tex.) Gas and Fuel Co.

Houston Heights (Tex.) Water & Light Assn.

Consumers Electric Light and Power Co., New Orleans, La.

Union Gas & Electric Co., Bloomington, Ill.

United Gas and Electric Engineering Corporation.

International Traction Co., Buffalo, N. Y., controlling International Railway Co., Buffalo, N. Y.

Gretna (La.) Light and Power Co., Inc.

Louisiana Gas and Fuel Co., Shreveport, La.

Richmond (Ind.) Light, Heat and Power Co.

Utilities Oil and Refining Corp., New York City.

The Wilkes-Barre Co., Wilkes-Barre, Pa.

The United Gas and Electric Engineering Corporation, New York City.

Office, 61 Broadway.

Birmingham, Ala. office, 2,100 First Ave.

Capital stock, auth. and issued, \$100,000 (all owned by United Gas and Electric Corporation.)

Chairman of Board, George Bullock.

President, E. G. Connette.

Asst. to pres., M. D. Evans.

Vice-president, F. T. Homer.

Vice-president, W. B. Emmert.

Vice-president, J. F. Wessel.

Vice-president, J. S. Pevear.

Vice-pres. and mgr. rate and statistical dept., J. H. Perkins.

Secretary and asst. treas., J. A. McKenna.

Treasurer and asst. sec'y, A. L. Linn, Jr.

Asst. sec'y and asst. treas., R. O. Launey,

Pur. agt., F. George Robinson.

Asst. pur. agent, J. R. McGivney.

Commercial mgr., H. N. McConnell.

Consulting engineer, L. J. Hirt.

Engineer Nor. ppty's, J. W. Thomas.

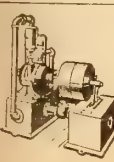
Engineer, So. ppty's L. C. Datz.

Gas engineer, A. C. Howard.

EFFICIENT SERVICE MEANS CONTINUOUS SERVICE.

The NEEDHAM HIGH PRESSURE GAS SYSTEM means the elimination of all gas wastes, increased efficiency and the utmost economy.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.



Elec. engineers, P. B. Rice and F. V. Underwood.

Company does all purchasing and engineering of the properties controlled by the United Gas and Electric Corporation.

Walbridge, H. D. & Co., New York.

Office, 14 Wall Street.

Capital stock, auth. and issued, pref., \$500,000; com., \$500,000.

Bonded debt, none.

President, H. D. Walbridge.

Vice-pres., J. K. Andrews.

Vice-pres., F. T. Hepburn.

Secretary, H. S. Brown.

Treasurer, F. E. Haag.

Asst. sec'y and asst. treas., F. E. Taylor and L. A. Wood.

COMPANIES OPERATED.

Centre & Clearfield Railway Co.

Citizens Light, Heat & Power Co. of Penna.

County Gas Co., Dallas, Tex.

Dallas (Tex.) Gas Co.

Johnstown (Pa.) Fuel Supply Co.

Penn Electric Service Co.

Penn Public Service Co.

Pennsylvania Electric Co., (holding Co.)

Penelec Coal Co.

The J. G. White Management Corporation, New York City.

Office, 43 Exchange Place.

Capital stock, pref., auth., \$500,000; issue \$300,000; com., auth., \$500,000; issued, \$500,000. Div. pref., 7 p. c.; com., 6 p. c.

President, J. H. Pardoe.

Vice-presidents, Joseph K. Choate J. I. Mange and A. L. Mathews.

Secretary and treasurer, T. W. Moffat.

Chief engineer, C. A. Greenidge.

Purchasing agent, E. N. Chilson.

OPERATING COMPANIES.

Arcadia Ice & El. Co., Arcadia, Fla.

Ariston Ice & El. Co., West Palm Beach, Fla.

*Associated Gas and Electric Co., New York.

Augusta-Aiken Ry. & El. Corp., Augusta, Ga.

Cardenas-American Sugar Co., New York.

Cayuga Cement Corp., Cayuga, N. Y.

Central Sugar Corp., New York, N. Y.

Clarksville Electric Co., Clarksville, Tenn.

*Clarksville Gas Co., Clarksville, Tenn.

Cordele Electric Co., Cordele, Ga.

*Eastern Pennsylvania Light, Heat and Power Co., Pottsville, Pa.

Eastern Penn. Railways Co., Pottsville, Pa.

Ft. Lauderdale Ice & Electric Co., Ft. Lauderdale, Fla.

Ft. Myers Ice & El. Co., Ft. Myers, Fla.

Georgia Carolina Power Co., Augusta, Ga.

Groton Electric Power Corp., Groton, N. Y.

*Helena Light and Railway Co., Helena, Mon.

*Homer and Cortland Gas Light Co., Cortland, N. Y.

*Ithaca Gas & Elec. Corp., Ithaca, N. Y.

*Kentucky Public Service Co., operating plants in Bowling Green, Frankfort, Hopkinsville and Owensboro, Ky.

Lakeland Ice Co., Lakeland, Fla.

Live Oak Ice & El. Co., Live Oak, Fla.

* Operate gas properties.

Live Oak Lime Stone Co., Live Oak, Fla.

Manatee Electric Co., Bradentown, Fla.

Manila Elec. R. R. & Light Corp., New York.

Manila Elec. R. R. & Light Co., Manila, P. I.

Manila Suburban Railways Co., Manila, P. I.

Matanzas-American Sugar Co., New York.

Miami Ice & Cold Storage Co., Miami, Fla.

*Norwich Gas and Elect. Co., Norwich, N. Y.

Oneonta Light & Power Co., Oneonta, N. Y.

Okeechobee Ice Co., Okeechobee, Fla.

Ovid Electric Co., Ovid, N. Y.

Pacific Railroad of Nicaragua, Managua, Nicaragua.

Palatka Public Service Co., Palatka, Fla.

Pensacola Ice Co., Pensacola, Fla.

Pottsville Union Traction Co., Pottsville, Pa.

Poughkeepsie City (N. Y.) and Wappinger Falls Electric Ry. Co.

Punta Gorda Ice Co., Punta Gorda, Fla.

St. Augustine Ice Co., St. Augustine, Fla.

St. Johns Electric Co., St. Augustine, Fla.

Sanford Public Service Co., Sanford, Fla.

Shore Line Elec. Ry. Co., Norwich, Conn.

*Southern Utilities Co., Jacksonville, Fla.

Standard Light, Heat & Power Co., Sidney N. Y.

Stewart Public Service Co.

Tarpon Spgs. Ice & El. Co., Tarpon Spgs., Fla.

Tifton Ice & Power Co., Tifton, Ga.

Titusville Ice & Elec. Co., Titusville, Fla.

*Thornapple Gas and Electric Co., Hastings, Mich.

*Van Wert Gas Light Co., Van Wert, O.

Wilputte Coke Oven Corporation, New York City.

Office, 6 Church Street.

President, Louis Wilputte.

Secy. and treas., Robert C. Metcalfe.

Pur. agent, C. W. Metcalfe.

Gen'l mgr., Louis Wilputte.

Chief engineer, C. V. McIntire.

Constructors of by-products coke oven and gas plants; also benzol plants.

By-product coke-oven plants in operation or under construction, by following companies:

Coal Products Mfg. Co., Joliet, Ill.

Woodward Iron Co., Woodward, Ala.

Steel Co. of Canada, Hamilton, Ont., Can.

Algoma Steel Corp., Sault Ste. Marie, Ont., Can.

Wisconsin Edison Co., The, Inc., New York.

Office, 30 Broad St.

(For information regarding capitalization, bonds, etc., see Appendix.)

President, James D. Mortimer.

Vice-pres., Edwin Gruhl.

Vice-president, Henry H. Pierce.

Secretary, James F. Fogarty.

Asst. secy., Robert Randall.

Treasurer, Geo. E. Sheldon.

Asst. treas., Robt. Sealy and Ferdinand Sherwood.

COMPANIES CONTROLLED.

Milwaukee (Wis.) Light, Heat and Traction Co.

The Milwaukee Electric Railway and Light Co.

* Operate gas properties.

HAMMON PIPE COUPLERS insure tight lines, reduce costs of pipe laying and decrease the difficulties in making changes.

THE HAMMON COUPLER COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Wisconsin Gas and Electric Co., Racine,
Kenosha, Watertown and Burlington,
Wis.

North Milwaukee (Wis.) Light and Power Co.
Wells Power Co., Milwaukee, Wis.

United States Gas and Electric Co., Penn Yan.

Capital stock, auth., \$400,000; issued, \$5,000.
No bonds. No dividends.
President, William T. Morris.
Secretary, Morris Tracy.
Treasurer, William T. Morris.
Gen'l manager, Morris Tracey.

COMPANIES OPERATED.

Penn Yan Gas Light Co., Penn Yan, N. Y.

Semet-Solvay Co., Syracuse.

New York Office, 42d Street Building.
Capital stock, auth., \$20,000,000; issued,
\$16,300,000.
Chairman of the Board, R. G. Hazard.
President, H. H. S. Handy.
Vice-presidents, E. L. Pierce, E. C. Witherby,
J. G. Hazard.
Secretary, E. D. Winkworth.
Treasurer, M. D. Whitford.
Purchasing agent, J. A. Whaling.
Gen. manager, L. M. Whitwell.
Gen. supt., C. G. Tufts
Constructing and operating retort coke-
ovens with recovery of by-products, in-
cluding illuminating gas.

BY-PRODUCT COKE OVEN PLANTS OPERATED.

*By-Products Coke Corporation, Chicago, Ill.

*By-Products Coke Corp. Indiana Harbor,
Ind.

*Semet-Solvay Co., Cleveland, Ohio.

Semet-Solvay Co., Benwood, W. Va.

*Semet-Solvay Co., Detroit, Mich.

Semet-Solvay Co., Ensley, Ala.

Semet-Solvay Co., Dunbar, Pa.

Semet-Solvay Co., Holt, Ala.

Semet-Solvay Co., Syracuse, N. Y.

Semet-Solvay Co., Milwaukee, Wis.

Portsmouth Solvay Coke Co., Portsmouth, O.

Kentucky Solvay Coke Co., Ashland, Ky.

Ironton-Solvay Coke Co., Ironton, O.

Ford Motor Co., Detroit, Mich.

*Chattanooga (Tenn.) Coke and Gas Co.,

Utica Gas and Electric Co., Utica.

Office, 222 Genesee Street.
(For capitalization, bonds, etc., see Appen-
dix.)

President, James C. Brady.

Vice-president, W. E. Lewis.

Secretary, M. J. Brayton.

Treasurer, George H. Stack.

Auditor, Wm. J. McSorley.

General manager, (elec. dept.) W. J. D. Porter.

General manager, (gas dept.) W. J. Cahill.

COMPANIES OPERATED.

Central New York Power Co., Canastota, N. Y.

Consolidated Electric Co., Whitehall, N. Y.

Glens Falls Gas and Electric Co., Glens Falls,
N. Y.

United Gas, Electric Light and Fuel Co. of
Hudson Falls and Fort Edward, N. Y.

*Producing illuminating gas.

NORTH CAROLINA.

North Carolina Public Service Co., Greensboro.

(For capitalization, bonds, etc., see Appen-
dix.)

President, Chas. B. Hole.

Vice-president, Wescott Roberson.

Secretary and treas., L. H. Hole.

General manager, R. J. Hole.

Manager and pur. agent, C. H. Andrews.

COMPANIES OPERATED.

North Carolina Public Service Co., Greens-
boro and High Point, N. C.

North Carolina Public Service Co., Sal-
isbury, Spencer and East Spencer.

Carolina Power and Light Co., Raleigh.

New York City office, 71 Broadway.

(For the company's capitalization, etc., see
Appendix.)

President, Charles E. Johnson.

Vice-presidents, Wm. Darbee, H. H. Carr and
D. F. McGee.

Secretary and treas., E. P. Summerson.

CONTROLS THROUGH STOCK OWNERSHIP:

Yadkin River Power Company.

Asheville Power and Light Company.

GAS PLANTS OWNED AND OPERATED:

Carolina Power and Light Co., Durham,
N. C.

Carolina Power and Light Co., Raleigh, N. C.

OHIO.

Union Gas and Electric Co., Cincinnati.

(See report in Appendix.)

Consolidated Gas, Electric and Water Co., Cleveland.

(Company in bankruptcy.)

Continental Gas and Electric Corp., Cleveland.

Principal office, Cuyahoga Building.

(For detailed information regarding cap-
italization, bonds, etc., see Appendix.)

President, C. S. Eaton.

Vice-pres., W. H. Abbott.

Secretary, Thomas H. Jones.

Treasurer, Geo. W. York.

Asst. sec'y and asst. treas., B. J. Olson.

General manager, C. S. Eaton.

Pur. agent, W. H. Abbott, 505 Karbach Block,
Omaha, Neb.

Chief engineer, W. H. Abbott.

Auditor, B. J. Olsen.

COMPANIES OPERATED.

Gage County Gas Light and Power Co.,
Beatrice, Neb.

Peoples Gas Co., Shenandoah, Ia.

Nebraska Lighting Co., Plattsmouth, Neb.

Red Oak Electric Co., Red Oak, Ia.

Red Oak Gas Light Co., Red Oak, Ia.

Cass County Light and Power Co., Griswold,
Ia.

Malvern Light and Power Co., Malvern, Ia.

Public Service Co., York, Neb.

Shenandoah Artificial Ice, Power, Heat and

Light Co., Shenandoah, Ia.

Iowa Gas and Electric Co., Omaha, Neb.

Nebraska Gas and Electric Co., Omaha, Neb.

RECOVER TOLUOL AND BENZOL by scrubbing your gas to re-
move the light oils. We will be pleased to advise you in regard to a plant
for this purpose.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Electric Transmission Co., York, Neb.
 Lee Light and Power Co., Clarinda, Ia.
 Canada Gas and Electric Corp., Brandon,
 Man., Can.
 Brandon Gas and Power Co., Brandon, Man.
 Can.

Ohio Cities Gas Co., Columbus.

Office, 135 No. Front Street.
 (See financial report in Appendix.)
 President, Beman G. Dawes.
 Vice-pres., R. W. Melvain.
 Sec'y and treas., F. S. Heath.
 Gen'l manager, T. J. Jones.
 Engineer, E. F. Clagett.

COMPANIES OPERATED.

Columbus Gas & Fuel Co., The, Columbus, O.
 Columbus Drilling Co., Columbus, O.
 Dayton Gas Co., The, Dayton, O.
 Federal Gas & Fuel Co., The, Columbus, O.
 Springfield Gas Co., The, Springfield, O.
 Mountain State Gas Co.
 Pure Oil Co.
 Pure Oil Pipe Line Co.
 Quaker Oil and Gas Co.
 Producers and Refiners Oil Co.
 Marcus Hook Refining Co.
 Ardmore Refining Co.
 International Refinery, Cushing, Okla.
 Ardmore Refinery, Ardmore, Okla.
 Cabin Creek Refining Co.
 Corn Planter Refining Co.

The Ohio Gas Light and Coke Co., Napoleon.

Office, 121 West Washington St.
 Capital stock, com. auth., \$250,000; issued,
 \$179,000; pref. auth., \$250,000; issued,
 \$67,200.
 Annual dividend, pref., 7 p. c.; com., 6 p. c.
 Bonds, \$210,000; due, 1934; interest, 6 p. c.
 President, G. B. Orwig.
 Vice-president, W. J. Hartnett.
 Secretary, B. A. Sloan.
 Treasurer and gen. mgr., J. A. Sloan.

COMPANIES OPERATED.

Ohio Gas Light and Coke Co.'s plant at
 Napoleon supplies Napoleon, Wauseon
 and Delta; and plant at Bryan supplies
 Bryan, Montpelier, Stryker and Arch-
 bold.

OKLAHOMA.

Empire Refineries, Inc., Bartlesville.

(Subsidiary of Empire Refining Co.)
 Capital stock, \$5,000,000.
 President, J. C. McDowell.
 Secretary, C. E. Murray.
 Treasurer, P. C. Russum.
 Manager, P. M. Miskell.
 Pur. agent, H. H. Sloan.

REFINERIES OPERATED.

No. 1, Okmulgee, Okla.
 No. 2, Ponca City, Okla.
 No. 3, Cushing, Okla.
 No. 4, Cushing, Okla.
 No. 5, Oklahoma City, Okla.

Empire Refining Co., Bartlesville.

Capital stock, \$10,000,000.
 Bonds, \$9,621,500; due 1927; int. 6 p. c.
 President, J. C. McDowell.
 Secretary, C. E. Murray.
 Treasurer, R. C. Russum.
 Manager, A. J. Diescher.

COMPANIES CONTROLLED.

Empire Refineries, Inc.
 Producers Refining Co.
 Empire Pipe Line Co.
 Standard Asphalt and Refining Co.,

North American Oil and Refining Corporation, Okla- homa City.

Office, 914 Colcord Building.
 Capital stock auth. \$3,000,000; issued, \$1,-
 600,000.
 President, Irving H. Wheatcroft.
 Vice-president, C. F. Colcord.
 Secretary, Edwin C. Ruff.
 Treasurer, John Maney.
 Superintendent, J. E. Wheatcroft.
 General manager, Murry H. Warren.
 The North American Oil and Refining Corp-
 oration is a holding company, owning
 all the securities of the following named
 subsidiary companies:
 North American Refining Co.
 North American Refining Co. of Mo.
 North American Refining Co. of Kansas.
 North Pool Oil Co.
 Channel Oil Co.
 Cimarron Oil and Gas Co.
 Southwestern Petroleum Co.
 Parker Process Co.

OREGON.

Pacific Power and Light Co., Portland.

General office, 1211 Spalding Bldg.
 New York office, Am. Power and Light Co.
 71 Broadway.
 (For detailed financial information, see Ap-
 pendix.)
 President, Guy W. Talbot.
 Vice-presidents, Edward Cookingham, F. G.
 Sykes, E. W. Hill, A. S. Grenier, G. E.
 Clafin, J. A. Laing.
 Secretary and treas., Geo. F. Nevins.
 Asst. treas. and asst. sec'y, M. H. Arning, M.
 E. Corbin, W. C. Lang.
 Pur. agent, C. H. Still.
 Gen. manager, J. E. Davidson.
 Chief engineer, J. C. Martin.
 Gas plants operated in Walla Walla and
 North Yakima Wash., Astoria and Pendle-
 ton, Ore., and Lewiston, Idaho.

PENNSYLVANIA.

Pennsylvania Electric Co., Clearfield.

New York Office, 14 Wall Street.
 (For capitalization, bonds, etc., see Appen-
 dix.)
 President, H. D. Walbridge.
 Vice-president, J. K. Andrews.



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Secretary, H. S. Brown.
Treasurer, F. E. Haag.
Asst. sec'y and asst. treas., L. A. Wood and
F. E. Taylor.

COMPANIES CONTROLLED.

Citizens Light, Heat and Power Co. of Johnstown, Pa.
Johnstown (Pa.) Fuel Supply Co.
Penn Public Service Co., Clearfield, Pa.
Penn Electric Service Co., Johnstown, Pa.
Centre & Clearfield Railway Co., Philipsburg, Pa.

Lancaster County Railway and Light Co., Lancaster.

Principal office, 61 Broadway, New York, N. Y.
(For detailed information regarding capitalization, bonds, etc., see Appendix.)
President, W. W. Griest.
Vice-president, George Bullock.
Secretary and asst. treas., J. A. McKenna.
Asst. sec'y and asst. treas., J. M. Groff.
Treasurer, A. L. Linn, Jr.
Engineers and pur. agent, United Gas & El. Eng. Corp.
Com'l mgr., H. J. Von Nieda.
Gen'l mgr., R. B. Hull.

COMPANIES CONTROLLED.

Conestoga Traction Co.,
Conestoga Realty Co.,
Columbia Gas Co.,
Edison Electric Co.,
Lancaster Gas Light and Fuel Co., all of Lancaster, Pa.

The American Gas Co., Philadelphia.

Office, West Washington Square.
Corporate office, 104 Market St., Camden, N. J.
(For capitalization and bonds, see Appendix.)
President, Morris W. Stroud.
Vice-president, J. C. Lowry.
Secretary, W. L. Fox.
Treasurer, J. B. Townsend, 3d.
Gen. manager, S. P. Curtis.
Engineer, R. C. Cornish.
Elec. engineer, H. M. Blake.
Pur. agent, F. D. Wharton.
Holding and operating gas and electric companies.

COMPANIES OPERATED.

Bangor (Me.) Gas Light Co.
Burlington (Vt.) Light and Power Co.
Cahokia Gas & Oil Co., E. St. Louis, Ill.
Cedar Valley Electric Co., Charles City, Hampton, Parkersburg and Clarks-ville, Ia.
Citizens Gas and Electric Co., Waterloo, Ia.
Consolidated Light and Power Co., Kewanee Ill.
Kingston (N. Y.) Gas and Electric Co.
Luzerne County Gas and Electric Co., Kingston and Hazleton, Pa.
Philadelphia Suburban Gas and Electric Co., Chester, Wyncote, Pottstown, Coatesville, Phoenixville and West Chester, Pa.
Petersburg (Va.) Gas Co.,
Portage (Wis.) American Gas Co.
Rockford (Ill.) Gas Light and Coke Co.

St. Clair County Gas and Elec. Co., E. St. Louis, Ill., (controlling Edwardsville (Ill.) Gas Co.)

Staunton Gas Co., Staunton, Ill.
Ulster Electric Light, Heat and Power Co.
Waukesha (Wis.) Gas and Electric Co.
Winooski Valley Power Co., Burlington, Vt.

American Pipe and Construction Co., Philadelphia.

(Company in hands of receiver.)
Office, 112 N. Broad St.
Capital stock, \$5,000,000.
Coll. trust certf., \$1,200,000; coll. trust 5 p. c. ctfs. redeemable, Series A, \$50,000 yearly to 1927 at 102½ and int.; Series B, \$50,000 yearly to 1929; int., 5 p. c.
Pres. and receiver, Robert Wetherill.
Vice-president, H. Bayard Hodge.
Treasurer, H. Bayard Hodge.
Secretary and asst. treas., W. H. Roth.
Asst. sec'y, Ervin Lyndall.
Supt. operating dept., A. H. Kneen.
Chief engineer, John W. Ledoux.
Construct and operate water, gas, electric and sewer plants, and furnish engineering reports on proposed utilities.

GAS AND ELECTRIC COMPANIES OPERATED.

Selma Lighting Co., Selma, Ala.
Selma Street and Suburban Ry. Co., Selma, Ala.

Counties Gas and Electric Co., Philadelphia.

(For report, see Appendix.)

Eastern Light and Fuel Co., Philadelphia.

Executive office, 1308 Real Estate Trust Bldg.
Corporate office, 104 Market St., Camden, N. J.
Capital stock, \$500,000.
Annual dividend, com., 8 p. c.
President, Clarence P. King.
Vice-pres., R. W. King.
Secretary and treas., J. C. Lightfoot, Jr.
Asst. treas., Thomas Linnenbrink.
Gen. manager and pur. agent, R. W. King.
Civil engineer, C. A. S. Sinclair.

COMPANIES MANAGED.

New Jersey Gas Co., Glassboro, N. J.
Pottsville Gas Co., Pottsville, Pa.
Schuylkill Haven Gas and Water Co., Schuylkill Haven, Pa.
Schuylkill County Light and Fuel Co.
United Gas and Water Co.,
New Jersey Water Service Co., Haddonfield, N. J.
Wildwood Gas Co., Wildwood, N. J.

The C. H. Geist Co., Philadelphia.

Office, 1127 Land Title Bldg.
Capital stock, \$30,000.
President, C. H. Geist.
Vice-president, C. H. Weak.
Secretary and treas., H. A. Lang.
Gen. mgr. and pur. agent, H. S. Schutt.
Auditor, C. H. Weak.

COMPANIES OPERATED.

Northern Alabama Gas Co., Florence, Ala.
Lansing Fuel and Gas Co., Lansing, Mich.
Wilmington (Del.) Gas Co.
Atlantic City (N. J.) Gas Co.
Mahanoy City Gas Co., Mahanoy City, Pa.

One of our five million foot holders has stood the most severe cyclones ever recorded in the United States.

R. D. WOOD & CO., PHILA., PA.



Roanoke (Va.) Gas Light Co.
 Freeport (Ill.) Gas Co.
 Indianapolis (Ind.) Water Co.
 East Chicago and Indiana Harbor Water Co.,
 East-Chicago, Ind.

International Gas and Electric Co., Philadelphia.

(Succeeded by United Chemical and Industrial Companies:)

New Jersey Consolidated Gas Co., Philadelphia.

Executive office, 1308 Real Estate Trust Bldg.
 Corporate office, 104 Market St., Camden, N. J.
 Capital stock, com., auth., \$9,000,000; issued, \$2,000,000.

President, R. W. King.

Secretary and treas., J. C. Lightfoot, Jr.

COMPANY CONTROLLED THROUGH STOCK OWNERSHIP.

New Jersey Gas Co., Glassboro, N. J.

Public Service Companies, Philadelphia, Pa.

Office, 1142 Real Estate Trust Building.

President, John D. Shattuck.

Sec'y and treas., E. C. Worrell.

COMPANIES OPERATED.

Bucks County Public Service Co., Newtown, Pa.

Doylestown Gas Co., Doylestown, Pa.

Southern Gas Improvement Co., Henderson and Elizabeth City, N. C.

Rock Hill Gas Co., Rock Hill, S. C.

Public Utilities Co., Philadelphia.

Office, 606 Franklin Bank Building.

Capital stock, \$50,000.

President, J. H. McNeal.

COMPANIES CONTROLLED.

Saranac Lake (N. Y.) Gas Co.

J. C. Reed & Co., Philadelphia.

Office, Morris Building.

Senior partner, John C. Reed.

Engineer, S. P. Vecker.

COMPANIES OPERATED.

Key West Gas Co., Key West, Fla.

Panama Gas Co., Panama City, R. P.

Colon Gas Co., Colon, R. P.

Sun Company, Philadelphia.

Office, Finance Building.

Capital stock, auth. \$9,600,000; issued, \$8,370,000.

President, J. Howard Pew.

Vice-presidents, J. N. Pew, Jr., Robert C.

Pew and Francis S. McIlhenny.

Sec'y and treas., Frank Cross.

COMPANIES CONTROLLED.

Twin State Oil Co., Okla.

O'Connell Oil Co., West Va.

Del. Riv. and Union R. R. Co.

Sun Ship Building Co.

REFINERIES OPERATED.

At Markus Hook, Pa., and Toledo, O.

Sun Oil Co., Yale, Okla.

AFFILIATED COMPANIES

Sun Pipe Line Co. of Texas

Sun Oil Co. of Okla.

Sun Transportation Co.

Sun Oil Line Co.

Bay Terminal R. R. Co.

Union Petroleum Co., Philadelphia.

Office, Widener Building.

Capital stock, \$1,000,000.

President, H. E. Worthington.

Vice-pres. and treas., A. C. Woodman.

Secretary, E. M. Lyons.

COMPANIES CONTROLLED AND OPERATED.

Wellsville Refining Co., Wellsville, N. Y.

Union Petroleum Co. of La.

Shipping stations at Philadelphia and Marcus Hook, Pa., New Orleans, La., and Chicago, Ill.

United Chemical & Industrial Companies, Philadelphia.

Office, 308 Widener Building.

Capital stock, pref. 10,000 shares (\$100. par); com. 40,000 shares (no par).

Annual dividend rate, 8 p. c.

President, Walter Whetstone.

Vice-president, Guy Murchie.

Sec'y and treas., Ralph R. Landes.

Pur. agent, N. H. Gellert.

Gen'l mgr. and engineer, N. H. Gellert.

COMPANIES CONTROLLED.

Concord & Kannapolis Gas Co., Concord, N. C.

Gastonia & Suburban Gas Co., Gastonia, N. C.

Syracuse Suburban Gas Co., E. Syracuse, N. C.

Canadian Gasoline Corp., Ltd., Toronto, Ont., Can.

Buffalo Potash & Cement Corp., Buffalo, N. Y.

The United Gas Improvement Co., Philadelphia.

Office, Broad and Arch Sts.

(For capitalization and financial information, see Appendix.)

President, S. T. Bodine.

Vice-pres. and gen'l counsel, Randal Morgan,

2d vice-president, Walton Clark.

3d vice-president, Lewis Lillie.

4th vice-president, W. F. Douthirt.

5th vice-president, Paul Thompson.

Secretary, G. W. Curran.

Treasurer, I. W. Morris.

General auditor, R. C. James.

Purchasing agent, J. A. Pearson.

Mgr. new bus. dept., C. W. Hare.

Sales agent, D. J. Collins.

An operating and construction company under the Lowe and other systems.

COMPANIES IN WHICH INTERESTED.

Allentown-Bethlehem Gas Co., Allentown, Pa.

Burlington Gas Light Co., Burlington, Ia.

Charleston Consol. Ry. and Ltg. Co., Charleston, S. C.

Chester County Gas Co., West Chester, Pa.

Concord Light and Power Co., Concord, N. H.

Consumers Gas Co., Reading, Pa.

Counties Gas and Electric Co., Philadelphia.

Des Moines Gas Co., Des Moines, Ia.

Fulton County Gas and Electric Co., Gloversville, N. Y.

Harrisburg Gas Co., Harrisburg, Pa.

Kansas City Gas Co., Kansas City, Mo.

Nashville Gas and Heating Co., Nashville, Tenn.

New Gas Light Co., Janesville, Wis.

Northern Indiana Gas and Electric Co., Hammond, Ind.



Williams' "Vulcan" Chain Pipe Vise

Portable—Broadly Adjustable—Attachable Anywhere

J. H. WILLIAMS, 74 Richards St., Brooklyn, N. Y.

Northern Liberties Gas Co., Philadelphia, Pa.
 Omaha Gas Co., Omaha, Neb.
 Pensacola Gas Co., Pensacola, Fla.
 Peoples Gas Light Co., Manchester, N. H.
 St. Augustine Gas and Electric Light Co., St. Augustine, Fla.
 Savannah Gas Co., Savannah, Ga.
 Sioux City Gas and Elec. Co., Sioux City, Ia.
 Sioux Falls Gas Co., Sioux Falls, S. D.
 Syracuse Lighting Co., Syracuse, N. Y.
 United Gas Improvement Co., The, Vicksburg, Miss.
 Wyandotte County Gas Co., The, Kansas City, Kan.

Union Railway Supply Co., Philadelphia.

Office, 1633-35 Real Estate Trust Building.
 Capital stock, auth., \$200,000; issued, \$82,200.
 President, H. E. Woodman.
 Vice-president, Harry Stille.
 Secretary and treas., P. M. Satterthwaite.
 Purchasing agent, H. E. Woodman.
 General manager, H. E. Woodman.
 Finance, construct and operate gas and electric light properties.

COMPANIES OPERATED.

Lewisburg (Pa.) Gas Co.
 Ocean County Gas Co., Toms River, N. J.
 Standard Gas Co., Atlantic Highlands, N. J.
 Tuckerton (N. J.) Gas Co.

HOLDING COMPANIES.

Equitable Light, Heat and Power Co.
 Monmouth Shore Gas Co.

United National Utilities Co., Philadelphia.

Office, 1,324 Walnut Street.
 Capital stock, pref. auth. \$10,000,000, issued \$2,300,000; com. auth. \$10,000,000, issued \$3,000,000.
 Notes, \$1,800,000; due 1920; int. 6 p. c.
 President, Van Horn Ely.
 Vice-president, W. C. Sproul.
 Sec'y and treas., Walter W. Perkins.

COMPANIES CONTROLLED.

American Railways Co., which controls and operates:
 Cape May Illuminating Co., Cape May, N. J.
 Cape May Light & Power Co., Cape May, N. J.
 Carbondale Gas Co., Carbondale, Pa.
 Goshen Gas Co., Goshen, Ind.
 Joplin Gas Co., Joplin, Mo.
 Niles Gas Light Co., Niles and Buchanan, Mich.
 Port Huron (Mich.) Gas and Electric Co.
 Portsmouth Gas Co., Portsmouth, O.
 Quincy (Ill.) Gas, Electric and Heating Co.
 Rome Gas, Elec. Lt. and Power Co., Rome, N. Y.
 Warsaw Gas Co., Warsaw, Ind.

Welsbach Street Lighting Co. of America, Philadelphia.

Office, 1932-1934 Market St.
 Capital stock, \$1,000,000.
 Div. paid, annual rate, com., 6 p. c.
 President, Arthur E. Shaw.
 Vice-president, Eugene S. Newbold.
 Secretary, James C. Bishop.
 Treasurer, E. Stanley Hart.
 Pur. agent, Jos. C. McMenamin.
 Lighting streets by means of the Welsbach street-lighting system.

Gulf Oil Corporation, Pittsburgh.

Office, Frick Building Annex.
 Capital stock, \$60,000,000.
 President, W. L. Mellon.
 Secretary, W. J. Guthrie.
 Treasurer, R. B. Mellon.

COMPANIES IN WHICH INTERESTED.

Gulf Production Co.
 Gulf Refining Co.
 Gulf Refining Co. (of La.)
 Gulf Pipe Line Co. (of Texas).
 Gulf Pipe Line Co. (of Okla.)

H. Koppers Co., Pittsburgh.

Main office, Union Arcade Bldg., Pittsburgh.
 Capital stock, \$1,500,000.
 President, H. B. Rust.
 Vice-pres. and gen'l mgr., W. F. Rust.
 Vice-president, C. J. Ramsburg.
 Sec'y and treas., S. T. Brown.
 Pur. agent, O. B. Young.
 Engineer, J. I. Thompson.
 Builders of by-product coke and gas ovens, tar distilling and benzol and toluol plants.

KOPPER'S BY-PRODUCT COKE OVEN PLANTS IN OPERATION AND UNDER CONSTRUCTION BY:

Illinois Steel Co., Gary, Ind.
 Illinois Steel Co., Joliet, Ill.
 Coal Products Mfg. Co., Joliet, Ill.
 Tennessee Coal, Iron and R. R. Co., Fairfield, (Cory), Ala.
 Woodward Iron Co., Woodward, Ala.
 *Bethlehem Steel Co., Sparrows Point, Md.
 Bethlehem Steel Co., Steelton, Pa.
 Algoma Steel Co., Sault Ste. Marie, Canada.
 *Inland Steel Co., Indiana Harbor, Ind.
 Republic Iron and Steel Co., Youngstown, O.
 *Laclede Gas Light Co., St. Louis, Mo.
 Minnesota Steel Co., Duluth, Minn.
 Lehigh Coke Co., South Bethlehem, Pa.
 Cambria Steel Co., Johnstown, Pa.
 *Toledo Furnace Co., Toledo, O.
 Youngstown Sheet & Tube Co., Youngstown, O.
 *La Belle Iron Works, Steubenville, O.
 *United Furnace Co., Canton, O.
 *River Furnace Co., Cleveland, O.
 *Brier Hill Steel Co., Youngstown, O.
 *Gulf States Steel Co., Gadsden, Ala.
 *Seaboard By-product Coke Co., Jersey City, N. J.
 *Minnesota By-product Coke Co., St. Paul, Minn.
 *Carnegie Steel Co., Clairton, Pa.
 Am. Steel & Wire Co., Cleveland, O.
 *Colorado Fuel & Iron Co., Pueblo, Colo.
 National Tube Co., Lorain, O.
 Dominion Iron & Steel Co., Sydney, Nova Scotia, Can.
 *Allegheny By-Product Co., Glassport, Pa.
 *Pittsburgh By-Product Coke Co., Camden, N. J., Washington, D. C., Newark, N. Y., Paterson, N. J., Jersey City, N. J., Trenton, N. J. and Rochester, N. Y.
 *People's Gas Light and Coke Co., Chicago, Ill.
 *Public Service Co. of Northern Illinois, Evanston, Ill.

*Benzol plans in operation or under construction.

RELIABLE

ANGLIRON

RANGES

Rust proof aluminum coated interiors can be furnished on "RELIABLE 'ANGLIRON'" ranges with oven rack supports and broiling pan supports of dark blue porcelain enameled steel. Write for catalog.
RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

The Manufacturers Light and Heat Co., Pittsburgh.

Office, 248 Fourth Ave.
 (For capitalization and bonds, see Appendix.)
 President, John E. Gill.
 Vice-presidents, L. A. Meyran, J. I. Buchanan.
 Secretary and asst. treas., H. E. Seibert.
 Treasurer, G. W. Ratcliffe.
 Auditor, F. C. Leslie.
 Gen. manager, T. O. Sullivan.
 Asst. mgr., M. B. Layton.
 Superintendent, John Foley.

OWNS AND CONTROLS THE FOLLOWING COMPANIES.
 New Cumberland (W. Wa.) Water and Gas Co.
 Venture Oil Co., Washington, Pa.
 (Operations of subsidiary companies included in report of Manufacturers' Co.)

The Ohio Fuel Supply Co., Pittsburgh.

Office, 2017 Farmers' Bank Bldg.
 Capital stock, auth., \$20,000,000; issued, \$19,813,000.
 Annual dividend, 8 p. c.
 President, Geo. W. Crawford.
 Asst. to pres., H. C. Reeser.
 Vice-president, F. W. Crawford.
 Vice-president, J. M. Garard.
 Secretary, H. C. Reeser.
 Treasurer, J. B. Wikoff.
 Pur. agent, J. M. Simpson.
 General manager, J. M. Garard.
 Superintendent, J. F. Curry.
 Engineer, F. H. Crawford.

COMPANIES OPERATED.

The Northwestern Ohio Natural Gas Co.
 Toledo, O.
 Point Pleasant (W. Va.) Natural Gas Co.
 Owns 49 per cent interest in The United Fuel Gas Co., West Va. and Ky.
 (The Ohio Fuel Supply Co. operates in Toledo, Columbus, Zanesville and about 100 smaller towns in Ohio; also wholesale gas to Cincinnati, Springfield, Hamilton and Middletown.)

Philadelphia Co., Pittsburgh.

Office, 435 Sixth Ave.
 (For capitalization and bonds, see Appendix.)
 President, J. H. Reed.
 Vice-president, James D. Callery.
 Secretary, W. B. Carson.
 Treasurer, C. J. Braun, Jr.
 General manager, J. F. Guffey.
 Purchasing agent, J. H. Reed, Jr.
 Controller, C. S. Mitchell.
 Controls, through ownership of stock, the following companies, which are operated as separate properties:
 Allegheny Heating Co., Pittsburg, Pa.
 Equitable Gas Co., Pittsburg, Pa.
 Pittsburgh and West Virginia Gas Co., Pittsburgh, Pa.
 Monongahela Natural Gas Co., Pittsburgh, Pa.
 Consolidated Gas Co., Pittsburgh, Pa.
 South Side Gas Co., Pittsburgh, Pa.

Pittsburgh By-Product Coke Co., Pittsburgh.

Office, First National Bank Building.
 Capital stock, auth. \$10,000,000; issued, \$3,000,000.
 President, H. B. Rust.

Vice-president, C. J. Ramsburg.

Sec'y and treas., S. T. Brown.

Pur. agent, O. B. Young.

Controls, through ownership of stock, the following companies:

Seaboard By-Product Coke Co., Jersey City, N. J.

Minnesota By-Product Coke Co., St. Paul, Minn.

Union Natural Gas Corporation, Pittsburgh.

Office, 1607 Union Bank Building.
 (For detailed financial information, see Appendix.)
 President, E. P. Whitecomb.
 Vice-president, S. Y. Ramage.
 Secretary and treas., W. R. Hadley.
 Asst. sec'y and asst. treas., Geo. R. Brink.
 General manager, E. P. Whitcomb.
 Asst. gen. mgr., A. A. Armstrong.
 Pur. agent, A. A. Armstrong.
 Auditor, A. J. Newman.

COMPANIES CONTROLLED AND OPERATED.

Athens (O.) Gas Light and Electric Co.
 Bellevue (O.) Gas Co.
 Buckeye Gas Co., Circleville, O.
 Citizens Gas and Electric Co., Elyria and Lorain.
 Citizens Gas Light and Coke Co., Findlay, O.
 Fremont (O.) Gas, Electric Light & Power Co.
 Logan (O.) Natural Gas and Fuel Co.
 Manufacturers Gas Co., Bradford, Pa.
 Marion (O.) Gas Co.
 Newark (O.) Natural Gas and Fuel Co.
 Preston Oil Co., Pittsburgh, Pa.
 Warren and Chautauqua Gas Co., Warren, Pa.

Universal Oil and Gas Co., Pittsburgh.

Office, Park Building.
 Capital stock, auth., \$5,000,000; issued, \$612,000.
 President and gen'l manager, H. S. Glenn.
 Vice-pres., C. J. Crawford.
 Sec'y and treas., John Read Miner

COMPANIES OPERATED.

Elk Natural Gas Co., Pittsburgh, Pa.

United Service Co., Scranton.

Office, 700 Scranton Life Bldg.
 Capital stock, pref., auth., \$1,500,000; issued \$1,415,550; com., auth., \$1,500,000; issued, \$1,281,200.
 Annual dividend, pref., 6 p. c.; com., 4 p. c.
 President, Thos. R. Brooks
 Vice-pres., A. H. Storrs.
 Secretary and treas., L. H. Conklin.
 Gen'l manager, L. H. Conklin.
 Engineer, G. L. Bascome.

COMPANIES OWNED AND OPERATED.

Warren Light and Power Co., Warren, Pa.
 Jefferson Electric Co., Punxsutawny, Pa.
 Wabash Water and Light Co., Wabash, Ind.
 *East Penn. Gas and Electric Co., Bristol, Pa.
 Ohio Service Co., New Philadelphia, Dennison, Strasburg, Coshocton, Cambridge, Canal Dover and Newcomerstown, O.

*Operating gas property.



COMPANIES OPERATED BUT NOT OWNED.

Hanover Light, Heat and Power Co., Hanover, Pa.
 Hanover (Pa.) and McSherrytown St. Ry. Co.
 North Michigan Water Co., Escanaba, Mich.
 Gettysburg Electric Co., Gettysburg, Pa.
 Du Bois Electric Co., Du Bois, Pa.
 Du Bois Traction Co., Du Bois, Pa.
 Susquehanna County Light & Power Co., Susquehanna, Pa.

Lehigh Power Securities Corporation, Williamsport.

(Successor to Northern Central Gas Co.)
 New York office, 71 Broadway.
 (For capitalization, bonds, etc., see Appendix.)

COMPANIES CONTROLLED (THROUGH OWNERSHIP OF CAPITAL STOCK):

Hagerstown Light and Heat Co., of Hagerstown, Md.

PLANTS OPERATED.

Northern Central Gas Co., Williamsport, Pa.
 Northern Central Gas Co., Milton, Pa.

RHODE ISLAND.**Blackstone Valley Gas & Electric Co., Pawtucket.**

(For capitalization, bonds, etc., see Appendix.)

President, Frederick P. Royce.
 Vice-pres., Marcy L. Sperry.
 Secretary, William T. Crawford.
 Treasurer, Henry B. Sawyer.
 Under management of Stone and Webster.
 Manager The Pawtucket Gas Co., Wm. McGregor; Woonsocket Div., Gardner Rogers; Pawtucket Div., Samuel B. Tuell.

COMPANIES CONTROLLED AND OPERATED.

Pawtucket (R. I.) Gas Co.

TEXAS.**Texas Power and Light Co., Dallas.**

Office, 1310 Commerce St. New York office, 71 Broadway.

For detailed information regarding capitalization and bonds, see Appendix.)

President, J. F. Strickland.
 Vice-presidents, F. G. Sykes, A. S. Grenier, F. R. Slater, E. W. Hill, W. B. Head.
 Secretary and asst. treas., C. E. Calder.
 Treasurer and asst. sec'y, M. H. Arning.
 Asst. sec'y and asst. treas., W. C. Lang.
 Asst. sec'y and asst. treas., J. E. Van Horn.
 Pur. agent, J. D. Oliger.
 Gen'l manager, F. R. Slater.
 Engineer, Geo. E. Moffatt.

Gas plants operated in Brownwood, Cleburne, Paris and Waco.

Electric plants operated in Waco, Cleburne, Hillsboro, Waxahachie, Temple, Sherman, Bonham, Brownwood, Gainesville, Paris, Tyler, Palestine, Taylor, Lancaster, Honey Grove, Italy and other communities in Texas.

The Texas Co., Houston.

New York office, 17 Battery Place, New York.
 Capital stock, \$69,375,000.

Dividend paid, annual rate, 10 p. c.

Deb. bonds outstanding \$16,058,000; year due 1931; int. rate 6 p. c.

President, E. C. Lufkin.

1st vice-president, T. J. Donoghue.

Vice-pres., R. C. Holmes, G. L. Noble, W. A. Thompson, Jr. and J. R. Mighetta.

Secretary, C. P. Dodge.

Asst. secys. and asst. treas., A. C. Mighetta, W. W. Bruce and Guy Carroll.

Asst. secys., S. J. Payne and W. G. McConkey.

Asst. treas., A. M. Donoghue and D. B. Tobey.

PIPE LINE COMPANIES OPERATED.

The Texas Pipe Line Co. (of Texas).

The Texas Pipe Line Co. (of Okla.)

REFINERIES OPERATED.

Port Arthur, Port Neches, Dallas, Tulsa and Lockport.

VERMONT.**Twin State Gas and Electric Co., Brattleboro.**

(Controlled by National Light Heat and Power Co., New York, N. Y.)

Capital stock, pref. auth., \$2,500,000; issued, \$1,500,000; common, auth., \$2,500,000; issued, \$1,250,000.

Annual dividend, preferred, 5 p. c.

Bonds, \$844,000; due 1926; int., 4.5 p. c.; and \$1,709,500; due 1933; int., 5 p. c.

Underlying bonds, \$625,000; due 1919-1935; int. 4.5 and 5 p. c.

President, Samuel Insull.

Vice-president, H. L. Olds.

Secretary and pur. agent, H. H. Bechtel.

Treasurer, A. D. Forrest.

COMPANIES OPERATED.

Berlin (N. H.) Electric Co.

Cascade Light and Power Co., Berlin, N. H.

St. Johnsbury (Vt.) Electric Co.

Bennington (Vt.) Electric Co.

Bennington (Vt.) Gas Co.

Brattleboro (Vt.) Gas Light Co.

Brattleboro (Vt.) Street Railway Co.

Hoosick Falls (N. Y.) Illuminating Co.

Dover (N. H.) Gas Light Co.

United Gas and Electric Co., Dover, N. H.

WASHINGTON.**North Pacific Public Service Co., Tacoma.**

324 Tacoma Building.

Capital stock, pref. auth., \$1,000,000; issued \$97,200; com., auth., \$1,000,000; issued \$549,950.

Annual dividend, pref., 6 p. c.

Bonds, \$285,200; due 1931; int., 5 p. c.

President, W. W. Seymour.

Vice-pres., F. S. Stranahan.

Secretary, W. Emory Wardwell.

Treasurer and pur. agent, F. C. Brewer.

General manager, F. C. Brewer.

You can shut off any size gas main in half a minute with a GOODMAN-STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

COMPANIES CONSOLIDATED.

Grays Harbor Gas Co., Aberdeen, and Hoquiam, Wash.
 Centralia and Chehalis Gas Co., Centralia and Chehalis, Wash.
 Bremerton-Charleston Light & Fuel Co.
 Port Angeles Water Supply Co.

WEST VIRGINIA.

Boyd E. Horner and Associates, Clarksburg.
 Gen'l manager, Boyd E. Horner.

COMPANIES CONTROLLED.

Comet Oil & Gas Co., Pruntytown, W. Va.
 Eagle District Gas Co., Clarksburg, W. Va.
 White Top Oil & Gas Co., Clarksburg, W. Va.
 Clarksburg Special, Clarksburg, W. Va.

Columbia Gas and Electric Co., Huntington.

(For capitalization and bonds, see Appendix.)

President, Arthur B. Leach.

Vice-presidents, W. Y. Cartwright and W. W. Freeman.

Secretary and treasurer, T. F. Wickham.

Asst. sec'y and asst. treas., A. Sherlock.

Pur. agent, C. J. Bauer.

Superintendent, J. P. McCloskey.

COMPANIES CONTROLLED.

Union Gas and Electric Co., Cincinnati, Ohio.
 Owns 51 per cent interest in The United Fuel Gas Co. Charleston, W. Va.

Operates under lease various public utility companies, including Union Light, Heat and Power Co., Covington, Ky.; South Covington and Cincinnati Street Railway Co.; Cincinnati, Newport and Covington Street Railway Co.

(For detailed information see Appendix.)

Martinsburg and Charles Town (W. Va.) Gas and Water Co., Martinsburg.

Corporate office, Martinsburg, W. Va.; general manager's office, Millville, N. J.

Capital stock, auth., \$300,000; issued, \$1,000.

Bonds, \$300,000; due 1949; int., 6 p. c.

Receiver, Leon H. Ware.

Vice-president, S. J. Franklin.

Secretary and treas., Walter Owen.

Pur. agent and supt., Leon H. Ware.

Gen. manager and engineer, S. J. Franklin, (Millville, N. J.)

Supt., Leon H. Ware (Martinsburg, W. Va.)

COMPANIES OPERATED.

Martinsburg (W. Va.) Gas Co.

Charles Town (W. Va.) Gas and Water Co.

WISCONSIN.

Wisconsin-Minnesota Light and Power Co., Eau Claire.

For data re-capitalization and bonds, see Appendix.)

President, Joseph H. Brewer.

Vice-presidents, W. B. Parsons, P. D. Kline.

Secretary, Blaine Gavett.

Asst. sec'y and asst. treas., W. J. Ripley.

Treasurer, C. A. Boalt.

Pur. agent, Blaine Gavett.

Engineer, V. S. Hillyer.

PLANTS OPERATED.

* Wis.-Minn. Lt. & Power Co.	La Crosse, Wis.
* " " " " "	Eau Claire, Wis.
* " " " " "	Chippewa F., Wis.
* " " " " "	Red Wing, Minn.
" " " " "	Winona, Minn.
" " " " "	Menomonie, Wis.
" " " " "	Ellsworth, Wis.
" " " " "	Neillsville, Wis.
" " " " "	Sp'g Valley, Wis.
" " " " "	Elmwood, Wis.
" " " " "	Rice Lake, Wis.
" " " " "	Sparta, Wis.
" " " " "	Tomah, Wis.
" " " " "	Viroqua, Wis.
" " " " "	Alma, Wis.
" " " " "	Glenwood, Wis.
" " " " "	Downing, Wis.

Wisconsin Securities Co., Milwaukee.

Office, 1410 First Nat'l Bank Bldg.

Capital stock, \$1,300,000.

Annual dividend, 6 p. c.

President, Clement C. Smith.

Vice-presidents, O. C. Fuller, Wm. Bigelow.

Secretary and treas., Howard Greene.

COMPANIES OPERATED.

Wisconsin Public Service Co., Green Bay, Wis.

Wisconsin Ry. Light and Power Co., Winona, Minn., and La Crosse, Wis.

Sheboygan Gas Light Co., Sheboygan, Wis.

Manitowoc & Northern Traction Co., Manitowoc, Wis.

Calumet Service Co., Chilton, Wis.

WYOMING.

Glen Rock Oil Co., Casper.

Capital. auth., \$10,000,000; outstanding, \$7,847,630.

President, R. G. Taylor.

Vice-president, R. E. Megargel.

Secretary, B. H. Pelton.

Asst. secretary, J. H. Rogers.

Treasurer, C. N. Jones.

Asst. treas., Hon. Patrick Sullivan.

COMPANIES CONTROLLED.

Pilot Butte Oil Co.

Hall Oil Co.

Glenrock Petroleum Co.

Superior Petroleum Co.

CANADA.

British Columbia Electric Ry., Ltd., Vancouver, B. C.

Capital, auth., £5,000,000; issued, £4,320,000.

Debentures, £3,103,470; int., 4.5 and 4.25 p. c.

Chairman, R. M. Horne-Payne.

General manager, Geo. Kidd.

*Gas plants.

Recording Calorgraph automatically and constantly records the calorific power of any gas in gross or net heat units, with 60-day or 24-hour charts. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Asst. gen'l manager, W. G. Murrin.
Solicitor, V. Laursen.
Publicity agent, James Lightbody.
Supt. traffic, W. Dinsmore.
Secretary (Vancouver), J. V. Armstrong.
Comptroller, W. Saville.
Purchasing agent, P. Lewis.

COMPANIES OPERATED.

Vancouver Gas Co., Vancouver, B. C.
Victoria Gas Co., Victoria, B. C.
Vancouver Power Co.
Vancouver Island Power Co.

Dominion Gas Co., Hamilton, Ont.

General office, 60 Wall Street, New York City.
(For data, re capitalization and bonds, see Appendix.)

President, Frank W. Frueauff.
Vice-pres., Louis F. Musil.
Sec'y and treas., E. H. Johnston.

COMPANIES CONTROLLED.

Beaver Oil and Gas Co., Ltd., Kingsville, Ont., Can.
Brantford Gas Co., Brantford, Ont., Can.
Dominion Natural Gas Co., Ltd., Hamilton,
Ingersoll Gas Light Co., Ltd., Ingersoll, Ont., Can.
United Gas Cos., Ltd., St. Catherines, Ont., Can.
Woodstock Gas Light Co., Woodstock, Ont., Can.

Ottawa Light, Heat and Power Co., Limited, Ottawa, Ont.

Office, 35 Sparks St.
(For financial data, see Appendix.)
President, T. Ahearn.
Vice-president, Hon. E. H. Bronson.
Secretary and treas., D. R. Street.
Asst. sec'y, and asst. treas., F. W. Fee.

COMPANIES CONTROLLED.

Ottawa Electric Co., Ottawa, Ont.
Ottawa Gas Co., Ottawa, Ont.

Rio de Janeiro Tramway Light and Power Co., Ltd., Toronto, Ont.

Office, 36 Toronto Street.
(For financial data, see Appendix.)
President, Alex. Mackenzie.
Secretary and treasurer, J. M. Smith.
Pur. agent, The Pearson Engineering Corporation, 115 Broadway, New York City.
Gen. manager, C. A. Sylvester.

GAS COMPANIES OPERATED.

Societe Anonyme du Gaz, de Rio de Janeiro.

Hydro-Electric Power Commission of Ontario, The, Toronto, Ont.

Office, 190 University Ave.
Commissioners:
Col. Sir Adam Beck, K. B., L.L. D.
Hon. I. B. Lucas.
Col. W. K. McNaught.
Secretary W. W. Pope.
Chief engineer, F. A. Gaby.

COMPANIES CONTROLLED.

Seymour Power and Electric Co., Ltd.
Peterborough Light and Power Co.
Peterborough Radial Railway Co.
Auburn Power Co. of Peterborough, Ltd.
Trenton Electric and Water Co.
Light, Heat and Power Co. of Lindsay, Ltd.
Port Hope Electric Light and Power Co., Ltd.
Otonabee Power Co., Ltd.
Sidney Electric Power Co., Ltd.
Nipissing Power Co., Ltd.
Oshawa Electric Light Co., Ltd.
Cobourg Utilities Corp., Ltd.
Napane Gas Co., Ltd.
Napane Water and Electric Light Co., Ltd.
Central Ontario Power Co., Ltd.
Tweed Electric Light and Power Co., Ltd.
Eastern Power Co., Ltd.

Acetylene Construction Co., Ltd., Montreal, Que.

Office, Power Bldg., 83 Craig St., W.
Capital stock, auth. and issued, \$10,000.
Annual dividend, 7 p. c.
President, Howard Murray.
Vice-president, D. D. McTavish.
Sec'y and treas., W. S. Hart.
General manager, D. D. McTavish.

COMPANIES OPERATED.

Massey (Ont.) Light, Heat and Power Co.
Morris (Man.) Gas Co.
Rosthern (Sask.) Light, Heat and Power Co.
Hamiota (Man.) Gas Co.
Harriston (Ont.) Light, Heat and Power Co.

Alabama Traction, Light and Power Co., Montreal, Quebec.

Principal office, 20 Guardian Building.
(For information regarding capitalization, bonds, etc., see Appendix.)
President, James Mitchell.
Vice-pres., Lawrence Macfarlane.
Secretary and treas., W. J. Henderson.

COMPANIES OPERATED.

Alabama Power Co.

Quebec Railway, Light, Heat and Power Co., Ltd., Quebec, Que.

Capital stock, auth., \$10,000,000; issued, \$9,999,500.
Bonds outstanding, \$12,713,300 int., 5 and 6 p. c.; due, 1939, 1941, 1942.
President, Sir Rod. Forget, M. P.
Vice-president, L. C. Webster.
Secretary, Arthur Le Moine.
Treasurer, R. A. Wilson.
Purchasing agent, H. G. Bosse.
General manager, W. J. Lynch.
Supt. and engr., gas div., R. A. Wallace.

COMPANIES OPERATED.

The Quebec Railway, Light & Power Co.
Quebec-Jacques Cartier Electric Co.
The Canadian Electric Light Co.
Quebec Gas Company.
Frontenac Gas Company.
Lotbiniere and Megantic Railway.
Quebec County Railway.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street **PHILADELPHIA, PA.**

PUBLIC SERVICE COMMISSIONS

(Only those having jurisdiction over gas and electric companies.)

ALABAMA.

Alabama Public Service Commission, Montgomery.

Commissioners:

Sam P. Kennedy, President.

B. H. Cooper.

S. P. Gaillard.

Secretary, Atticus Mullin.

Rate clerk, T. L. Jennings.

Consulting engineer, T. W. Nicol.

Meetings held first Monday in each month, and at such other times as, in the judgment of the Commission, is necessary.

ARIZONA.

Arizona Corporation Commission, Phoenix.

Office, Capitol Building.

Commissioners:

F. A. Jones, Chairman.

A. W. Cole.

Amos A. Betts.

Secretary, Sam W. Proctor.

Engineer, Ben Ferguson.

The Commission meets every day from 9 a. m. to 5 p. m.; executive sessions held Tuesdays and Fridays at 3 o'clock p. m.

CALIFORNIA.

Board of Public Utilities, Los Angeles.

Office, 23 City Hall.

Commissioners:

Fulton Lane, President.

Augustine W. Wright.

Robert E. Wirsching.

Secretary, H. S. Payne.

The Board meets Mondays and Thursdays at 1:30 p. m. Special meetings held upon written call of President or two members.

Railroad Commission of the State of California, San Francisco.

Office, 833 Market Street.

Commissioners:

Max Thelen, President.

H. D. Loveland.

Alex. Gordon.

Edwin O. Edgerton.

Frank R. Devlin.

Secretary, Charles R. Detrick.

Rate expert, W. P. Geary.

Chief engineer, R. Sachse.

Auditor, L. R. Reynolds.

Bond expert, W. C. Fankhauser.

Attorney, Douglas Brookman.

The Commission meets every day between the hours of 9 a. m. and 5 p. m.

COLORADO.

The Public Utilities Commission of the State of Colorado, Denver.

Office, Capitol Building.

Commissioners:

George T. Bradley, Chairman.

Leroy J. Williams.

A. P. Anderson.

Secretary Geo. A. Flannigan.

Meetings are held daily at 10 a. m.

CONNECTICUT.

Public Utilities Commission, State of Conn., Hartford.

Commissioners:

Richard T. Higgins, Chairman.

Joseph W. Alsop.

C. C. Elwell.

Secretary, Henry F. Billings.

Hearings assigned and meetings held for the purpose of disposing of petitions, complaints, etc., on each day except Saturday.

DELAWARE.

City of Wilmington, Delaware, Board of Public Utility Commissioners, Wilmington.

Office, Mayor's office, City Hall.

Commissioners:

Richard C. McMullen, President.

C. D. Garretson.

Philip J. Isaac.

J. Franklin Mock.

Clarence R. Holt.

Secretary, Jas. A. Gorry.

Commission meets upon call of the President.

DISTRICT OF COLUMBIA.

Public Utilities Commission of the District of Columbia, Washington.

Office, Room 309 District Bldg., 14th Street and Pennsylvania Avenue, N. W.

Commissioners:

Louis Brownlow, Chairman.

Brig.-Gen. John G. D. Knight, U. S. A. (retired).

W. Gwynn Gardiner.

Gen. counsel, Conrad H. Syme.

Executive secretary, Walter C. Allen.

Chief clerk, E. B. Hartley.

Accountant, Earl V. Fisher.

Engineer, J. Kappeyne.

Inspector of gas and meters, E. G. Runyan.

Inspector of electric meters, J. P. Schrodt.

Gas Inspection Bureau, Hutchins Bldg., 10th and D Sts., N. W.

Commission meets upon call of the Chairman.

THERMOMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

We carry in stock calorimeter, prover and condenser thermometers of the highest grade.

GEORGIA.**Railroad Commission of Georgia, Atlanta.**

Office, State Capitol.

Commissioners:

Chas. Murphey Candler, Chairman.

Geo. Hillyer, Vice-Chairman.

John T. Boifeuillet.

Paul B. Trammell.

James A. Perry.

Secretary, Albert Collier.

Rate expert, J. Prince Webster.

Regular meetings held second and fourth Tuesday of each month, beginning at 10 a. m. and continuing until all business is disposed of.

IDAHO.**State of Idaho Public Utilities Commission, Boise.**

Members:

John W. Graham, President.

A. L. Freehafer.

Geo. E. Erb.

Secretary, E. G. Gallet.

Office open every day, legal holidays and non-judicial days excepted. The regular monthly meeting held on the first Tuesday of each month at 10:30 a. m.

ILLINOIS.**Public Utilities Commission of Illinois, Springfield.**

Chicago office, 714 Insurance Exchange Bldg.

Commissioners:

Thomas E. Dempcy, Chicago, Chairman.

Fred H. Funk.

Walter A. Shaw.

Fred E. Sterling.

P. J. Lucey.

Secretary, R. V. Prather, Springfield.

Asst. sec., G. E. Doying, Springfield.

Chief Engineer, Frank G. Ewald, Springfield.

Chief Acct. and Stat., M. J. Murphy, Springfield.

Meetings held at Springfield the first and third Monday of each month; at Chicago office, the second and fourth Monday of each month.

INDIANA.**Public Service Commission of Indiana, Indianapolis.**

Office, State House.

Commissioners:

E. I. Lewis, Chairman.

Charles A. Edwards.

Edwin Corr.

J. W. McCordle.

Paul P. Haynes.

Secretary, Carl H. Mote.

KANSAS.**Public Utilities Commission, Topeka.**

Commissioners:

Joseph L. Bristow, Chairman.

John M. Kinkel.

C. F. Foley.

Secretary, Carl W. Moore.

Regular sessions begin on Monday at 11 a. m. and continue until the business before the Commission is completed.

LOUISIANA.**Department of Conservation, New Orleans.**

Office, New Orleans Court Building.

Commissioner, M. L. Alexander.

Secretary, Sherard Brisbane.

(In control of game, fish, forest, mineral, oil and gas resources of the State.)

MAINE.**Public Utilities Commission, Augusta.**

Commissioners:

Benjamin F. Cleaves, Chairman.

William B. Skelton.

John E. Bunker.

Clerk, George F. Giddings.

Asst. clerk, Roy F. Leach.

Chf. engineer, Paul L. Bean.

Asst. engineer, A. L. McAlary.

Chf. inspector, Elmer E. Parkman.

Chf. accountant, Ralph A. Parker.

Chf. of rates and schedules, F. J. McArdle.

Meetings held regularly Tuesday of each week at 10 a. m. Commission in session daily except Saturday.

MARYLAND.**The Public Service Commission of Maryland, Baltimore.**

Office, Munsey Building, S. E. corner Calvert and Fayette Streets.

Commissioners:

Albert G. Towers, Chairman.

E. Clay Timanus.

John Milton Reifsnider.

Secretary, Benj. T. Fendall.

General counsel, W. Cabell Bruce.

Asst. gen'l counsel, Osborne I. Yellott.

Commission in session daily.

MASSACHUSETTS.**State Board of Gas and Electric Light Commissioners, Commonwealth of Massachusetts, Boston.**

Office, 15 Ashburton Place.

Commissioners:

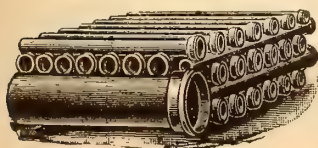
Alonzo R. Weed, Chairman.

Gen. Morris Schaff.

Solomon Lewenberg.

Clerk, Robert G. Tobey.

Meetings are not held regularly, but the clerk and one or more members are at the office every day.

**CAST IRON PIPE**

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

PUBLIC SERVICE COMMISSIONS

MICHIGAN.**Michigan Railroad Commission, Lansing.**

Oakland Building.

Commissioners:

Cassius L. Glasgow, Chairman.

C. S. Cunningham.

Addison A. Keiser.

Secretary, Willard N. Sweeney.

Meetings are held each day of the week, except Mondays and Saturdays.

MISSISSIPPI.**Mississippi Railroad Commission, Jackson.**

(No jurisdiction over gas companies).

MISSOURI.**Public Service Commission of Missouri, Jefferson City.**

Commissioners:

William G. Busby, Chairman.

Edwin J. Bean.

David E. Blair.

Noah W. Simpson.

Edward Flad.

Secretary, T. M. Bradbury.

General counsel, Alex. Z. Patterson.

Asst. general counsel, James D. Lindsay.

Commission has no regular session days, but is constructively in session every day.

MONTANA.**State of Montana Railroad and Public Service Commissioners, Helena.**

Office, State Capitol.

Commissioners:

Daniel Boyle, Chairman.

J. H. Hall.

J. E. McCormick.

Chas. P. Cotter, Secretary.

Sessions of the Board held nearly every day; no regular day appointed.

NEBRASKA.**Nebraska State Railway Commission, Lincoln.**

Office, State House.

Commissioners:

T. L. Hall, Chairman.

H. G. Taylor.

V. E. Wilson.

Secretary, T. A. Browne.

Regular session, Monday of each week.

Special meetings are held during the week as occasion may require. Jurisdiction over gas and gas-electric companies only in issuance of stocks and bonds.

NEVADA.**Public Service Commission of Nevada, Carson City.**

Commissioners:

H. F. Bartine, Chairman.

J. F. Shaughnessy.

W. H. Simmons.

Secretary, E. H. Walker.

Chief engineer, F. O'Broili.

The Commission meets on Saturday of each week.

NEW HAMPSHIRE.**Public Service Commission of New Hampshire, Concord.**

Office, State House.

Commissioners:

Edward C. Niles, Chairman.

Wm. T. Gunnison.

Thos. W. D. Worthen.

Clerk, W. H. Timm.

Asst. clerk, Alma E. Wilson.

Chief engineer, John W. Storrs.

NEW JERSEY.**State of New Jersey Board of Public Utility Commissioners, Trenton.**

Office, State House.

Branch office, 790 Broad street, Newark, N. J.

Commissioners:

Ralph W. E. Donges, Chairman.

John W. Slocum.

Alfred S. March.

Geo. F. Wright.

Secretary, Alfred N. Barber.

Regular meetings on Tuesday of each week, at Trenton; Mondays and Wednesdays, in Newark.

NEW MEXICO.**State Corporation Commission of New Mexico, Santa Fe.**

(No jurisdiction over gas companies).

NEW YORK.**State of New York Public Service Commission, First District, New York.**

Office, 49 Lafayette street, New York City.

Commissioners—First District:

Oscar S. Straus, Chairman.

Travis H. Whitney.

Charles S. Hervey.

F. J. H. Kracke.

Chas. Bulkley Hubbell.

Secretary, James B. Walker.

Counsel, William L. Ransom.

Chief gas engineer, W. F. Hine.

Commission meets every Wednesday, at 11 a. m.

State of New York Public Service Commission, Second District, Albany.

Commissioners—Second District:

Chas. B. Hill, Chairman.

Frank Irvine.

Jerome L. Cheney.

John A. Barhite.

Thomas F. Fennell.

Secretary, Francis X. Disney.

Asst. secretary, Frances E. Roberts.

Counsel, Ledyard P. Hale.

Executive clerk, Edw. C. McEntee.

ULCO LEAD WOOL FOR SAFETY**IN ROPE FORM****UNITED LEAD COMPANY****111 BROADWAY, NEW YORK**

NORTH CAROLINA.**North Carolina Corporation Commission, Raleigh.****Commissioners:**

E. L. Travis, Chairman.

W. T. Lee.

Geo. P. Pell.

Clerk, A. J. Maxwell.

Meetings are held daily, 9 a. m. to 5 p. m.

OHIO.**The Public Utilities Commission of Ohio, Columbus.**

Office, State Office Building.

Commissioners:

Charles C. Marshall, Chairman.

B. W. Waltermire.

Byron M. Clendenen.

Gas Expert, C. V. Critchfield.

Secretary, Harry L. Goodbread.

Auditor and statistician, E. H. Hanna.

Asst. secretary, D. S. Archer.

Attorney, C. A. Radcliffe.

The Commission meets daily in its offices at 10 a. m.

OKLAHOMA.**Corporation Commission of Oklahoma, Oklahoma City.**

Office, State Capitol.

Commissioners:

J. E. Love, Chairman.

W. D. Humphrey.

Campbell Russell.

Secretary, J. H. Hyde.

The Commission meets at 10 a. m. every day, and on the second Tuesday of each month has regular hearings. Special hearings are had as may be necessary between regular terms.

OREGON.**Public Service Commission of Oregon, Salem.**

Office, State Capitol.

Commissioners:

Frank J. Miller, Chairman.

Hylan H. Corey.

Fred G. Buchtel.

Secretary, Ed. Wright.

Commission under the statutes is in continuous session during business hours. Hearings held any time a quorum is present.

PENNSYLVANIA.**The Public Service Commission of the Commonwealth of Pennsylvania, Harrisburg.**

Office, State Capitol.

Commissioners:

W. D. B. Ainey, Chairman.

(Vacancy.)

Milton J. Brecht.

(Vacancy)

John S. Rilling.

James Alcorn.

Michael J. Ryan.

Secretary, Archibald B. Millar.

Counsel, Berne H. Evans.

Chief, Bureau of Engineering, F. Herbert Snow.

Chief Bureau of Rates and Tariffs, H. E. Ehlers.

Chief, Bureau of Accts. and Statistics, Coleman J. Joyce.

Regular meetings are held the first, second and third Monday of each month and at such other times as the business before the Commission may require.

RHODE ISLAND.**Public Utilities Commission of the State of Rhode Island, Providence.**

Office, Room, 122 State House.

Commissioners:

William C. Bliss, Chairman.

Samuel E. Hudson.

Robert F. Rodman.

Secretary, John W. Rowe.

Regular meetings are held Wednesday at 11 o'clock a. m.

VERMONT.**Public Service Commission of Vermont, Brattleboro.**

Offices in Montpelier and Brattleboro.

Commissioners:

Robert C. Bacon, Chairman, Brattleboro.

William R. Warner, Vergennes.

Walter A. Dutton, Hardwick.

Clerk, Neil D. Clawson, Brattleboro.

Meetings called as occasion requires.

VIRGINIA.**State Corporation Commission, Commonwealth of Virginia, Richmond.****Commissioners:**

Christopher B. Garnett, Chairman.

Wm. F. Rhea.

J. Richard Wingfield.

Clerk, Richard T. Wilson.

Meetings held daily except Sundays and legal holidays at 9 a. m.

WASHINGTON.**Public Service Commission of Washington, Olympia.****Commissioners:**

E. F. Blaine, Chairman.

Arthur A. Lewis.

Frank R. Spinning.

Secretary, J. H. Brown.

Office of Commission is open daily except holidays from 8 a. m. to 5 p. m.

WEST VIRGINIA.**State of West Virginia Public Service Commission, Charleston.****Commissioners:**

E. F. Morgan, Chairman.

E. G. Rider.

Geo. R. C. Wiles.

Secretary, R. B. Bernheim.

Monthly sessions 2nd Tuesday of each month at 2 p. m. Daily sessions when necessary.

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES

METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for
Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York



WISCONSIN.**Railroad Commission of Wisconsin, Madison.**

Office, Capitol Building.

Commissioners:

Carl D. Jackson, Chairman.

Henry R. Trumbower.

John S. Allen.

Secretary, Harold L. Geisse.

Office open daily, 8:30 a. m. to 5 p. m.

WYOMING.**Wyoming Public Service Commission, Cheyenne.**

Acting Gov., Frank L. Houx, Chairman.

State Auditor, Robt. B. Forsyth.

State Treas., H. B. Gates.

Secretary, H. A. Floyd.

PHILIPPINE ISLANDS.**Public Utility Commission, Manila.**

Commissioner:

Judge Mariano Cui.

Secretary, Atty. Francisco Villamueva, Jr.

CANADA.**Public Utilities Commission, Edmonton, Alberta.**

Chairman, Hon. G. H. V. Bulyea.

Commissioners:

A. A. Carpenter.

Secretary, James E. Reilly.

Meetings are held every Tuesday at 10 a. m.

Public Utilities Commission, Winnipeg, Manitoba.

Office, 201 Tribune Building.

Commissioner, P. A. Macdonald.

Secretary, A. W. Smith.

Elec. engineer, G. L. Guy.

Gas engineer, Hugh McNair.

Inspector, F. H. Wall.

Applications heard on Tuesdays and Fridays.
at 10:30 a. m., or by special leave.**New Brunswick Board of Commissioners of Public Utilities, Fredericton, New Brunswick.**

Clerk's office, Fredericton, N. B.

Commissioners:

Geo. O. Dickson Otty, K.C., Chairman.

A. B. Connell, K. C.

Felix Michaud.

Clerk, Fred P. Robinson, Fredericton, N. B.

Regular meetings, fourth Wednesday in
every month, at Government Rooms, St.
John, N. B.**Board of Commissioners of Public Utilities, Halifax, Nova Scotia.**

Office, Technical College Building.

Commissioners:

John U. Ross, K. C., Chairman.

Robert T. MacIlreith, K. C.

Parker R. Colpitt.

Secretary, Miss L. B. Taylor.

Meetings held first Tuesday in each month,
at 10 a. m.**Ontario Railway and Municipal Board, Toronto, Ontario.**

Offices, Legislative Buildings.

Commissioners:

D. M. McIntyre, K. C., Chairman.

A. B. Ingram, Vice-Chairman.

Secretary, H. C. Small.

Quebec Public Utilities Commission, Quebec, Que.

Office, Court House.

F. W. Hibbard, K. C., President.

Sir George Garneau.

F. C. Laberge.

M. Jos. Ahern, Secretary.

Regular meetings held the last Tuesday of
every month at Quebec.**THE SCIENTIFIC SAFETY GARAGE HEATER**

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

SANDERSON & PORTER

ENGINEERS

CHICAGO**NEW YORK****SAN FRANCISCO**

IOWA.

Creston Gas and Electric Co., Creston.

Price of gas: Gross, \$1.85; net, \$1.75.

NEW YORK.

Kings County Lighting Co., Brooklyn.

(For capitalization, etc., see Appendix.)
 President, F. M. Tait.
 Vice-president, Elton Parks.
 Sec'y and treas., W. M. Flook.
 Asst. sec'y, J. I. Blanchard.
 Asst. treas., Paul Bucher.
 General manager, Ralph Elsmen.
 Process manufacture, Lowe (Williamson).
 Candle-power, 22.5.
 Miles of mains, approx., 190.
 Total gas holder capacity, 2,700,000 c. f.
 Annual sales, approx., 1,000,000,000 c. f.
 Gas unaccounted for, 14 p. c.
 Pop. dist. supplied, 130,000; of borough
 (1910), 1,634,351.
 No. meters, regular, 37,000.
 Price of gas: Light and Fuel, 95c.

No. public Welsbach incand. lamps, 3,500.
 No. hours each lamp is lighted per year, 3,950.
 Supplies 30th ward of Brooklyn.

OHIO.

Sandusky Gas and Electric Co., Sandusky.

ELECTRICAL DEPARTMENT.

Capital apportioned to electric plant, \$900,000.
 System: A. C., 60 cycles, 3 phase.
 Generating capacity: Lighting and power,
 2,600 kw.
 City lighting contract: Hours lighted, incand.,
 4,000.
 No. public incand., 1,360; 60-100-250 c. p.
 Prices per year, per lamp, \$32.50, \$21, \$13,
 \$16.
 Price, domestic, per kw. hr., 1c., 6c., 5c.
 Power circuits: No. motors, 600; price per
 kw. hr., 7c. down.
 Output of station, kw. hrs., total for year,
 6,683,595.
 Generating power used. Steam: rated, 1,500
 B.h.p.
 Cost of station boiler coal per ton, \$4.98.

HUNT COAL AND COKE VALVES—simplex, duplex, Seaton or
 "S," Briggs, etc., especially designed for controlling coal and coke, movement in gas works
 are described in detail in Catalogue N15-3.
C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

H. M. BYLLESBY & COMPANY

ENGINEERS AND MANAGERS

NEW YORK
 Trinity Bldg.

TACOMA, WASH.
 Gas Bldg.

CHICAGO

208 So. La Salle Street

Purchase, Finance, Design, Construct
 and Operate Electric Light, Gas, Street
 Railway and Water Power Properties

EXAMINATIONS AND REPORTS

Utility Securities Bought and Sold

High and Low Prices of Gas and Gas-Electric Securities for the Year 1917.

(Not guaranteed, but reported by brokers who deal in the securities, and believed to be nominally correct.)

STOCKS.				STOCKS.			
Par.	High.	Low.	Div. Pay.	Par.	High.	Low.	Div. Pay.
American Cities Co. Com.	100	15	.....	Middle West Utilities Pref.	100	78	Low.
American Cities Co. Pref.	100	56	.....	Newark (N. J.) Consolidated Gas	100	57	57
American Gas & Elec. Co. Com.	50	143	.....	Northern States Power Co. (Minn.) Pref.	100	96	88
American Gas & Elec. Co. Pref.	50	50	.....	Northern States Power Co. (Minn.) Com.	100	100	85
American Light & Traction Co. Com.	100	121	.....	Ohio Cities Gas Co.	25	143 3/4	31 3/4
American Light & Traction Co. Pref.	100	385	.....	Oklahoma Natural Gas	25	30	25
American Power & Light Co. Com.	100	115 1/8	.....	Old Colony Gas Co. Pref.	100	103	100
American Power & Light Co. Pref.	100	91	.....	Pacific Gas & Electric Co. Com.	100	69 1/2	30 1/2
American Public Utilities Co. (Mich.) Com.	100	56	.....	Pacific Gas & Electric Co. Pref.	100	94 1/2	79
American Public Utilities Co. (Mich.) Pref.	100	73 1/2	.....	Paducah (Ky.) Trac. & Lt. Co. Pref.	100	10	10
Baton Rouge (La.) El. Co. Pref.	100	91	.....	Patterson & Pausale Gas & Elec. Co.	100	91	85
Blackstone Valley Gas & El. Co. Pref.	100	106	.....	Peoples Gas Light & Coke Co. (Chicago)	100	94	94
Brooklyn Union Gas Co.	100	129	.....	Philadelphia Co. Com.	100	106 1/4	35
Carolina Power & Light Co. Com.	100	47	.....	Philadelphia Co. Pref.	50	42	24 1/2
Cities Service Co. Com.	100	325	.....	Pittsburgh Oil & Gas Co.	50	43	28
Cities Service Co. Pref.	100	95	.....	Portland (Ore.) Gas & Coke Co. Pref.	100	17 3/4	4 3/4
Columbia Gas & El. (Ohio)	25	47 3/4	.....	Public Service Corp. of N. J.	100	104	98
Columbia Gas & El. Pref.	100	85	.....	Public Service Co. of No. Ill. Com.	100	130	97
Columbus (Ga.) El. Co. Pref.	100	85	.....	Public Service Co. of No. Ill. Pref.	100	114	70
Commonwealth Power, Ry. & Lt. Co. Com.	100	85	.....	Public Service Investment Co. Pref.	100	87	80
Commonwealth Power, Ry. & Lt. Co. Pref.	100	85	.....	Railway & Light Securities Co. Com.	100	94	90
Connecticut Power Co. Pref.	100	96	.....	Railway & Light Securities Co. Pref.	100	99	90 1/4
Consolidated Gas Co. New York	100	134 3/4	.....	Somerset, Union & Middlesex Ltd. Co.	100	73	65
Consolidated G. E. L. & P. Co. (Balt.) Com.	100	127	.....	Southern California Edison Co. Com.	100	78	78
Consolidated G. E. L. & P. Co. (Balt.) Pref.	100	8	.....	Southern California Edison Co. Pref.	100	130	93
Electric Bond & Share Co. Pref.	1000	101	.....	South Jersey Gas, Elec. & Trac. Co.	100	130	120
Empire Dist. El. Co. Pref.	100	91	.....	Standard Gas & Electric Co. Com.	50	14 3/4	5
Essex & Hudson Gas Co.	100	135	.....	Standard Gas & Electric Co. (Dela.) Pref.	50	41 3/4	19
Fall River (Mass.) Gas Co.	100	206 3/4	.....	United Gas Improvement Co.	50	91 1/2	62 1/2
Gas & El. Co. of Bergen County	100	91	.....	Utah Securities Corp. Com.	100	24 3/4	9 3/4
Gas & El. Securities Co. Com.	100	325	.....	Worcester (Mass.) Gas Light Co.	100	210	115
Gas & El. Securities Co. Pref.	100	98	.....	NOTES.			
General Gas & El. Co. Pref.	100	99	.....	American Gas Co. 6%	Due.	High.	Low.
General Gas & El. Co. Conv. Pref.	100	99	.....	Utah Securities Corp. 6%	1919	98	96
Hudson County Gas Co.	100	134	.....	BONDS.			
Illinois Northern Utilities Pref.	100	85	.....	Adirondack El. Power 1st m. 58	Due.	High.	Low.
Laclede Gas Light Co. Com.	100	103 3/4	.....	Alabama Power Co. 58	1962	100	86
Lone Star Gas Co.	100	53	.....	Allentown (Pa.) Gas Co. 58	1946	98	86
Manufacturers Lt. & Ht. Co.	100	100	.....	American Gas (Phila.) non-con. col. tr. 58	1924	102	98
Massachusetts Gas Co. Com.	50	73 3/4	.....	American Power & Light deb. 68	1920	94	93
Massachusetts Gas Co. Pref.	100	100 1/2	.....	Ashville (N. C.) Power & Lt. 1st m. 58	2016	92	75
Massachusetts Lighting Cos. Com.	100	81	.....	Associated Gas El. 1st C. T. 58	1942	92	85
Massachusetts Lighting Cos. Pref.	100	99	.....	Atlanta (Ga.) Gas Lt. 1st g. 58	1939	92	86
Michigan Light Co. Pref.	100	99	.....	Atlantic City (N. J.) Gas 1st g. 58	1947	100	95
				Birmingham Ry., Lt. & Pr. ref. mtg. 4 1/2 s.	1960	45	38
				Blackstone Val. Gas & El. col. tr. g. 58	1954	91 1/2	82 1/4
				Boise (Idaho) Gas Lt. & Coke Co. 1st 58	1939	101	101
				Brandon Gas & Power 1st m. 68	1941	90	75
				Brooklyn Boro Gas gen. 58	1929	95	85
				Brooklyn Union Gas 1st con. g. 58	1945	95	80
					1945	107 1/2	96

* Also 2% semi-annually in common stock.

† Cities Service Common pays 6% in cash and 9% par value of common stock annually, dividends being paid monthly. Cities Service Preferred pays 1/2 of 1% monthly or an annual rate of \$6 a share.

§ Retired at 120.

GAS EXHAUSTERS

For Water Gas Sets



GAS BOOSTERS

For Industrial Appliances

HIGH AND LOW PRICES OF SECURITIES OF GAS COMPANIES. 529

BONDS.		Due.	High.	Low.
California G. & E. Corp. m. & ref. g. 58.	1927	101	90 1/2	90
Central Ark. Ry. & Light Corp. 1st 58.	1928	91	88	86
Central Ill. Pub. Serv. 1st ref. 58.	1929	90	74	74
Central Maine Pr. 1st m. 58.	1932	99 1/2	85	83
Chester County (Pa.) Gas 58.	1933	102 1/2	93	86
Chicago Gas Lk. & Coke 1st gtd. 58.	1937	103 3/8	97 1/4	94
Cincinnati Gas & El. 1st & ref. 58.	1942	101	90	88
Citizens Gas Co. (Indianapolis) 1st 58.	1934	101 1/2	104	104
City Gas Co. of Norfolk 1st 68.	1926	91	75	75
Columbia Gas & El. 1st 58.	1927	91	82	82
Commonwealth Pr. Ry. & Lt. 1st 58.	1936	96	82	82
Con. Gas. El. Lt. & Pr. of Balt. conv. 58.	1918	108 1/4	101 1/2	101 1/2
Con. Gas. El. Lt. & Pr. of Balt. 58.	1921	106 1/4	99	99
Con. Gas Co. of Balt. con. g. 4 1/2 58.	1939	96 1/2	83 1/2	83 1/2
Con. Gas. El. Lt. & Pr. of Balt. gen. g. 4 1/2 58.	1954	93 5/8	75	75
Con. Gas Co. (Chicago) 1st gtd. g. 58.	1935	101 3/8	100	100
Con. Gas Co. of N. Y. (See N. Y. G. El. Lt. & Pr.)	1936	101 3/8	100	100
Con. Gas of N. Y. conv. 68.	1920	129	98 1/2	98 1/2
Con. Gas Co. (Pittsburgh) 1st 58.	1948	30	20	20
Consumers Power Co. (Mich.) 1st & ref. g. 58.	1936	100	87	87
Continental Gas & El. Corp. 1st lien col. tr. 58.	1927	93	80	80
Dayton (Ohio) Gas 58.	1930	100	92	92
Detroit City Gas prior lien g. 58.	1923	101 1/4	97	97
Economy Lt. & Pr. 1st 58.	1956	..	85	85
Emira (N. Y.) Water, Lt. & R. 1st 58.	1956	98	83	83
Equitable Ill. Gas, Philad. g. 58.	1928	..	..	..
Federal Light & Traction 1st lien 58.	1942	..	..	..
Freeport (Ill.) Gas Lt. 58.	1932	90	81	81
Gas County Gas Lt. & Pr. 1st 68.	1929	100	95	95
Gas & El. Co. of Bergen County 1st con. g. 58.	1949	103	95	95
Gas & El. Co. of Bergen County gen. 58.	1954	98 1/2	94	94
General G. & E. (of Maine) 1st lien 58.	1932	65	67	67
Glens Falls (N. Y.) Gas & El. 58.	1919	97	94	94
Harrisburg (Penn.) Gas 1st 58.	1928	102	99	99
Honston (Texas) Gas Co. 1st m. 58.	1920	100	95	95
Hudson County Gas 1st g. 58.	1949	104 1/2	96	96
Illinois Northern Utilities 1st & ref. 58.	1957	88	72	72
Indiana Nat. Gas & Oil ref. 58.	1936	92	89	89
Iowa Ry. & Lt. 1st & ref. 58.	1932	97 1/2	86	86
Jackson (Miss.) Lt. & T. 1st m. 58.	1922	95	84	84
Joplin (Mo.) Gas 68.	1930	..	80	80
Kankakee (Ill.) Gas & El. 1st & ref. 58.	1930	99	92	92
Kingston (N. Y.) Gas & El. Co.	1952	94	80	80
Laclede Gas Light Co. deb. 58.	1919	102 1/2	97 1/2	97 1/2
Little Rock (Ark.) Gas & Fuel ref. m. 68.	1937	103	93	93
Los Angeles Gas & El. 1st & ref. 58.	1939	100	88	88
Louisville (Ky.) Gas & El. 1st m. 68.	1918	101 1/4	98	98
Luzerne County Gas & El. 1st & ref. & imp. 58.	1948	95	80	80
McAlister (Okla.) Gas & Coke 1st m. s. f. 68.	1937	95	80	80
Massachusetts Gas 4 1/2 58.	1929	98 1/2	87	87
Mem. (Fla.) Gas 1st m. 58.	1934	94	85	85
Michigan City Gas & El. 58.	1937	100	93	93
Middle West Utilities 68.	1920	97 1/4	96	96
BONDS.				
Milwaukee (Wis.) Gas Lt. Co. 1st g. 48.	1927	93 3/4	90	90
Minneapolis Gas Lt. 1st 58.	1928	98	86	86
Minnesota Gas & El. 1st 68.	1933	98	90	90
Mobile (Ala.) Gas Co. 1st 58.	1924	98 3/4	83	83
Montana Power Co. 1st & ref. 58.	1943	100 3/4	86	86
Montreal Lt., Ht. & Pr. 1st & col. tr. 4 1/2 58.	1932	95 1/2	82	82
Municipal Gas & El. (Chicago) 1st m. g. 4 1/2 58.	1942	90	80	80
Municipal Fuel Gas (Chicago) 1st gtd. g. 58.	1947	101 1/4	94	94
Nassau & Suffolk Mfg. Co. 1st 58.	1945	93	90	90
National Gas, El. Lt. & Pr. col. tr. 68.	1931	92	90	90
New Amsterdam Gas Co. 1st cons. 58.	1948	106 1/2	98	98
Newark (N. J.) Consol. Gas con. 58.	1944	123	110	110
New Orleans Ry. & Lt. gen. 4 1/2 58.	1935	80	74 1/2	74 1/2
N. Y. Gas, El. Ht. & Pr. 1st g. 58.	1948	105 1/4	97 1/2	97 1/2
N. Y. Gas, El. Lt. & Pr. pur. money col. tr. 48.	1949	88	77 1/2	77 1/2
N. Y. & Rich. Gas Co. 1st 58.	1921	..	..	..
N. Y. & Westchester Ltz. deb. 58.	1954	..	..	..
N. Y. & Westchester Ltz. 48.	2004	65	60	60
Northern California Lt. con. & Northern Indiana G. & E. 58.	1948	82	72	72
Northern States Pr. 58.	1929	93	87	87
Northern States Pr. 68.	1941	95	87	87
Northern Union Gas 1st m. 58.	1926	99	86	86
North Hudson Lt., Ht. & Pr. 58.	1927	101 1/2	100 1/2	100 1/2
Ohio & Western Utilities 1st lien col. tr. 58.	1929	92	85	85
Ohio & Western Utilities 1st lien col. tr. 68.	1929	99	94	94
Oklahoma Gas & El. 1st 58.	1929	99	86	86
Old Colony Gas Co. 1st mtd. 58.	1931	100	95	95
Pacific Gas & El. ref. 58.	1942	93 3/4	80	80
Pacific Lt. & Pr. 1st 58.	1942	100 1/2	92 1/2	92 1/2
Pacific Power & Lt. 1st & ref. g. 58.	1930	95	95	95
Patterson (N. J.) Passaic Gas & El. con. g. 58.	1949	103	95	95
Peoples Gas Lt. & Coke 1st con. g. 68.	1943	115	96	96
Peoples Gas Lt. & Coke ref. g. 58.	1947	102 1/2	89 3/4	89 3/4
Philadelphia Co. conv. deb. 58.	1922	94 1/4	87	87
Philadelphia Sub. G. & E. 1st m. & ref. 58.	1960	100	89	89
Philadelphia Sub. G. & E. 58.	1931	105	100	100
Plainfield (N. J.) Gas & El. 58.	1940	104	98	98
Port Arthur (Texas) Gas & Power 1st 58.	1930	90	82	82
Port Huron (Mich.) Gas & El. 1st 68.	1929	95	87	87
Portland (Ore.) Gas & Coke 1st & ref. g. 58.	1940	98	87	87
Portland (Ore.) Ry., Lt. & Pr. 1st & ref. 58.	1942	72 1/2	72 1/2	72 1/2
Portsmouth (N. H.) Gas 1st 58.	1931	92	84	84
Public Service Co. of No. Ill. 1st & ref. 58.	1956	96 1/4	80	80
Public Service Corp. of N. J. gen. 58.	1959	92 1/2	70	70
Public Service Corp. of N. J. int. bear. 65 certifi.	1959	107 1/2	97	97
Puget Sound Trac., Lt. & Pr. 68.	1919	100 1/2	96	96
Quincy (Ill.) Gas, El. & Htg. 58.	1935	80	75	75
Quincy (Ill.) Gas & Electric 58.	1929	..	85	85
Railway & Light Securities Co. 1st 58.	1935	97 1/4	97 1/4	97 1/4
Railway & Light Securities Co. 2nd 58.	1939	100	98	98
Railway & Light Securities Co. 3rd 58.	1939	102	100	100
Railway & Light Securities Co. 4th 58.	1942	102	96	96
Railway & Light Securities Co. 5th 58.	1950	..	86	86
Rochester Ry. & Lt. cons. m. 58.	1954	101 1/2	88	88
Rochester (N. Y.) Gas, El. Lt. & Pr. 58.	1931	65	85	85
Rutland (Vt.) Ry., Lt. & Pr. 58.	1946	..	65	65

WASH OIL PUMPS

For By-product Coke

Plants



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

BONDS.			
	Due.	High.	Low.
St. Louis County Gas 1st m. 5s.	1951	92½	85
San Diego Cons. G. & E. 1st g. 5s.	1939	96	89½
San Francisco G. & E. gen. m. 4½s.	1953	95	82
San Joaquin Lt. & Pr. 1st 5s.	1945	101½	98
San Joaquin Lt. & Pr. Corp. 1st & ref. 5s.	1950	90	80
Savannah (Ga.) Gas 1st 5s.	1923	105	100
Seattle Lighting ref. 5s.	1949	95	82
Somerset, Union & Middlesex Lig. m. g. 4s.	1943	81	75
Southern California Edison Co. gen. g. 5s.	1939	99½	87
Southern California Edison Co. deb. 6s.	1920	103	95
South Jersey Gas, El. & Trac. 1st 5s.	1953	100	92
Southwestern Pr. & Lt. 1st 5s.	1943	94	83
Standard Gas & El. Co. of Dela. con. s. f. 6s.	1926	102¼	91
Standard Gas Lt. 1st m. 5s.	1930	..	..
Suburban Gas Co., Phila., 1st s. f. g. 5s.	1952	87¼	84
Syracuse (N. Y.) Lt. & Pr. col. tr. g. 5s.	1954	101	97½
Syracuse (N. Y.) Lig. 5s.	1951	101	83
Texas Power & Lt. Co. 1st 5s.	1937	97½	83
Toledo Traction Lt. & Pr. 1st lien 6s.	1918	101	108
Trenton (N. J.) Gas & El. g. 5s.	1949	104	98
Tri City Ry. & Lt. 1st & ref. 5s.	1930	96	85
Tri City Ry. & Lt. col. tr. 1st lien 5s.	1923	101	92
United Fuel Gas 1st s. f. 6s.	1936	101½	98
United Lt. & Rys. 1st & ref. 5s.	1932	91	73
Utah Gas & Coke Co. 1st m. 5s.	1936	92	75
Utah Power & Light 1st m. 5s.	1944	96½	85
Utica (N. Y.) Gas & El. ref. and ex. 5s.	1957	102	93
Waukesha (Wis.) Gas & El. Co. 5s.	1959	..	80
Westchester Lig. 1st g. 5s.	1950	106	102
Western United Gas & El. gen. m. 5s.	1950	101	93
Wisconsin Gas & El. 1st m. 5s.	1952	95	85
Wisconsin Public Service 1st & ref. 5s.	1942	93	87
Wisconsin-Minnesota Lt. & Pr. 1st 5s.	1944	98	83

THE GAS AGE

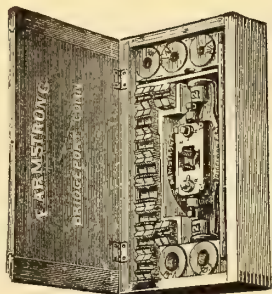
Subscription Price, \$3.00 per year

Issued Semi-monthly

52 Vanderbilt Avenue, New York



Tycos Temperature Instruments
 INDICATING - CONTROLLING - RECORDING
 Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester N. Y.



GENUINE ARMSTRONG STOCKS AND DIES HINGED PIPE VISES PIPE CUTTERS

Tools a Gas Fitter Must Have in Order to
 do Good Work

MANUFACTURED BY
THE ARMSTRONG MFG. CO.
 275 KNOWLTON ST.
 BRIDGEPORT, CONN.

NEW YORK OFFICE, 248 CANAL ST.

APPENDIX

Containing Brief Historical Data and Financial Status of the Companies Reported.

BIRMINGHAM RAILWAY, LIGHT AND POWER COMPANY, BIRMINGHAM, ALA.

The Birmingham Railway, Light & Power Co. was incorporated June 6, 1901, under the laws of the State of Alabama, as a consolidation of the old Birmingham Railway, Light and Power Co., the Birmingham Gas Co. and the Consolidated Electric Light Co.

The Company owns or controls and operates the entire street railway, gas, electric light and power and steam heat business in the City of Birmingham and all the principal nearby cities and towns, except electric lighting in North Birmingham. Power lines were extended to the latter section in 1912.

The franchises covering the electric light and power business are unlimited in time, except in a few sections. The gas franchises are unlimited in time.

CAPITALIZATION.

	Authorized	Outstanding
Common stock (\$100 par)	\$3,900,000	\$3,900,000
Preferred stock, 6% cumulative (\$100 par)...	3,500,000	3,500,000

Dividends (6%) have been paid regularly on the preferred stock (January 1 and July 1) since issuance, except in 1915, when 3 per cent was paid, and in 1916 and 1917, in addition to the regular 6 per cent dividend, 1 per cent was paid on the 1915 accrual.

Dividends have been paid on the common stock as follows: 1903, 3 per cent.; 1904, 4 per cent.; 1905, 4 per cent.; 1906, 5 per cent.; 1907, 1908, nothing; 1909, 2 per cent.; 1910, 5 per cent.; 1911, 7 per cent.; 1912, 8 per cent.; 1913, 6 per cent.; 1914, 6 per cent.; 1915, 1916 and 1917, nothing;

Transfer Agents for Stock.—American Trust & Savings Bank, Birmingham, and Commercial-Germania Trust & Savings Bank, New Orleans.

Registrars.—First National Bank, Birmingham; Isidore Newman and Son, New Orleans.

FUNDED DEBT.

	Authorized	Outstanding
Birmingham Railway & Electric Co. 1st mtg. 5% bonds	\$250,000	\$860,000
General mtg. refunding 4½% bonds.....	10,000,000	8,720,000
Refunding and extension mtg. 6% bonds.....	25,000,000	4,734,000
Two year 6 per centum gold notes	2,000,000	1,312,000

Birmingham Railway & Electric Co. 1st mtg. gold 5s, dated July 2, 1894; due July 2, 1924. Interest payable January 1 and July 1, at Central Trust Co., of New York, N. Y. Trustee, Birmingham Trust & Savings Co., Birmingham, Ala. Denomination, \$1,000. Coupon, with priv-

ilege of registration of principal only. No option of prior payment. \$225,000 redeemed and canceled through the sinking fund and \$165,000 exchanged for 4½% bonds, and held by Trustee of 4½% bonds, as additional security. Secured by a first lien on 45 miles of railway lines in Birmingham. Sinking Fund, \$12,500 annually, payable to trustee. May purchase bonds at not higher than 105; bonds so purchased to be canceled.

Birmingham Railway, Light & Power Co. gen. mtg. gold 4½s, dated April 1, 1904; due April 1, 1954. Interest payable April 1 and October 1, at office of trustee or at New York Trust Co., New York, N. Y. Trustee, Commercial-Germania Trust & Savings Bank, New Orleans, La. Denomination, \$1,000. Coupon, with privilege of registration of principal only. Authorized, \$10,000,000. Outstanding, \$8,720,000. The balance cannot be issued. Secured by a first mortgage on all property except 45 miles of track covered by the (\$860,000) Birmingham Railway & Electric Co., mortgage due 1924. Optional at 105 and interest on any interest day on 60 days' notice. Sinking fund, one half of 1 per cent of all outstanding bonds payable to trustee, August 1, 1924, and annually thereafter. May purchase these bonds at not over 105, callable by lot. Bonds purchased to be canceled. This fund will retire not less than \$1,150,000 bonds before the issue matures.

Birmingham Railway, Light & Power Co., refunding and ext. mtg. gold 6s, dated May 1, 1907; due May 1, 1957. Interest payable May 1 and November 1, at office of trustee or at Company's agency in New York. Directors may make the rate of interest of succeeding instalments not exceeding 6 per cent. Trustee, Old Colony Trust Co., Boston, Mass. Denomination, \$1,000. Coupon, with privilege of registration of principal only. No option of prior payment. Authorized, \$25,000,000; outstanding, \$4,734,000. Secured by mortgage on the entire property, subject to \$8,720,000 general 4½s due 1954, and \$860,000 Birmingham Railway & Electric Co. 1st 5s, due 1924. The unissued bonds are reserved as follows: \$9,617,000 to retire underlying bonds; \$1,200,000 for the cost of the new power house, if first lien on same, and \$9,449,000 for 80 per cent of cost of additional property if net earnings for previous twelve months are one and one-half times interest on all bonds outstanding, including those to be issued; provided 10 per cent of gross earnings have been expended for maintenance during the same period.

Sinking Fund.—One-half of 1 per cent of all outstanding bonds payable to trustee September, 1918, and annually thereafter. May buy these

Coal Gas Plants, Water and Gas Works Appliances, Hydraulic Machinery, Pumping Engines and Purifiers

R. D. WOOD & CO., PHILA., PA.



APPENDIX

bonds at not over 4½ per cent basis. Bonds purchased to continue to draw interest, which shall be reinvested.

Birmingham Railway, Light & Power Co. 6 per centum two year gold notes, dated April 1st, 1917, due April 1, 1919. Interest payable April and October at office of Trustee, Union Trust Co., New York, N. Y. Denomination, \$1,000; coupon with privilege of registration of principal only; optional at 101 on or prior to 30th day of April, 1918, or on May 1st, 1918, and thereafter at any time at 100½%. Authorized, \$2,000,000; outstanding, 1,312,000.

INCOME STATEMENT, YEAR ENDING
DECEMBER 31, 1917.

Gross earnings	\$3,655,894.17
Operating expenses and taxes.....	2,343,810.10
Net earnings.....	\$1,312,084.07
Interest and other deductions....	835,731.13
Net corporate income.....	476,352.94
Renewals and replacements res.....	189,623.11
Surplus	\$286,729.83

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Property investments	\$22,883,278.83
Material and supplies	272,383.50
Cash	32,848.79
Bills receivable	67,495.83
Accounts receivable	270,585.60
Special deposits for coupons, dividends, etc.	283,009.64
Prepayments	93,833.69
Unamortized funded debt, discount and expenses	150,238.98
Other deferred debit items.....	37,914.61
Total	\$24,091,589.47

Liabilities.

Capital stock—Preferred	\$3,500,000.00
Capital stock—Common	3,900,000.00
First mortgage bonds, Birmingham Railway & Electric Co., 5 per cent	\$860,000.00
General mortgage refunding 4½ per cent bonds	8,720,000.00
Refunding and extension 6 per cent bonds	4,734,000.00
Six per centum two-year gold notes	1,312,000.00
Interest and dividends accrued and payable	290,112.50
Other accounts payable.....	256,524.54
Interest and dividends accrued not due	200,818.04
Deferred credit items.....	19,830.43
Reserve for injuries and damages, obsolete material, etc.....	194,777.89
Reserve for preferred stock, dividends accrued not declared.....	35,000.00
Surplus	68,526.07
Total	\$24,091,589.47

*Denotes decrease.

OFFICERS—J. S. Pevear, President and General Manager; Lee C. Bradley, Vice-President; L. L. Newman, Vice-President and Assistant General Manager; J. P. Ross, Secretary-Treasurer; R. O. Launey, Auditor.

DIRECTORS—J. S. Pevear, Lee C. Bradley, M. V. Joseph, B. F. Moore, Robert Jemison, W. H. Kettig, Sidney W. Lee, H. L. Badham, H. W. Coffin, Birmingham; Lee Moody, Bessemer; Lee Benoist, New Orleans; F. T. Homer, E. G. Connett, New York; Oscar Wells, Hugh Morrow, L. L. Newman, Birmingham, Ala.

ANNUAL MEETING.—Second Monday after first Sunday in February. Fiscal year ends December 31.

MOBILE GAS COMPANY, MOBILE, ALA.

The Mobile Gas Company was incorporated October 30, 1906, under the laws of Alabama.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Common stock	\$600,000	\$600,000
Shares, \$100.		

FUNDED DEBT.

	Authorized	Outstanding
Bonds—1st mortgage 5%	\$3,000,000	\$908,000
Debenture 6%	600,000	535,000

First mtge. bonds due Jan. 1, 1924; interest payable Jan. 1 and July 1, at Central Trust Co. of Ills., Chicago. Denomination, coupon, \$1,000; redeemable at 105 and interest after Jan. 1, 1915.

Trustee of bonds: Central Trust Co. of Illinois.

Debentures: Dated Dec. 1, 1911; due Dec. 1, 1921; interest payable Central Trust Co. of Ill., June 1—Dec. 1. Denom., \$1,000; redeemable

at 101 and accrued interest at any interest day. Trustee: Central Trust Co. of Ill.

OFFICIAL STATEMENT OF EARNINGS, FISCAL YEAR
ENDED DECEMBER 31.

	1916.	1917
Gross earnings	\$202,156.29	\$228,392.76
Oper. expenses and taxes	112,923.95	145,320.50
Net earnings	\$89,232.34	\$83,072.26
Int. on 1st mort. bonds..	45,400.00	45,400.00

Balance available for interest on junior liens, dividends, etc. \$43,832.34 \$47,672.26

OFFICERS.—President, Rufus C. Dawes; Vice-President, Henry M. Daves; Secretary, H. B. Hurd; Treasurer, L. J. Davis; Manager, L. J. Davis.

DIRECTORS.—Rufus C. Dawes, H. B. Hurd, J. C. Markley, L. J. Davis, C. W. Demmon.



WILLIAMS' "VULCAN" CHAIN PIPE VISE

3 sizes. Capacities 1½" to 8". Stocked by Dealers.

THE RIGHT TOOL FOR SERVICE CARTS

J. H. WILLIAMS & CO., 74 Richards Street, Brooklyn, N. Y.

FORT SMITH LIGHT & TRACTION CO., FORT SMITH, ARKANSAS.

The Fort Smith Light & Traction Co. was incorporated in April, 1903, under the laws of Arkansas.

Gas, electric and street railway franchises expire in 1955.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$5,000,000	\$1,410,000
Common stock.....	1,500,000	950,000

SHARES.—\$100.

TRANSFER AGENTS.—Continental and Commercial Trust and Savings Bank, Chicago.

REGISTRARS.—Continental and Commercial Trust and Savings Bank, Chicago, and Guaranty Trust Co., New York.

FUNDED DEBT.

	Authorized	Outstanding
Bonds—1st mortgage 5¢.	\$6,000,000	\$2,536,000

Dated Mar. 1, 1911; due Mar. 1, 1936. Int., 5%.

Interest payable, March and September, at Illinois Trust and Savings Bank, Chicago; denomination, \$500 and \$1,000; coupon, but may be registered; redeemable at 105 on any interest date at Illinois Trust & Savings Bank, Chicago.

SINKING FUND—July 1, 1914 and 1915, 1% of outst.; July 1, 1916 to 1918, 1½ per cent.; July 1, 1919 to 1923, 2 per cent; July 1, 1924 to 1935, equal yearly amounts which, when added to previous sinking fund deposits, will be sufficient to retire 40 per cent of bonds.

Debenture 6s, authorized, \$300,000; outstanding, \$300,000; dated May 1, 1913; due May 1, 1918. Interest, May and Nov. 1.

EARNINGS YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$508,669.52
Operating expenses	354,403.38

Net earnings\$154,266.14

OFFICERS.—President, A. S. Huey; Vice-Presidents, H. M. Bylesby, D. C. Green, F. C. Gordon; Secretary, John Brizzolara; Treasurer, R. E. Ballard; Manager, D. C. Green.

DIRECTORS.—H. M. Bylesby, A. S. Huey, J. J. O'Brien, R. J. Graf, D. C. Green, John Brizzolara, J. F. McGilvray, R. E. Ballard, R. D. Beard.

Under management of H. M. Bylesby & Co., Chicago, Ill.

CONDENSED GENERAL BALANCE SHEET,
DECEMBER 31, 1917.*Assets.*

Plant property and franchises.....	\$5,405,763.65
Other real estate.....	4,178.35
Investments	6,200.00
Sinking funds	1,300.19
Materials and supplies.....	33,596.69
Insurance premiums — Unexpired portion	1,509.92
Interest paid in advance.....	758.33
Cash	19,520.15
Notes and accounts receivable	\$106,040.26
Less — Reserve for doubtful accounts...	2,292.98
Interest accrued on notes receivable	284.67
American National Bank, Fort Smith—In hands of receiver.....	7,849.31
Unamortized discount on bonds and debenture notes.....	570,283.00
Deferred charges	2,317.17
Total	\$6,157,308.71

Liabilities.

Preferred capital stock.....	\$1,410,000.00
Common capital stock.....	950,000.00
Bonded debt	2,536,000.00
Standard Gas & Electric Co. 6% debenture note	300,000.00
Notes payable	60,000.00
Accounts and wages payable.....	22,897.86
Southwestern General Gas Co....	156,295.21
Standard Gas & Electric Co.....	532,011.47
Consumers' deposits	7,688.04
Unclaimed checks	265.09
Interest accrued	45,749.33
Taxes accrued	28,523.36
Reserve for renewal of plant property	98,647.94
Reserve for legal and damage liability	2,892.53
Profit and loss surplus.....	6,337.88
Total	\$6,157,308.71

Annual meeting of stockholders held first Monday in April, at Ft. Smith, Ark.
Company's fiscal year ends December 31.

ARKANSAS NATURAL GAS COMPANY, LITTLE ROCK, ARK.

Principal Office, Benedum-Trees Building, Pittsburg, Pa.

Incorporated in 1909 under the laws of Delaware. Pipes gas from gas fields in Caddo Parish and DeSota Parish, La., to Arkansas.

CAPITAL STOCK.—Authorized, \$10,000,000; outstanding, common \$7,500,000, preferred \$2,365,000. Transfer agents, Company's office, Pittsburg. Registrars, Colonial Trust Co., Pittsburg.

FUNDED DEBT.—Bonds: General mortgage 6 per cent. outstanding, \$2,246,000; dated May 1, 1916; due May 1, 1936.

First mortgage 6% bonds outstanding, \$250,000; new general mortgage bonds in the treas-

ury, available for acquiring additional property, \$1,365,000; preferred stock in treasury, \$135,000.

OFFICERS.—President, J. C. Trees; Vice-President, Geo. H. Flinn; Vice-President and General Manager, J. R. Munce; Secretary and Treasurer, W. J. Diehl; Assistant Secretary, E. A. Nisbit; Auditor, E. J. Cole; Purchasing Agent, S. B. Kelly.

DIRECTORS.—J. C. Trees, William Flinn, M. L. Benedum, George H. Flinn, J. I. Buchanan, Joseph F. Guffey, A. B. Dally, Jr., J. D. Ayres, Lawrence McIntyre, J. R. Munce.

RELIABLE
COMBINATION
GAS AND COAL
RANGES

Have you seen them? You will be agreeably surprised at their beautiful appearance and improved and durable construction. Order that sample now.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

APPENDIX

GENERAL BALANCE SHEET—DECEMBER 31, 1917.

<i>Assets.</i>		<i>Liabilities</i>	
Suspense	*\$7,560,000.00	Capital stock, com., outstanding..	\$7,500,000.00
Plant Account	\$5,083,649.00	Capital stock, pref., outstanding..	2,365,000.00
Less depreciation, Dec.		First mortgage bonds, outstanding	250,000.00
31, 1917	305,018.94	General m'tg'e bonds, outstanding.	2,246,000.00
		Pine Bluff Nat. Gas Co. bonds,	
		outstanding	42,000.00
Accounts receivable	\$4,778,630.06	Accounts and notes payable.....	522,119.62
Cash	652,972.81	Surplus	119,023.95
	52,540.70		
	\$13,044,143.57		\$13,044,143.57

* Intangible asset represented by bonus stock, surrendered leaseholds, etc.

ECONOMIC GAS COMPANY, LOS ANGELES, CAL.

Los Angeles address: 345-7 South Hill Street, Los Angeles, Cal.

San Francisco address: 1134 Merchants Exchange, San Francisco.

The Economic Gas Company was incorporated May 18, 1909, under the laws of California.

FRANCHISES.—Operates under State constitutional grant. Perpetual.

CAPITALIZATION.—Preferred stock (first), authorized \$500,000, issued \$404,300; (second), authorized \$150,000. Common stock, authorized \$850,000, issued \$596,866.66. Total stock outstanding, \$1,001,166.66. Shares, \$100.

FUNDED DEBT.—Bonds, first mortgage, 5 per cent, authorized, \$1,500,000; issued, \$565,000. Dated January 1, 1910; due December 31, 1939. Interest payable January and July at Mercan-

tile Trust Company of San Francisco. Denomination, \$1,000. Coupon; may be registered at option of owner. Security: First mortgage, sinking fund provisions.

OFFICERS—C. W. Conlisk, President; J. D. Grant, Vice-President; C. W. Conlisk, Treasurer; F. Reis, Jr., Secretary; J. W. Wrenn, Manager.

DIRECTORS.—A. L. Chickering, W. F. Detert, C. W. Conlisk, D. O. Druffel, R. M. Hotaling, S. Waldo Coleman, J. D. Grant.

Annual meeting of stockholders held in May at San Francisco, Cal.

Company's fiscal year ends December 31.

LOS ANGELES GAS AND ELECTRIC CORPORATION, LOS ANGELES, CALIFORNIA.

The Los Angeles Gas and Electric Corporation is a consolidation of the Los Angeles Gas and Electric Company, organized in 1904, and the Pasadena Consolidated Gas Company, organized in 1896. The Los Angeles Gas and Electric Company succeeded to the business of The Los Angeles Electric Company, organized in 1882, and the Los Angeles Lighting Company, organized in 1889.

CAPITAL STOCK.—First preferred 6 per cent cumulative, authorized, \$4,000,000; issued, none. Second preferred 6 per cent cumulative, authorized, \$6,000,000; issued, none. Common authorized, \$20,000,000; issued, \$10,000,000.

BONDS.—First and refunding 5s: authorized, \$15,000,000; issued, \$4,947,000. Constituent Company Bonds: Los Angeles Lighting Company 5s, issued \$944,000; The Los Angeles Electric Company 5s, issued \$482,000; Los Angeles Gas and Electric Company 5s, issued \$1,993,000. \$654,000 of the foregoing bonds are held in the sinking funds of constituent companies, and \$784,000, first and refunding 5s, in addition to foregoing, have been cancelled.

Of the authorized \$15,000,000 first and refunding mortgage bonds, \$3,419,000 are reserved to retire the Constituent Company bonds mentioned above, and \$5,850,000 are reserved in escrow and can be issued for not exceeding 75 per cent of the cash cost of permanent extensions and additions of and to the plants and

properties of the corporation, but only when the net earnings for the preceding year, after deducting all operating expenses and taxes, shall have been at least one and three-fourths times the annual interest charge on all bonds outstanding and those applied for.

TRUSTEES OF BONDS.—Union Trust Company of San Francisco, and Harris Trust and Savings Bank, Chicago.

EARNINGS AND EXPENSES.

for Years ended December 31.

	1916.	1917.
Gross earnings	\$4,833,266	\$5,031,074
Operating expenses and taxes	2,659,774	3,044,981
Net earnings	\$2,173,492	\$1,986,093
Bond int. paid.....	418,414	389,823
Surplus	\$1,755,078	\$1,596,270

Attention is directed to the fact that the net earnings for the year 1917 were over five times the annual interest charge of \$385,600 on all outstanding bonds (other than those in sinking funds) Dec. 31, 1917.

DEPRECIATION—SINKING FUND.

It is the policy of the Corporation to make liberal allowances for depreciation, \$7,563,480 having been written off since May 1, 1904.

For twenty years the largest Gas Companies in America and England have used the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

The Corporation is required to make annual sinking fund payments, which began July 1, 1910, equal to 2 per cent of the total amount of bonds outstanding.

PROPERTY.—The Corporation has a thoroughly modern equipment for the manufacture and distribution of gas and electricity for light and power, and in addition has extensive holdings of real estate valued at \$1,500,000, including 20.80 acres in Los Angeles, most of which is in the down-town district. Gas is generated at the works in Los Angeles principally from crude petroleum. Plants consist of twenty-three sets of generating apparatus, having a rated capacity of 31,140,000 cubic feet in twenty-four hours, and scrubbers, condensers, purifiers, station meters, and auxiliary apparatus sufficient for operation. Holders with a combined capacity of 15,000,000 cubic feet are located in Los Angeles and Pasadena. On January 1, 1918, the distributing systems consisted of 1,431½ miles of gas mains, including two trunk mains from the gas works in Los Angeles to the distributing system in Pasadena. The territory served was well covered, 144,783 gas meters being in service, of which 14,254 were in Pasadena. During the year 1917 gas to the amount of 4,676,891,000 cubic feet was sold. The base rates charged for gas range from 68 cents to 85 cents per thousand feet, according to territory served. Bills are computed on the block system with discounts of from three cents to forty cents per thousand.

The electric plant consists of 12,000 horsepower (builders' rating) in boilers, 25,150 horsepower (builders' rating) in steam engines and turbines, and 23,469 horsepower (builders' rating) in electrical apparatus. This plant

served 40,869 consumers on January 1, 1918, from 2,788.70 miles of overhead main wire and 21.84 miles of underground conduits. The total connected load was about 77,363 horsepower.

The Corporation operates directly under the provisions of the constitution of the State of California. Its rights for the conduct of its business are adequate and equal to the life of the Corporation.

The corporation carries on a large and profitable gas and electric business in Los Angeles and controls all of the gas business in Pasadena, So. Pasadena, Alhambra, Huntington Park, Inglewood, Eagle Rock, Watts, San Gabriel, San Marino and part of Vernon, Monterey Park and other suburban districts. Two-thirds of the gross earnings are derived from the sale of gas.

The territory served by the Los Angeles Gas and Electric Corporation has a population of about 674,000, of which 590,000 are in the City of Los Angeles, 46,500 in Pasadena, and 37,500 in South Pasadena, Alhambra, Huntington Park, Vernon, Inglewood, Eagle Rock, Watts, San Gabriel, San Marino and other suburban districts.

OFFICERS.—W. B. Cline, President; Wm. Baurhyte, Vice-President; C. S. Vance, Second Vice-President; C. A. Luckenbach, Third Vice-President; A. B. Day, General Manager; T. P. McCrea, Secretary; Horace Cline, Treasurer; F. E. Seaver, Assistant Secretary; H. L. Phelps, Assistant Treasurer.

DIRECTORS.—W. B. Cline, Wm. M. Van Dyke, William Baurhyte, C. S. Vance, C. A. Luckenbach, C. O. G. Miller and A. Schilling.

ANNUAL MEETING.—Fourth Wednesday in January.

MIDLAND COUNTIES PUBLIC SERVICE CORPORATION, LOS ANGELES, CAL.

Incorporated Nov. 29, 1909, in California, and has acquired the properties of the Coalinga Water & Electric Co., Midland Counties Gas & Electric Co., Paso Robles Light & Water Co. and Russell Robinson Light & Water Co. Operates Coalinga District in western portion of Fresno County, southern part of Monterey, San Luis Obispo County, and northern part of Santa Barbara County. Principal towns served, Coalinga, San Miguel, Paso Robles (electricity and water), San Luis Obispo (gas and electricity), Santa Maria and Arroyo Grande (electricity and water). Power purchased from San Joaquin Light & Power Corp. at Henrietta substation.

CAPITAL STOCK.—Authorized, \$2,000,000; outstanding, \$1,000,500; par, \$100.

BONDED DEBT.—\$267,000 Midland Counties Gas & Electric Co. first gold 6s; dated Jan. 1, 1912; due Jan. 1, 1922; int. J & J 1, at Los Angeles Trust and Savings Bank, Trustee. Coupon, \$1,000; principal may be registered. Authorized issue, \$1,000,000, but mortgaged closed. Subject to call at 105 and interest on any interest date on or after Jan. 1, 1915. Sinking and improvement fund, 2 per cent per annum, with a deposit of 2 per cent of the bonds outstanding on March 1, 1915, one-half of the amount deposited to be

held by the Trustee and released on statements of the company to pay for permanent additions and improvements to the property, and the other one-half to be forthwith invested by the Trustee in the bonds of this company. A first lien on entire property of former Midland Counties Gas & Electric Co. Interest paid without deduction for Normal Income Tax.

\$45,000 Coalinga Water & Electric Co. first gold 6s; dated Jan. 1, 1910; due Jan. 1, 1940; int. J & J 1, at Southern Trust Co., Los Angeles, Trustee. Authorized issue, \$2,000,000, but mortgage is closed. Of these bonds, \$555,000 have been certified, of which \$455,000 retired, \$48,000 alive in sinking fund and \$45,000 are outstanding and \$7,000 repurchased and held by Company. Sinking fund commencing Jan. 1, 1913, 1½ per cent annually on outstanding bonds for five years; Jan. 1, 1918, 2 per cent for five years; Jan. 1, 1923, 2½ per cent for five years; Jan. 1, 1928, 3 per cent for twelve years. Normal Income Tax deducted from interest.

\$574,000 first and refunding bonds; dated Oct. 1, 1913; due Oct. 1, 1953; int. A & O 1, at Los Angeles and New York. Authorized issue, \$3,000,000, of which \$497,000 with public, \$77,000 certified unsold. Security Trust & Savings Bank, Los Angeles Trustee. Subject to call at 107½

Test Meters, steel cases, with capacities from 1/10 to 1 cubic foot per revolution, reading fractional quantities direct and adding up and indicating large volumes. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

and interest. Sinking fund; 1916 to 1925; 2 per cent of outstanding bonds; 1926 to 1935, 2½ per cent; 1936 to 1953, 3 per cent. Interest paid without deduction for Normal Income Tax.

INCOME ACCOUNT, year ended Dec. 31, 1917.—Gross earnings, \$286,863; operating expenses, \$168,315; net earnings, \$118,548. Charges: Bond interest, \$49,779; other deductions, \$39,720—Balance for year, \$29,048.

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

Assets	
Property, plants, franchise rights..	\$2,549,506.16
Treasury securities	7,010.00
Cash	16,988.42
Notes receivable	15,772.27
Accounts receivable	74,610.75
Materials and supplies	48,638.07
Deferred charges	77,009.34
	<hr/>
	\$2,789,535.01

Liabilities	
Capital stock	\$1,000,500.00
Bonds	864,000.00
Assessment No. 1	100,050.00
Accruals	46,940.01
Notes payable	377,398.52
Accounts payable	297,293.26
Reserve and surplus	103,353.22
	<hr/>
	\$2,789,535.01

OFFICERS.—A. C. Balch, President; William G. Kerckhoff, Vice-President; A. E. Peat, Treasurer and Comptroller; L. M. Farnham, Secretary, Los Angeles, Cal.; Manager, A. G. Wishon; General Superintendent, E. A. Quinn.

DIRECTORS.—A. C. Balch, William G. Kerckhoff, L. M. Farnham, Ben. R. Meyer, E. E. Sweeney, Los Angeles, Cal.

Annual meeting, second Tuesday in February. General office, 805 Garland Building, Los Angeles, Cal.

SOUTHERN CALIFORNIA EDISON COMPANY, LOS ANGELES, CAL.

Southern California Edison Co. was incorporated in July, 1909, in California, as a reincorporation of The Edison Electric Co., Los Angeles; incorporated originally in 1896 as a California corporation, and in 1902 as a Wyoming corporation.

On May 26, 1917, the company purchased the physical properties of the Pacific Light & Power Corporation, together with the controlling interests, in other smaller companies. Controls through stock ownership Mt. Whitney Power* & Electric Company, Santa Barbara Gas & Electric Company, San Joaquin & Eastern Railroad Company and Santa Barbara & Suburban Railway Company. In December, 1917, purchased the physical properties of Ventura County Power Company. This greater Edison Company now operates a comprehensive system for the generation, transmission and distribution of electric energy, operating throughout Southern California and in the San Joaquin Valley, covering an area of 55,000 square miles, having a population of more than 1,000,000.

FRANCHISES—The franchise rights of the Company, in municipal corporations, are unlimited as to time on streets occupied on October 10, 1911, and are conferred by Section 19, Article XI, of the California Constitution, as it existed prior to its amendment, October 10, 1911.

As to rights-of-way for transmission lines not upon public highways, the Company either has perpetual easements or owns the property in fee. As to substantially all lines on public highways outside the limits of municipal corporations, the Company holds satisfactory franchises which expire between 1940 and 1959.

During 1914 the United States Supreme Court rendered a decision, with reference to the rights of holders of constitutional franchises, under which this Company secures in perpetuity a blanket franchise in all the incorporated cities in which it was operating prior to October 10, 1911.

TERRITORY SERVED.—The Southern California Edison Co. and its controlled companies operate electric properties throughout Southern Cali-

fornia and in the San Joaquin Valley. This territory, with a population of over 1,000,000, includes 10 counties with a combined area greater than that of New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey and Delaware.

Over 150 cities and towns are served with electricity for power, light and heat, either directly or at wholesale, the most important being Los Angeles, Pasadena, Riverside, San Bernardino, Santa Barbara, Long Beach, Santa Monica, Redlands, Oxnard, Ventura, and in the San Joaquin Valley the cities of Visalia, Tulare and Porterville.

GENERAL STATISTICS. SOUTHERN CALIFORNIA EDISON COMPANY AND CONTROLLED COMPANIES—Capacity of Electric Plants: Water Power Plants (17), 158,920 h. p.; Steam Stations (8), 143,510 h. p.; total, 302,430 h. p.

Miles of Lines—Miles of transmission line, 1,422; miles distributing system, 7,714.

CAPITALIZATION.

Capital Stock:	Authorized	Outstanding
First preferred	\$4,000,000	\$4,000,000
Second preferred	12,500,000	12,029,900
Common	83,500,000	*12,382,672
Subscribed common stock		\$1,681,900

CAPITAL STOCK.—Authorized, first preferred \$4,000,000, 5 per cent cumulative and participating; second preferred \$12,500,000, 5 per cent cumulative, and common \$83,500,000. First preferred participates ratably with common in any dividends in excess of 5 per cent. Second preferred limited to 5 per cent dividends. All stock has equal voting power. Par \$100. Common stock 5 per cent participating.

Dividends of 5 per cent were paid on preferred from 1902 and 5 per cent on common quarterly from May 16, 1910. In 1913 also paid a common stock scrip dividend of \$150,000. On January 1, 1914, dividends increased to 6 per cent on preferred and common, respectively. On October 15, 1916, dividends increased to 7 per cent on

* Not including amount controlled by company through stock ownership.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

first preferred and common, respectively. Dividends paid on second preferred from issuance at the rate of 5 per cent per annum.

TRANSFER AGENT, ETC.—Registrars, United States Mortgage and Trust Company, New York, N. Y., and Los Angeles Trust and Savings Bank, Los Angeles, Cal. Transfer agents, Bankers Trust Company, New York, N. Y., and at company's office, Los Angeles, Cal.

ADDITIONAL COMMON STOCK—In June, 1917, the California Railroad Commission approved the issue and sale of \$2,500,000 new common stock which has since been sold; and in October, 1917, an additional \$2,500,000.

BONDED DEBT—Total, \$45,209,500, including \$1,978,000 debentures as of Dec. 31, 1917.

\$10,000,000 General and Refunding Mortgage 2-year 6 per cent Gold Bonds, "Series of 1917"; dated July 1, 1917; due July 1, 1919; interest, J. & J. 1 in New York, Chicago or Los Angeles; Harris Trust and Savings Bank, Chicago, Ill., and Los Angeles Trust and Savings Bank, Los Angeles, Cal., Trustees. Coupon bonds of \$500 and \$1,000 denomination with privilege of registration as to principal only; authorized, \$136,000,000, of which "Series of 1917" is limited to an authorized amount of \$75,000,000. Escrow Bonds may be issued to reimburse the company for 75 per cent of expenditures for acquisitions, extensions and additions to the company's properties, provided net earnings for the preceding twelve months have been at least one and three-fourths times the annual bond interest charge on all bonds outstanding, including those to be issued. Escrow bonds may also be issued dollar for dollar for the retirement of underlying bonds and also for the retirement of \$1,978,000 debentures of 1915, due March 15, 1920, which are secured equally with the General and Refunding Mortgage Bonds. Special Trust Fund to be deposited with the Trustee on the first day of March and on the first day of September each year, beginning with the year 1918, cash equal in each case to one per cent of the aggregate par value of outstanding bonds of the company, including the bonds of this issue and all underlying bonds and debentures of 1915 outstanding in the hands of the public, after providing for sinking fund payments made to Trustees of underlying mortgages. This money may be withdrawn for the cost of acquisitions, extensions, against which no General and Refunding Bonds shall be issued, or at the option of the company may be used for the retirement of General and Refunding Bonds, or for the purchase of underlying bonds. Subject to call on any interest date at 100½ and accrued interest. Secured by a direct mortgage on all property, rights and franchises of the company, subject to the underlying bonds still outstanding. No additional underlying bonds can be issued unless pledged as additional security for the General and Refunding Mortgage Bonds. Interest paid without deduction for two per cent Normal Income Tax.

\$13,360,000 General Mortgage Gold 5's; dated November 1, 1909; due, November 1, 1939; interest, J & J 1, at Harris Trust & Savings Bank, Chicago, and Los Angeles Trust & Savings Bank,

Los Angeles, Cal., Trustees, and Bankers Trust Company, New York. Coupon, \$1,000; principal may be registered. Authorized, \$30,000,000; sufficient reserved to retire prior liens; balance may be issued to reimburse company for 75 per cent of cost of permanent improvements from January 1, 1910, provided net earnings for preceding year are at least equal to one and three fourths times the interest charge on all bonds issued and to be issued. Sinking fund, beginning in 1910, cash equal to 2 per cent of outstanding bonds under this and prior mortgages to be deposited with Harris Trust & Savings Bank, Trustee, may be applied to sinking fund of prior mortgages, permanent improvements, or retiring bonds issued under this mortgage. Subject to call on any interest date at 105 and interest. A lien on entire property. Interest paid without deduction for 2 per cent Normal Income Tax.

\$2,806,000 The Edison Electric Company (of Wyo.) First and Refunding Gold 5's; dated Sept. 1, 1902; due Sept. 1, 1922; interest M & S 1, at Harris, Forbes & Co., New York, and Los Angeles (Cal.) Trust & Savings Bank, Trustee. U. S. Mortgage & Trust Company, New York, co-trustee. Coupon, \$1,000; principal may be registered. Authorized, \$10,000,000; but no more will be issued. Sinking fund, 1½ per cent of outstanding bonds. Subject to call at 110 and interest on any interest date. Sufficient amount of above described General 5's reserved to retire these bonds. Secured on all property formerly of The Edison Electric Company of Los Angeles. Listed on San Francisco Stock and Bond Exchange.

\$45,000 United Electric Gas & Power Company First 5's; dated Dec. 1, 1900; due Dec. 1, 1920; interest J & D 1, at Citizens Trust & Savings Bank, Los Angeles, Trustee, and at agency in New York. Sinking fund of \$15,000 per annum began Jan. 2, 1905. Original issue, \$500,000. Mortgage closed.

\$390,000 Edison Electric Company (of California) First 5's; dated Sept. 1, 1899; due Sept. 1, 1929; interest M & S 1, at Citizens National Bank, Los Angeles, and at agency in New York. Title Insurance & Trust Company, Los Angeles, Trustee. Authorized, \$1,250,000; mortgage closed. A sufficient amount of Southern California Edison General 5's reserved to retire these bonds.

There are also outstanding \$48,000 Edison Electric Company of Los Angeles 6's of 1927.

\$1,978,000 Five-Year 6 per cent Convertible Gold Debentures; dated March 15, 1915; due March 15, 1920; interest M & S 15, in New York, Chicago or Los Angeles. Coupon, \$1,000; principal may be registered. Authorized issue, \$5,000,000. Los Angeles (Cal.) Trust & Savings Bank, Trustee.

These debentures were issued to provide funds for permanent extensions and additions to the company's plants and properties. Under the terms of Southern California Edison Company General and Refunding Mortgage of 1917 these Debentures are now secured equally with bonds issued under that mortgage. Subject to call on any interest date at 101 and interest. Convertible at the option of the holder into

PHOTOMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

Among the standard bar photometers which we manufacture are the Sugg-Letheby, the Improved Type B and the Portable Type.

common stock of the Southern California Edison Company on the basis of eleven shares of stock (par \$100) for each \$1,000 Debenture. First publicly offered (\$2,000,000) in May, 1915, at par and interest. Interest paid without deduction for 2 per cent Normal Income Tax.

\$7,278,000 Pacific Light & Power Company First Mortgage Gold 5's: dated July 1, 1902; due July 1, 1942; interest, J & J 1, at National Bank of Commerce, New York and Union Trust Company, San Francisco, Trustee. Coupon, \$1,000; principal may be registered. Authorized issue, \$10,000,000, of which \$264,000 reserved to retire a like amount of bonds of San Gabriel Electric Company, and \$2,458,000 have been retired by sinking fund. Sinking fund, Jan. 1, 1905, to Jan. 1, 1909, inclusive, 2 per cent of bonds outstanding; 1910 to 1942, 2½ per cent. Said fund is to be invested in the bonds at not exceeding 110; otherwise in other securities. Interest paid without deduction for 2 per cent Normal Income Tax.

\$264,000 San Gabriel Electric Company First 6's: dated Feb. 26, 1898; due April 1, 1928; interest A & O 1, at Company's office, Los Angeles. Coupon, \$1,000; principal may be registered. Union Trust Company, San Francisco, Trustee. Subject to call at 104 and accrued interest at any time. Original issue, \$500,000, of which \$236,000 retired to Jan. 1, 1918.

\$37,000 Mentone Power Company First 5's: dated Dec. 1, 1901; due Dec. 1, 1931; interest, J & D 1, at Company's office and at Union Trust Company, San Francisco, Trustee. Total issue, \$300,000, of which \$263,000 is in sinking fund.

\$8,135,000 Pacific Light & Power Corporation First and Refunding Sinking Fund Gold 5's: dated Sept. 1, 1911; due Sept. 1, 1951; interest, M & S 1, at United States Mortgage & Trust Company, New York, Trustee, and at company's office, Los Angeles. Principal and interest payable also in London, at \$4.86 per pound sterling; in France and Switzerland, fcs., 5.18; Germany, marks, 4.20; Holland, florins, 2.48. Coupon (principal may be registered) and registered, \$1,000 interchangeable. Subject to call as a whole (or in part, by lot, for sinking fund) at 105 and int., on any interest date, upon sixty days' notice. Authorized issue, \$35,000,000, of which \$10,000,000 were issuable for the new development at Big Creek. In addition to the \$8,135,000 of these bonds outstanding, \$1,123,000 are held alive in the sinking fund, and \$5,000,000 are deposited under Southern California Edison Company General Mortgage of 1909.

Sinking fund provides for annual payments, from Sept. 1, 1914, equal to 1 per cent of the maximum amount of First and Refunding bonds issued (whether or not outstanding), as well as bonds reserved for refunding.

Secured by a first mortgage on all of the developments constructed by the Pacific Light & Power Corporation since it began active business in 1911. This includes principally the Big Creek plants, the high tension transmission lines from Big Creek to Eagle Rock, the Eagle Rock sub-station, the high tension lines running from San Fernando westward through Ventura

County, the distributing loop around the city of Los Angeles and the turbine portion of the steam plant at Redondo. Also a lien, subject to the prior liens, on the other power plants and distributing systems formerly owned by Pacific Light & Power Corporation. First publicly offered (\$10,000,000) in Jan., 1912, at 92 and interest. Interest paid without deduction for 2 per cent Normal Income Tax.

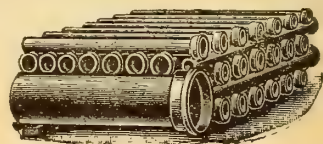
\$175,500 Ventura Water, Light & Power Company First Mortgage 6 per cent Gold Bonds: dated July 9, 1901; due May 1, 1921; interest M & N 1 at Los Angeles Trust & Savings Bank, Los Angeles, Cal. Coupon, \$500; principal may be registered. Authorized issue, \$250,000, of which \$74,500 have been retired. Callable on any interest date after May 1, 1906, at 101 and interest. Title Insurance & Trust Company, Trustee.

\$693,000 Ventura County Power Company Sinking Fund 30-Year Gold Bonds: dated Nov. 1, 1906; due Nov. 1, 1936; interest, 6 per cent, M & N 1 at Los Angeles Trust & Savings Bank, Los Angeles, Cal., and Liberty National Bank, New York. Coupon, \$1,000; principal may be registered. Authorized issue, \$1,000,000, of which \$176,000 reserved to retire a like amount of Ventura Water, Light & Power Co. First Mortgage 6's; and \$131,000 have been retired by sinking fund. Sinking fund, beginning 1911, 2 per cent of outstanding bonds. Sinking fund to be used to retire outstanding bonds at not exceeding 101 and accrued interest. Callable on any interest date at 101 and accrued interest. Title Insurance & Trust Company, Los Angeles, Cal., Trustee.

CONDENSED BALANCE SHEET YEAR ENDED
DECEMBER 31, 1917.

<i>Assets.</i>	
Plant	\$73,706,827
Sinking and other special funds....	2,066,591
Investments in system corporations..	4,127,259
Securities of other corporations.....	2,784
Cash and current assets.....	4,762,710
Common stock subscriptions	1,423,770
Deferred charges	2,438,262
Total assets	\$88,528,203
<i>Liabilities.</i>	
CAPITAL STOCK—	
First preferred.....	\$4,000,000
Second preferred.....	12,029,900
Common	\$23,219,300
Less controlled by com- pany through stock ownership	10,836,628 12,382,672
Subscribed common stock	1,681,900
Total capital stock.....	\$30,094,472
Installment rec'd on stock contracts	174,180
Funded debt	45,209,500
Bonds called	8,000
Notes payable	5,457,046
Current liabilities	1,218,061
Reserves and surplus	6,366,944
Total liabilities	\$88,528,203

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
ALL REGULAR SIZES
R. D. WOOD & CO. : PHILADELPHIA, PA.



OFFICERS—Chairman, J. B. Miller; President, W. A. Brackenridge; First Vice-President, R. H. Ballard; Second Vice-President, G. C. Ward; Vice-Presidents, Geo. I. Cochran, James C. Drake, William R. Staats; Treasurer, W. L. Percy; Secretary, S. M. Kennedy; Comptroller, A. N. Kemp.

DIRECTORS—W. A. Brackenridge, George I. Cochran, James C. Drake, W. E. Dunn, J. H. Fisher, Arthur H. Fleming, Albert W. Harris, H. E. Huntington, Howard Huntington, John B. Miller, H. M. Robinson, William R. Staats.

Annual meeting, last Thursday in February.

SOUTHERN CALIFORNIA GAS COMPANY, LOS ANGELES, CAL.

The Southern California Gas Co. was incorporated in October, 1910, and acquired all the property formerly owned by the Domestic Gas Co. of Los Angeles, the Riverside Light & Fuel Co., and San Bernardino gas property of the Pacific Light & Power Corporation.

FRANCHISES.—The rights and franchises under which the Company operates in Los Angeles are unlimited in time.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$4,000,000	\$875,000
Common stock	6,000,000	6,000,000
Shares, \$100.		

BOND STATEMENT.

Southern California Gas Co. first mtg. 6% bonds, auth. \$10,000,000; out- standing and assumed (since July 1, 1917)	\$3,382,000.
Riverside Light, Fuel & Power Co. 5% bonds outstanding	30,000

First mortgage 6 per cent gold sinking fund bonds are dated November 1, 1910; due November 1, 1950. Callable at 105 and interest on and after November 1, 1915. Interest payable semi-annually May 1 and November 1, in New York City. Denomination, \$1,000. Coupon or registered interchangeable bonds. Equitable Trust Co. of New York (successors to the Trust Company of America), trustee.

SECURITY OF BONDS.—The Southern California Gas Co. first 6s, 1950, are secured by an absolute first mortgage on the entire property of the Company, subject to \$30,000 underlying divisional bonds covering a minor portion of the present system.

SINKING FUND.—The mortgage provides for a sinking fund calling for annual cash payments, from 1921 to 1949, ranging from \$60,000 to \$140,000 annually, a total of \$3,000,000 during the life of the bonds. One-half of these payments must be used in the retirement of bonds of this issue. The balance can be used for new construction and the acquisition of new property, under restrictions similar to those covering the issuance of escrow bonds.

DESCRIPTION OF PROPERTY.—The Southern California Gas Co. property in the City of Los Angeles consists of a modern gas plant having a capacity of 8,000,000 cu. ft. per day. The main buildings of the works are all of concrete and steel construction and entirely fireproof.

The Company's new plant at Colton (completed in December, 1911) has a generating capacity of 2,000,000 cu. ft. per day, supplying the distributing systems owned in San Bernardino, Riverside and Colton. In addition, the Company owns two reserve plants at San Bernardino and Riverside, with a total capacity of about 250,000 cu. ft. per day.

The Company's distributing system comprises 700 miles of mains, serving directly over 38,865 consumers, not including the wholesale business of the Company.

TERRITORY SERVED.—The Southern California Gas Co. supplies a considerable portion of the City of Los Angeles, and, in addition to this service, supplies gas to the following cities and towns: Glendale, Tropic, Compton, Athens, Riverside, Arlington, San Bernardino, Rialto, and wholesale to Long Beach, Wilmington, San Pedro, Santa Monica, Venice, Ocean Park and Sawtelle. The total population supplied by the Company is approximately 575,000.

The position of the Southern California Gas Co. has been further strengthened through the control by it of an important natural gas supply which is being introduced in Los Angeles and vicinity, and which will be in part distributed by this Company and in part wholesale to other companies operating in that territory.

STATEMENT OF EARNINGS.

(For year ending Dec. 31, 1917.)

Gross revenue	\$1,411,099
Opr. exp., maintenance and taxes	952,803
Balance	\$458,296
Non-operating income	101,677
Net income	\$559,973
Amount interest charge on \$3,412,000 bonds and on floating debt	221,693
Balance	\$338,280

OFFICERS.—President, W. G. Kerckhoff; Vice-President and General Manager, A. B. Macbeth; Vice-President, A. C. Balch; Secretary, L. M. Farnham; Treasurer and Comptroller, A. E. Peat.

DIRECTORS.—W. G. Kerckhoff, A. C. Balch, A. B. Macbeth, Ben R. Meyer, A. T. Brock.

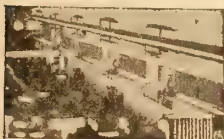
OFFICE.—805 Garland Bldg., Los Angeles, Cal.

Annual meeting of stockholders held second Monday in February.

INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for
Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



SOUTHERN COUNTIES GAS CO. OF CALIFORNIA.
Principal office, 724 South Spring Street, Los Angeles, Cal.

The Southern Counties Gas Co. of California was incorporated February 27, 1911, under the laws of California, and is a consolidation of Piedmont Gas Co., Monrovia, Covina Valley Gas Co., Southern California Edison Co., Whittier, Orange County Gas Co., Anaheim, Orange & Fullerton, Home Gas Co., Fullerton, Southern California Edison Co., Santa Ana. In accordance with its plan, the Company purchased in June, 1916, all the gas properties formerly operated by the Southern California Edison Co. and the Long Beach Consolidated Gas Co., with the exception of the gas property at Santa Barbara, and connected them with the system operated by the Southern Counties Gas Co., making up the present system, which supplies in the neighborhood of forty cities and towns and a large territory adjacent to its transmission lines, serving a population estimated at 250,000. Entire system is served with natural gas from the natural gas fields in this district and carries a calorific value of 1,100 B. t. u.

The company has in reserve seven fully equipped artificial gas generating plants and more than 850 miles of mains. The number of consumers exceeds 43,000.

FRANCHISES—For the most part, operates under perpetual rights under the Constitution of California, the balance of the properties under long-time franchises.

CAPITALIZATION.

	Authorized	Outstanding
Common stock	\$2,500,000	\$1,500,000
Shares, \$100.		

FUNDED DEBT.—Bonds, first mortgage, 20-year sinking fund $5\frac{1}{2}$ per cent, authorized \$10,000,000, issued \$3,049,000. Dated May 1, 1916; due May 1, 1936. Interest payable May 1 and November 1 at Central Trust Co. of Illinois, Chicago, or Los Angeles Trust & Savings Bank, Los Angeles. Denominations, \$1,000, \$500 and \$100. Principal may be registered. Callable at 102½ and interest on any interest date.

SINKING FUND.—The Company covenants that beginning February 1, 1923, it will annually deposit with the trustee an amount in cash equal to 2 per cent of the bonds outstanding, of which one-half shall be devoted to the redemption of bonds by purchasing same in the open market or calling at 102½ and interest and the balance to permanent improvements to the Company's property, which shall not be made the basis for the certification of additional bonds.

NOTES—Two-year 6 per cent gold notes, dated December 1, 1917; due December 1, 1919; authorized and outst., \$400,000. Redeemable on any interest date at 101 and interest. Interest

payable June 1 and December 1. Principal and interest payable at Central Trust Co. of Illinois, Chicago, Trustee. Coupon notes of \$1,000, \$500 and \$100 denominations, with privilege of registration as to principal. Interest is payable without deduction or account of 2 per cent Normal Federal Income Tax.

BALANCE SHEET, AS OF FEBRUARY 28, 1918

Assets.

Property rights and franchises....	\$4,812,825.71
Customers' accounts receivable....	117,991.09
Other bills and accounts receivable.	4,425.20
Supplies on hand.....	224,901.64
Unexpired insurance	2,427.12
Cash on hand—Operating.....	48,723.41
Cash on hand—Bonded interest....	57,265.74
Special deposits	4,800.00
Operating expenses current year...	160,274.86
Bond interest current year.....	28,761.25
Other interest current year.....	2,340.47
Uncollectible accounts and amortiza- tion	3,360.83
Reorganization expense	19,743.40
Miscellaneous deduct'n from surplus	367.20
U. S. Second Liberty Bonds.....	15,050.00
Deferred charges	183,141.33
Total	\$5,686,399.25

Liabilities.

Common stock outstanding.....	\$1,500,000.00
Bonded debt, first mortgage.....	3,049,000.00
Bonded debt, debentures.....	194,700.00
Bills payable	133,000.00
Accounts payable	249,646.00
Reserved for interest.....	59,442.62
Reserved for insurance.....	1,011.61
Reserve for contingencies.....	14,893.03
Reserve for inventory	3,065.09
Consumers' deposits	47,741.23
Surplus end of previous fiscal year	110,537.60
Gross earnings current year.....	244,852.18
Miscellaneous additions to surplus..	1,380.00
Capital surplus (appreciation of property)	77,129.89
Total	\$5,686,399.25

COMPARATIVE STATEMENT OF EARNINGS AND EXPENSES, AS OF FEBRUARY 28, 1918.

Gross earnings	\$1,023,081.12
*Operating expenses and taxes....	751,248.91
Net earnings	271,832.21
Bond interest	161,215.39
Balance	110,616.82
Other interest and miscellaneous...	33,978.07
Surplus	76,636.75
*Amount expended for maintenance and repairs included in above operating expenses	69,419.60

OFFICERS.—President, F. R. Bain; First Vice-President, Rufus C. Dawes; Second Vice-President, C. H. Dickey; Third Vice-President, A. S.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard Garage Heater of North America.

Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Bradford: Secretary, W. S. McFarland; Treasurer, J. Allen Osmun; General Manager, F. R. Bain; Superintendent of Operation, F. S. Wade; Engineer, M. R. Thompson.

DIRECTORS.—F. R. Bain, R. C. Dawes, T. H. Dudley, C. E. Holcomb, John H. Bartle, Chas.

M. Stone, F. W. Hadley, LeRoy M. Edwards, A. S. Bradford, P. E. Hatch, Chas. H. Dickey.

The annual stockholders' meeting is held on the second Wednesday in January each year at Los Angeles, Cal. The fiscal year of the Company ends December 31.

SAN JOAQUIN LIGHT AND POWER CORPORATION, LOS ANGELES, CAL.

The San Joaquin Light and Power Corporation was incorporated under the laws of California, July 19, 1910, and acquired all of the property formerly belonging to several well-established public service corporations in the San Joaquin Valley, including the San Joaquin Light and Power Company, serving the territory centering at Fresno; the Power Transit and Light Company of Bakersfield and its subsidiaries; and the Merced Falls Gas and Electric Company.

Supplies electricity for lighting, power and pumping purposes, throughout the San Joaquin Valley, including the cities of Merced, Madera, Fresno, Selma, Hanford, and Bakersfield and 50 other towns and small cities. Population served about 250,000.

The Midland Counties Public Service Corporation, controlled in same interest, purchases all of its power from the San Joaquin Light and Power Corporation.

Franchises: The rights under which the corporation operates are without limitation in point of time in the cities. Franchises outside of the incorporated limits, with two exceptions, extend beyond the life of the bonds. About one-half the total length of transmission lines are on private right-of-way.

The corporation owns and has in operation five important hydraulic generating plants, a steam reserve plant in Fresno, a modern steam turbine plant in Bakersfield and a modern steam turbine plant at Betteravia of 2,500 kw. capacity. The electric generating capacity of these plants amounts to 65,000 h. p. Water is received at the principal hydraulic generating plant from the Crane Valley reservoir under the exceptional high head of 1,412 feet. The corporation has in operation 782 miles of high tension transmission lines; the current is transformed at 33 substations and distributed through 2,432 miles of distributing lines. Natural gas is distributed in Bakersfield and artificial gas in Kern, Merced and Selma; a street railway system of 10.51 miles of track is operated in the cities of Bakersfield and Kern, supplemented by the operation of automobile bus lines in outlying territory and water is furnished for domestic purposes in Selma and Madera. The combined gas plant capacity is 3,775,000 cubic feet daily and the combined distributing system aggregates 90 miles of mains. A massive dam at the outlet of Crane Valley has been constructed, increasing capacity of reservoir to 51,000 acre feet (twelve times its former capacity) thus providing ample water to operate the hydraulic plants to their full capacity during the entire season, with large amount in reserve.

The corporation owns important water rights,

capable of development at moderate expense, permitting a large increase of generating capacity whenever market conditions warrant.

Operating statistics, December 31, 1917—Light consumers, 23,078; power consumers, 3,325; gas consumers, 5,546; hydraulic capacity, 42,700; steam capacity, 22,300 h. p.; reservoir capacity, 51,000 acre feet.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 6% cum.\$10,000,000	\$6,500,000	
Common stock	15,000,000	11,000,000

Shares, \$100. Registrar, Southern Trust Co., Los Angeles. Preferred dividends paid quarterly, January, April, July and October. Transfer agent, B. N. Jefferson.

Bonds.

Issued.

First and Refund. 6s, series "A"...	\$1,500,000
First and Refund. 5s, series "B"...	799,000
First and Refund. 6s, series "B"...	2,125,000
First and Refund. 6s, series "C"...	3,089,000

Total\$7,513,000

Indenture contains tax free covenant.

Dated Aug. 1, 1910; due Aug. 1, 1950.

Interest payable February 1 and August 1. Coupon (principal may be registered) and registered, \$1,000, interchangeable Equitable Trust Co., New York, trustee.

An annual sinking fund is provided as follows: \$145,000 August 1, 1915; \$145,000 annually to 1919; \$150,000 annually to 1924; 2½ per cent of bonds outstanding, 1925 to 1930, increasing annually to 4½ per cent from 1945 to 1949. Bonds purchased are to be kept alive and interest thereon added to the fund. One-half of such payments may be invested in new property, and of the balance, series "A" bonds must be given a preference, provided they may be purchased at not exceeding 102½. Subject to call at 102½ on any interest date. Secured on entire property, subject to underlying liens. Interest paid without deduction for normal income tax.

Series "A" bonds called at 102½; all other series at 105.

UNDERLYING BONDS OUTSTANDING.

\$2,666,000 San Joaquin Light & Power Company first mortgage 5s, of which \$2,595,000 with public, \$13,000 held by Company for sinking fund purposes, \$25,000 certified unsold and \$32,000 alive in sinking fund. Normal income tax deducted from interest.

\$25,000 San Joaquin Power Company first mortgage 5s, of which \$800,000 certified; \$755,-

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

000 retired by exchange, and \$20,000 retired by sinking fund. Normal income tax deducted from interest.

\$145,000 Power, Transit & Light Company first mortgage 5s, of which \$86,000 with public, \$59,000 alive in sinking fund. Interest paid without deduction for normal income tax.

\$123,000 Bakersfield & Kern Electric Railway

Company first mortgage 5s, of which \$43,000 held by public, \$2,000 held by Company for sinking fund purposes and \$77,000 held in Company sinking funds. Indenture does not contain tax free covenant.

\$1,000,000 convertible gold debentures, of which \$750,000 have been sold (December 31, 1917). Indenture contains tax-free covenant.

INCOME ACCOUNT, COMBINED PROPERTIES, YEAR ENDING DECEMBER 31, 1917.

	Operating expenses Including taxes	Net income	Fixed charges Net	Surplus
Gross income				
\$2,134,167.51	\$895,635.97	\$1,238,531.54	\$548,924.38	\$689,607.16

BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>		<i>Liabilities.</i>	
Rights, real estate, plants and properties	\$28,940,176.65	Stock Pfd.	\$6,500,000.00
Treasury securities	154,439.29	Common	11,000,000.00
Current Assets:		Bonds	11,179,000.00
Cash	231,651.32	Current liabilities:	
Notes receivable	229,900.65	Accruals, bond int., etc.	291,823.35
Accounts receivable	686,801.22	Notes payable	62,653.20
Materials and supplies	504,855.48	Accounts payable	174,902.54
Deferred charges, etc.	1,658,793.18	Pay rolls, etc.	184,027.01
Miscellaneous and undistributed disbursements	330,385.88	Reserves	1,674,759.34
		Capital surplus	373,917.50
		Surplus close of year	1,295,920.73
	\$32,737,003.67		\$32,737,003.67

OFFICERS.—President, W. G. Kerckhoff; Vice-Presidents, A. C. Balch, Ben. R. Mayer; Secretary, L. M. Farnham; Treasurer and Comptroller, A. E. Peat; Assistant Secretary, W. E. Durefy; General Manager, A. G. Wishon, Fresno,

Cal.; Purchasing Agent, J. H. Newlin, Fresno, Cal.

DIRECTORS.—W. G. Kerckhoff, A. C. Balch, B. R. Meyer, E. W. Niver, L. M. Farnham.

Annual meeting second Thursday in February.

SAN DIEGO CONSOLIDATED GAS AND ELECTRIC CO., SAN DIEGO, CAL.

The San Diego Consolidated Gas and Electric Co. was incorporated in April, 1905, under the laws of California.

FRANCHISES.—The Company operates under favorable franchises. The principal franchise rights were obtained under the constitution of California and are unlimited as to time.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$2,000,000	\$462,400
Common stock	4,000,000	2,955,000

Shares, \$100. Transfer agents, Continental & Commercial Trust & Savings Bank, Chicago; Guaranty Trust Co., New York.

FUNDED DEBT.—Bonds: 1st mortgage gold 5s: authorized, \$6,000,000; outstanding, \$4,630,000. Dated Mar. 1, 1909; due Mar. 1, 1939. Int. payable March and September at Harris Trust and Savings Bank, Chicago. Denomination, \$1,000; coupon, but may be registered; redeemable at 105 and interest after Mar. 1, 1914. Trustee of bonds, Harris Trust and Savings Bank, Chicago.

SINKING FUND.—June 1, 1910, to 1914, 3 per cent; June 1, 1915 to 1938, 5 per cent.

DEBENTURES.—Authorized, \$3,000,000; outstanding, \$356,000. Dated Dec. 1, 1912; due Dec. 1, 1922. Interest payable, June and December at Cont. & Com'l Tr. & Savings Bank, Chicago, Trustee. Denomination, \$1,000; coupon but may be registered. Redeemable at 101.

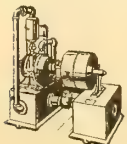
NOTES.—\$400,000 6 per cent collateral trust notes authorized and outstanding. \$400,000;

dated September 1, 1917; due September 1, 1919. Interest payable March 1 and September 1. Secured by first mortgage bonds of the company, and take precedence of common and preferred stock and all other floating indebtedness.

CONDENSED GENERAL BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Plant property and franchises....	\$8,979,629.75
Investments	15,000.00
Materials and supplies.....	277,828.86
Insurance premiums — unexpired portion	5,000.17
Interest paid in advance on notes payable	2,504.34
Taxes paid in advance.....	1,118.79
Cash	258,596.55
Special deposits	150.00
Notes and accounts receivable....	231,384.65
Notes receivable discounted (per contra)	6,905.53
Unamortized debt discount and expense	530,108.97
Deferred charges	*138,486.81
Total	\$10,446,814.42

* Includes expenses in connection with inventory of plant and storm and flood expense aggregating \$108,333.37, to be charged out over a period of seven to nine years, as per approval of Railroad Commission of California.



INSIST ON YOUR CONSUMERS utilizing the **NEEDHAM HIGH PRESSURE GAS SYSTEM.** It means entire satisfaction with gas as fuel.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

Liabilities.

Preferred capital stock	\$462,400.00
Common capital stock	2,955,000.00
Bonded debt	4,986,000.00
Col. trust 6 per cent gold notes...	400,000.00
Notes payable	396,000.00
Accounts and wages payable.....	220,659.96
Standard Gas and Electric Co....	8,546.93
Consumers' deposits	32,841.93
Unclaimed checks	378.92
Taxes accrued	64,120.08
Interest accrued	88,213.55
Dividends on preferred capital stock—accrued	8,092.00
Discounted notes receivable (per contra)	6,905.53
Reserve for renewal of plant property	656,424.94
Miscellaneous reserves	51,286.54
Profit and loss surplus.....	109,944.04
Total	\$10,446,814.42

EARNINGS FOR YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$1,602,174.27
Operating expenses	875,056.93
Net earnings	\$727,017.34

OFFICERS.—President, H. H. Jones; Vice-Presidents, A. S. Huey, H. M. Byllesby, F. C. Gordon, A. H. Sweet, Elmer Dover, O. E. Osthoff; Secretary, M. B. Fowler; Treasurer, M. B. Fowler; Manager, H. H. Jones.

DIRECTORS.—H. M. Byllesby, O. E. Osthoff, H. H. Jones, A. H. Sweet, R. L. Clarke, A. E. Holloway, R. S. Moore, C. C. May, M. B. Fowler.

Under the management of H. M. Byllesby & Co., Chicago, Ill.

Annual meeting of stockholders held the first Tuesday in January at San Diego. Company's fiscal year ends December 31.

COAST COUNTIES GAS AND ELECTRIC COMPANY, SAN FRANCISCO, CAL.

The Coast Counties Gas and Electric Co. was organized under the laws of the State of California, Mar. 20, 1912, for the purpose of purchasing and operating the properties of the Coast Counties Light and Power Co., Big Creek Light and Power Co., San Benito Light and Power Co., which properties have been deeded to the Coast Counties Gas and Electric Co. subject to their respective bonded indebtedness, and these issues are now closed. In addition to the purchases above enumerated, it was necessary to provide for the payment of the floating debt and to furnish capital for the extension of its lines in the rapidly growing territory served by the Company. This needed capital has been secured entirely through the sale of the preferred and common stock of the Company; there being no bond issue provided, the bonded indebtedness of the Company being limited to the underlying issues.

FRANCHISES.—The interpretation of counsel of the Company is that its franchise rights in municipalities are in accordance with Article II of the California Constitution, unlimited in time. Its transmission lines run largely over a private right of way owned in fee, and County franchises covering portions of the lines running over the County highways extend until 1946 to 1959.

CAPITALIZATION.

Original preferred, 6% cum.	\$1,000,000	\$1,000,000
First preferred, 6% cum.	1,000,000	100,100
Common stock	2,000,000	1,000,000
Shares, \$100. Dividend on pref. (both issues) stock, annual rate 6%, payable quarterly.		

OUTSTANDING BONDS.—The Coast Counties Gas & Electric Co. has issued no bonds, having provided for its financing through the sale of cumulative preferred and common stock. As will be noted from the financial statement, the outstanding bonds of the merged companies amount to a total of \$1,508,000.

SINKING FUND.—There are at present in the sinking funds of the various companies bonds to the par value of \$131,000 and cash \$3,772.09. All

bonds are kept in the sinking fund for interest purposes, the interest being added to the sinking fund for the retirement of outstanding bonds.

The Coast Counties Light & Power Co. sinking fund commenced June 30, 1911; 1 per cent of bonds annually.

The Big Creek Light & Power Co. sinking fund commenced March 30, 1908; \$3,600 per annum to be applied to the purchase of these bonds.

San Benito Light & Power Co. sinking fund commences June 30, 1915; 1 per cent of bonds annually.

All of the bonds purchased of these issues are kept alive for sinking fund accumulations.

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Fixed capital	\$2,859,679.31
Construction work in progress.....	25,643.33
Investments	865,138.36
Cash	17,303.22
Notes and accounts receivable.....	60,471.68
Material and supplies on hand.....	46,390.31
Other assets	37,632.46
Sinking funds (cash)	3,772.09
Total	\$3,916,030.76

Liabilities.

Capital stock — Common authorized	\$2,000,000
Capital stock—Outstanding.....	\$1,000,000.00
Capital stock—Original Preferred Authorized and outstanding.....	1,000,000.00
Capital stock—First Preferred—Authorized	\$1,000,000
Outstanding	100,100.00
Funded debt—In hands of public..	1,508,000.00
Notes and accounts payable.....	150,974.92
Other liabilities	31,743.22
Reserves—Insurance, bad debts, plant depreciation	93,611.01
Surplus unappropriated	31,601.61
Total	\$3,916,030.76

COMPLETE SYSTEMS for the handling of oil or gas. Consult us in regard to gas and oil lines, pumping stations and gasoline plants.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

EARNINGS AND EXPENSES, 1917.

Gross earnings	\$391,157.95	
Operating expenses, including taxes.	221,944.13	
Net operating income	\$169,213.82	
Bond and debenture interest	\$75,510.84	
Other interest	3,904.14	79,414.98
Net operating earnings	\$ 89,798.84	
Amortization of debenture discount and expense..\$	1,179.48	
Depreciation	24,000.00	25,179.48
Surplus	\$ 64,619.36	

TERRITORY SERVED.—The territory served by the company extends from the towns of Morgan Hill and Ben Lomond on the north, to Hollister on the south, and westward to the coast, including the cities of Santa Cruz, Watsonville and Gilroy, and the highly developed and growing contiguous territory.

The company has in operation one hydro-electric generating plant with a capacity of 1,080

horsepower, a steam plant at Santa Cruz with a capacity of 1,266 horsepower, and a steam plant at Watsonville with a capacity of 1,000 horsepower.

In addition, the Company has a long time contract, under very favorable terms, with the Pacific Gas & Electric Co. for such additional power as needed in supplying the demands of its territory. By its physical connection with the Pacific Gas and Electric Co. and steam plants, its customers are assured continuous and uniform service. Its distributing system consists of 87 miles of transmission lines and 675 miles of distribution lines.

The Company owns the gas plants in the towns of Santa Cruz, Watsonville and Hollister and operates municipal plant at Gilroy.

OFFICERS.—President and General Manager, S. Waldo Coleman; Vice-President, R. M. Hotaling; Secretary and Treasurer, L. W. Pryor.

DIRECTORS.—R. M. Hotaling, John C. Coleman, Louis Sloss, Joseph D. Grant, S. W. Coleman, J. Henry Meyer, W. T. Jeter.

Annual meeting held third Tuesday in March; fiscal year ends December 31.

COAST VALLEYS GAS AND ELECTRIC CO., SAN FRANCISCO, CAL.

The Coast Valleys Gas & Electric Co. was incorporated in March, 1912, under the laws of California and purchased physical properties of Monterey County Gas & Electric Co., Salinas Valley Water Co. and King City Water, Light & Power Co.

FRANCHISES.—The Company operates directly under the provisions of the constitution of the State of California. Its rights for the conduct of its business are adequate and without time limitation.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$2,000,000	\$2,000,000
Common stock	3,000,000	3,000,000
Shares, \$100.		

FUNDED DEBT.—Bonds, \$10,000,000; authorized, \$1,000,000; issued, \$900,000. Dated March 1, 1912; due March 1, 1952. Interest payable March 1 and September 1 at Mercantile Trust Co., San Francisco, or United States Mortgage & Trust Co., New York. Denomination, \$1,000. Coupon bonds; redeemable at 105 per cent on any interest date. Trustee of bonds, Mercantile Trust Co., San Francisco.

SECURITY.—First mortgage.

SINKING FUND.—One per cent of amount of bonds certified and issued prior to each payment after March 1, 1918.

EARNINGS YEAR ENDED JUNE 30, 1917.

Gross earnings	\$270,914.37
Operating expenses	161,991.24
Taxes	16,123.89
Depreciation	19,554.92
Uncollectible bills	451.53
Amortization bond disc. and exp....	685.86
Net earnings	72,106.93
Other income	2,215.04
Fixed charges	58,197.94
Surplus for year	16,124.03

OFFICERS.—President, H. F. Jackson; Vice-Presidents, P. M. Hoskins, Warren Gregory; Secretary and Treasurer, F. J. Blanchard; Manager, H. F. Jackson; Pur. Agent, L. C. Helfrich.

DIRECTORS.—P. M. Hoskins, H. F. Jackson, Warren Gregory, L. B. Mackey, F. J. Blanchard.

Annual meeting of stockholders held second Wednesday in September, at San Francisco, Cal.

NORTHERN CALIFORNIA POWER COMPANY, CONSOLIDATED,
995 Market St., San Francisco, Cal.

Incorporated Aug. 28, 1908, in Cal.; consolidation of the Northern California Power Co., and its controlled companies: Keswick Electric Power Co., Redding Water Co., Redding Electric Light & Power Co., Tehama Elec. Co., Redding Gas Co., Belle Vue Irrigation Co., Battle Creek Power Co., Willows Water & Light Co., Red Bluff and Willows. Early in 1912 purchased the properties and business of The Sacramento Valley Power Co. for \$1,760,000.

Operates six hydro-electric plants with combined output of 48,000 h. p.; water works, Redding and Willows; gas works, Redding, Red Bluff and Willows. Has 42 sub-stations and lights all important towns in Shasta, Tehama and Glenn Counties, California, also extensions into Colusa, Butte, Yolo and Trinity Counties. Has contract to deliver 10,667 h. p. to Pacific Gas & Electric Co., at Chico, Cal. Location of plants: Volta,



Tycos

Temperature Instruments for Gas Works

H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Shasta County, Cal.; Kilarc, Shasta County, Cal.; South Power House, Tehama County, Cal.; Inskip, Tehama County; Coleman, Shasta County; South Cow Creek, Shasta County. Gas is manufactured and distributed in Redding, Red Bluff and Willows, and water distributed for municipal and domestic uses in Redding and Willows. Franchises in cities, unlimited; county franchises for use of public highway for transmission lines extend from 1952 to 1956.

In December, 1917, the Company was serving 7,450 customers for light and power, 1,252 cus-

tomers for gas, 1,342 customers for water, and had a load of 54,077 horse-power connected up to its system.

CAPITAL STOCK.—Authorized and outstanding, \$10,000,000, fully paid; par, \$100. Dividends of 10c. per share were paid monthly from Dec. 22, 1908, to Feb., 1910, when rate was increased to 20c., which rate was paid to March, 1911, inclusive, after which date surplus earnings were applied to completion of Coleman 20,000 h. p. plant. Transfer office, 995 Market Street, San Francisco, Cal.

	BONDED DEBT.		Outstanding	
	Due.	Authorized.	Dec. 31, 1917.	Sinking Fund.
No. California Power Co. 1st gold 5s.....	1932	\$1,000,000	\$826,000	4% gross earnings
Battle Creek Power Co. 1st gold 5s.....	1936	1,000,000	84,000	\$20,000
Keswick Electric Power Co. 1st s. f. gold 5s	1931	200,000	22,000	5,000
Redding Water Co. 1st mtge.....	1936	60,000	10,000	
No. Cal. Power Co., Consol., refunding and cons. s. f. gold 5s.....	1948	*10,000,000	3,964,000	1% of bonds outstanding
Sacramento Valley Power Co. 1st 6s.....	1929	500,000	400,000	2½% of outstanding bonds
Sacramento Valley Power Co. 1st and refund. g. 6s.....	1941	†2,000,000	500,000	
No. Cal. Pwr. Co., Con. 6% gold deb., Ser. A	1915	‡860,500	498,237	
(Agreement to extend maturity to 1920 signed by all debenture owners.)				

*Int. Jan. and Dec. 1 at company's office and at U. S. M & T. Co., New York. Coupon, \$1,000: principal may be registered, Union Trust Co., San Francisco. Trustee. \$1,036,000 reserved to retire equal amount of underlying liens, and remaining \$5,000,000 available for new construction and extensions at 80% of the cost thereof. Sinking fund provision.

†\$1,100,000 have been cancelled and \$400,000 reserved to retire a like amount of prior liens.

‡\$362,262.77 have been cancelled.

BALANCE SHEET, DECEMBER 31, 1917.

Plant Investment:	Assets.	
Completed plant		\$10,513,773.39
Work in progress—Uncompleted construction estimates		113,091.65
Total		\$10,626,865.04
Quick Assets:		
Cash		38,231.78
Notes Receivable		290.82
Accounts Receivable—Consumers.....		88,717.39
Accounts Receivable—Miscellaneous		199.40
Total		\$127,439.39
Business Assets:		
Material and supplies.....		124,171.16
Shop supplies		42,542.27
Prepaid taxes		987.84
Ranch livestock, etc.		26,491.63
Total		\$194,192.90
Nominal Assets:		
Sinking funds		19,613.12
Unamortized discount on Capital Stock.....		6,900,000.00
Total		\$6,919,613.12
Investments:		
Stock in other corporations.....		250.00
Suspense:		
General		925.56
Accounts receivable—over 90 days old.....		50,924.25
Debt discount and expense—Unamortized.....		719.09
Total		\$52,568.90
Total Assets		\$17,920,929.35

Superior Drop-Forgings
of "Grand Prize" Calibre



APPENDIX

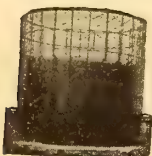
Capital Stock:	<i>Liabilities</i>	
Common		\$10,000,000.00
Surplus, unappropriated		351,223.50
Total		\$10,351,223.50
Funded Debt:		
Consolidated bonds		3,964,000.00
Underlying bonds		942,000.00
Guaranteed bonds		900,000.00
Debenture notes		498,237.23
Total		\$6,304,237.23
Current Liabilities:		
Notes payable		335,000.00
Accounts payable—Vouchers		29,928.74
Payrolls, etc.		21,433.58
Coupon interest matured		21,925.00
Meter deposits		4,243.16
Total		\$412,530.48
Accrued Liabilities:		
Coupon interest, unmatured		38,494.74
Rents accrued		69.44
Total		\$38,564.18
Reserves:		
Reserves invested in sinking funds		464,391.16
Reserve for sinking funds due but not paid		187,387.29
Reserve for sinking fund accrued but not due		12,824.17
Reserve for accrued depreciation		113,702.21
Total		\$778,304.83
Suspense:		
General		24,689.02
Collections in advance		11,380.11
Total		\$36,069.13
Total liabilities		\$17,920,929.35

INCOME ACCOUNT.

	1917.
Gross operating revenue	\$965,915.11
Deduct maintenance, operating expenses, taxes and uncollectible accounts	369,398.33
Reserve for accrued depreciation	42,100.11
Net earnings from operation	\$554,416.67
Add profits on merchandise sales and other miscellaneous income	17,746.17
Total net income	\$572,162.84
Deduct interest on bonds, debentures and floating debt (less amount charged to capital for work in course of construction)	334,626.11
	\$237,536.73
Deduct debt discount and expense and miscellaneous deductions from income	3,608.26
Balance	\$233,928.47

SURPLUS ACCOUNT.

	1917.
Balance from income account	\$233,928.47
Add miscellaneous additions to surplus	70.99
Balance	\$233,999.46
Deduct miscellaneous deductions from surplus	5,180.81
	\$228,818.65
Deduct appropriations to sinking funds for payments made during year	57,693.84
For amounts due and accrued but unpaid	56,390.00
Balance to corporate surplus	\$114,734.81
Surplus unappropriated at beginning of year	236,488.69
Dec. 31st, surplus as per balance sheet—Reinvested	\$351,223.50



We erected the first five million foot or larger holder on the Atlantic Coast, on the Pacific Coast and in the Gulf States.

R. D. WOOD & CO., PHILA., PA.



OFFICERS.—W. F. Detert, President; A. S. Carman, First Vice-President; F. Reis, Jr., Second Vice-President; Bank of California, Depository; W. H. Pearce, Secretary, San Francisco; Edward Whaley, Manager; J. M. Rogers, Assistant Secretary, San Francisco, Cal.

DIRECTORS.—H. H. Noble, A. S. Carman, F. Reis, Jr., W. F. Detert, S. W. Coleman.

Annual meeting, last Wednesday in February.

PACIFIC GAS AND ELECTRIC CO., 445 SUTTER STREET, SAN FRANCISCO, CAL.

The Pacific Gas & Electric Co. was incorporated under the laws of California in 1905. All of the properties now comprising its system, with minor exceptions, have been owned or controlled and have been operated as a single unit practically since the organization of the Company, which is the owner, in absolute fee, of all the properties which it operates. These properties, of which those heretofore belonging to the California Gas & Electric Corporation and to the San Francisco Gas & Electric Co. are the principal constituents, are devoted to the manufacture and sale of gas and electricity for light, heat and power, to street railway operations and to the sale of water. In the extent and value of its properties and assets, in the area of its operation, and in the magnitude of its revenue, the Company ranks as one of the largest and most successful public utility corporations in the United States.

FRANCHISES.—The franchise rights of the Company in municipalities are, in the opinion of counsel, unlimited in time, in accordance with Article II of the California Constitution. The larger part of the rights of way for transmission lines is owned in fee, and, where county franchises are necessary, with minor exceptions, same extend, in the opinion of counsel, beyond the maturity of the bonds.

CAPITALIZATION.

Common stock outstanding with public	\$34,004,058
Original preferred stock outstanding with public (6% cumulative)....	76,300
First preferred stock 6% cumulative:	
Issued, full paid	24,721,992
Subscribed but unissued.....	49,300

Dividend on preferred stock, annual rate 6%, payable quarterly.

BONDED DEBT.

General and refunding mortgage 5s outstanding	\$33,042,000
Underlying divisional bonds for the retirement of which a like amount of general and refunding 5s are reserved	46,361,800
Total bonded debt outstanding.	\$79,403,800

The aggregate amount of the present underlying issues can never be increased.

General and refunding mortgage 5 per cent gold bonds are dated December 1, 1911; due January 1, 1942. Interest payable January 1

and July 1. Optional as a whole January 1, 1937, or any interest date thereafter at 100 and interest, or in blocks of \$500,000 or upwards, or in any amount for sinking fund, on any interest date at 105 and interest; coupon bonds of \$1,000 denomination with privilege of registration as to principal or exchangeable for fully registered bonds. Bankers' Trust Co., trustee.

The general and refunding mortgage gold bonds are secured by a direct lien on all the properties now owned by the Company (and all extensions thereto, as well as any other property acquired by means of such bonds), subject only to the lien of the underlying divisional bonds.

The gas and electric properties of the Company, situated within the city of San Francisco, have an appraised value of about \$27,500,000, and are subject to underlying bonds aggregating only \$9,417,000. Upon the payment of these bonds, the present issue will become a first lien on such San Francisco properties, and pursuant to the provisions of the mortgage, all subsequent issues at the option of the Company may be denominated "First and Refunding Mortgage Gold Bonds," and the outstanding bonds may be exchanged for bonds in the new name.

The authorized issue of these bonds is \$150,000,000. The unissued bonds are available to the extent of \$46,340,300 for refunding the underlying issues and to the extent of \$68,802,700 to be issued under restrictions safeguarding the rights of outstanding bonds, for not exceeding 90 per cent of the cost of additions, betterments, extensions, acquisitions, etc., provided, however, the earnings available for bond interest are at least one and one-half times the annual interest on all outstanding bonds, including those to be issued, but excluding those held alive in the sinking fund.

SINKING FUND.—The general and refunding mortgage provides for semi-annual sinking fund payments to the trustee, beginning April 1, 1912, amounting annually to 1 per cent of the par value of all bonds, including the underlying bonds outstanding and those held alive in sinking funds, at the time the payments fall due. It is estimated that at the maturity of this issue more than \$38,000,000 of bonds, including underlying bonds, will have been retired through the operation of this sinking fund. The sinking fund has purchased and canceled to date \$815,000.

EQUITY.—The general and refunding bonds precede \$24,798,292.50 par value of preferred stock and \$34,004,058 par value of common having a present aggregate market value of more than \$40,000,000.

RELIABLE

"ANGLIRON"

RANGES

The most perfect combination of beautiful appearance, self-maintaining durability, all around efficiency and quick salability ever effected in gas range construction. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

APPENDIX

INCOME ACCOUNT FOR YEARS 1916 AND 1917.

	1916.	1917	Increase	Decrease.
Gross operating revenue.....	\$18,615,497.61	\$19,813,380.94	\$1,197,883.33	
Deduct maintenance, operating expenses, taxes and reserves for uncollectible ac- counts and casualties.....	9,558,881.91	11,604,690.71	2,045,808.80	
Net earnings from operation.....	\$9,056,615.70	\$8,208,690.23		\$847,925.47
Add profit on merchandise sales and other miscellaneous income	509,886.00	508,347.15		1,538.85
Total net income	\$9,566,501.70	\$8,717,037.38		\$849,464.32
Bond and other interest.....	3,844,933.71	4,100,906.95	255,973.24	
Balance	\$5,721,567.99	4,616,130.43		\$1,105,437.56
Bond discount and expense.....	173,186.01	185,050.51	11,864.50	
Balance	\$5,548,381.98	\$4,431,079.92		\$1,117,302.06

BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>		
Capital assets:		
Rights and goodwill and real estate, plants and properties		\$139,253,030.93
Discount and expense on capital stocks issued		4,017,070.31
Investments		1,115,332.01
Deposit in lieu of mortgage property sold.....		89,600.00
Trustees of sinking funds:		
Cash	\$11,325.97	
Interest accrued	59,522.49	
		70,848.46
Deferred charges:		
Discount and expenses on bonds.....	\$4,442,807.31	
Unexpired taxes and undistributed suspense items	14,762.59	
		4,457,569.90
Current assets:		
Materials and supplies on hand and in transit.....	\$2,094,097.36	
Installments receivable from subscribers to first preferred stock..	14,266.00	
Bills receivable	\$258,024.41	
Accounts receivable	1,876,827.73	
	\$2,134,852.14	
Less—Reserve for bad debts.....	\$155,164.79	
		\$1,979,687.35
Cash	1,768,092.55	
Other current assets	213,029.14	
		6,069,172.40
Other suspense		34,293.71
		\$153,106,917.72
<i>Liabilities.</i>		
Capital stock of Pacific Gas and Electric Company:		
Common: Issued	\$65,700,924.66	
Less—Owned by subsidiary companies ...	31,696,866.66	
		\$34,004,058.00
*First preferred	24,771,292.50	
Original preferred	76,300.00	
		\$58,851,650.50
Capital stock of subsidiary companies not held by the Pacific Gas & Electric Company, and unpaid dividends thereon.....		52,092.71
Funded debt:		
Pacific Gas & Electric Company—General and refunding 5 per cent. bonds	\$33,042,000.00	
Bonds of subsidiary companies.....	46,361,800.00	
		79,403,800.00
Bonds called but not redeemed.....		5,910.00
*Includes subscriptions \$49,300.		
Carried forward		\$138,313,453.21



Brought forward	\$138,313.453.21
Current liabilities:	
Account payable and unaudited bills.....	\$1,241,627.31
Drafts outstanding	286,071.69
Meter and line deposits	354,932.94
Unpaid coupons and dividends	72,769.39
Interest accrued but not due	1,361,166.01
Taxes accrued but not due	215,138.32
	<u>3,531,705.66</u>
Reserves:	
Depreciation	\$10,663,471.84
Deduct—Extraordinary replacements and loss on prop-	
erty sold or abandoned:	
At January 1, 1916.....	\$6,410,574.23
Charged during year	1,098,678.27
	<u>7,509,252.50</u>
	<u>\$3,154,219.34</u>
Insurance and casualty funds.....	106,526.82
Reserve for accounts charged during 1915 and 1916 to consumers	
in excess of rates allowed by city ordinances	1,849,321.50
Reserve as per railroad commission order No. 3484	57,844.34
	<u>5,167,912.00</u>
Surplus	6,093,846.85
	<u>\$153,106,917.72</u>

EARNINGS, AS OFFICIALLY REPORTED.

	1913.	1914.	1915.	1916.	1917.
Gross earnings	\$16,202,337	\$17,220,503	\$18,944,180	\$19,125,383	\$20,321,728
Operating expenses, maintenance					
and taxes	9,331,207	8,913,921	9,205,593	9,558,882	11,604,691
Net earnings	\$6,871,130	\$8,306,582	\$9,738,587	\$9,566,501	\$8,717,037
Bond and floating debt interest					
paid	3,902,045	4,191,401	3,985,410	3,844,933	4,100,907
Balance	\$2,969,085	\$4,115,181	\$5,753,177	\$5,721,568	\$4,616,130

OFFICERS.—President, F. G. Drum; Vice-President and General Manager, John A. Britton; Secretary and Assistant Treasurer, D. H. Foote; Second Vice-President and Treasurer, A. F. Hockenbeamer.

G. Drum, J. S. Drum, D. H. Foote, A. F. Hockenbeamer, J. A. McCandless, Chas. T. Rudolph, N. B. Livermore, C. O. G. Miller, John D. McKee, G. K. Weeks.

DIRECTORS.—F. B. Anderson, H. E. Bothin, J. A. Britton, W. H. Crocker, F. T. Elsey, F.

Annual meeting of stockholders held second Tuesday in April.

PACIFIC LIGHTING CORPORATION.

519 California St., San Francisco, Cal.

The Pacific Lighting Corporation was incorporated in San Francisco May 21, 1907, under the laws of California, and is a reorganization of the Pacific Lighting Company. The company controls the Los Angeles Gas & Electric Corporation, through ownership of stock.

CAPITALIZATION.

	Authorized	Outstanding
Pref. stock	\$10,000,000	\$4,162,000
Com. stock	10,000,000	4,800,000

Shares, par \$100. Transferred at office of corporation. Registrars, Union Trust Company of San Francisco.

During the year this corporation paid dividends quarterly. Upon the preferred stock at the regular rate of \$5 per annum, amounting to \$208,100. Upon the common stock the first three quarterly dividends were each at the rate of \$2.50 per share, and the last quarterly dividend was at the rate of \$3 per share, amounting on the common to \$504,000, and making the total of dividends paid \$712,100.

By resolution of the board of directors it was provided that the dividends paid May 15, 1917, were paid from the surplus profits of the corporation earned prior to March 1, 1913.

EVERYWHERE men in charge of Street Mains welcomed the GOODMAN STOPPER 20 years ago.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

APPENDIX

BALANCE SHEET AT JANUARY 1, 1918.

<i>Assets.</i>	
Stocks of gas and electric corporations	\$9,271,918.31
Other stocks	26,200.00
Bonds of Los Angeles Gas & Electric Corporation and its underlying bonds	104,541.33
U. S. Liberty bonds	30,000.00
Investments in bonds of other corporations	455,646.70
Sundry debtors	74,153.44
Cash	43,103.46
	<u>\$10,005,563.24</u>

<i>Liabilities.</i>	
To stockholders for 41,620 shares of preferred capital stock and 48,000 shares of common capital stock issued	\$8,962,000.00
Profit and loss account and undistributed 1917 profits	1,008,879.90
Dividend accrued on 41,620 shares of preferred stock for November and December	34,683.34
	<u>\$10,005,563.24</u>

CONSOLIDATED STATEMENT FOR YEAR ENDED
DECEMBER 31, 1917.

Gross revenues	\$5,118,515.97
Operating expenses, including taxes and amortization of bond discount	3,467,620.02
Depreciation	773,384.19
Net operating revenues	<u>\$877,511.76</u>
Gross profit	\$1,650,895.95
Dividends paid—	
Preferred stock	\$208,100.00
Common stock	504,000.00
	<u>712,100.00</u>
Surplus	<u>\$938,795.95</u>

OFFICERS.—President, C. O. G. Miller; Vice-President, Geo. H. Collins; Secretary and Treasurer, Horace H. Miller.

DIRECTORS.—George H. Collins, Charles Holbrook, A. Schilling, F. W. Van Sicklen, C. O. G. Miller.

Annual meeting of stockholders held first Wednesday in March at office of corporation, 519 California Street, San Francisco. Company's fiscal year ends December 31st.

SANTA BARBARA GAS AND ELECTRIC COMPANY, SANTA BARBARA, CAL.

Executive offices, Edison Building, Los Angeles, Cal.

Incorporated in August, 1909, in California as a consolidation of The Merchants Mutual Light & Power Company and the properties at Santa Barbara of the Southern California Edison Company.

Supplies gas and electricity to Santa Barbara, Montecito and Miramar. Owns and operates a modern steam generating station of 2,120 kw. capacity. The gas plant has a daily capacity of 1,000,000 cu. ft. and distributing system supplying entire city. Capacity of (three) gas holders, 460,000 cu. ft. Length of mains, 76 miles. Number of consumers, gas, 4,704; electricity, 6,408. Population served about 15,000.

CAPITAL.—Authorized common, \$500,000; outstanding, \$400,900. Authorized 6% cumulative preferred, \$500,000; outstanding, \$400,000. Controlled by Southern California Edison Company through ownership of a majority of capital stock. Dividends paid in 1917: preferred, 6%, common, 4%.

BONDS.—First mtg. 5% Serial and Sinking Fund Gold Bonds, dated July 1, 1916, due \$10,000 annually July 1-20 to 1940, and \$790,000 July 1, 1941. Authorized, \$3,500,000; outstanding, \$1,000,000. Interest January and July, at Los Angeles Trust & Saving Bank, Trustee, Los Angeles, Cal., and at E. H. Rollins & Sons, New York and San Francisco, Cal. Callable at 103. Denominations, \$100 and \$500 in 1941 maturity and \$1,000 in all maturities.

SINKING FUND.—Annual cash sinking fund begins July 1, 1917, of 1% of bonds outstanding in excess of \$1,000,000. This sinking fund is to be used in purchasing or calling by lot at 103

plus accrued interest bonds of this issue maturing in 1941. In addition to this sinking fund the trust deed provides for an improvement fund beginning July 1, 1917, which requires the deposit of cash equal to 1% of all outstanding bonds, which sum may be used to retire outstanding bonds or to reimburse the company for expenditures made for permanent extensions and additions, which expenditures may not then be used as a basis against which bonds may be issued.

Interest on above bonds payable in full without deduction of normal United States income tax.

COMPARATIVE STATEMENT AS OF DECEMBER 31.

	1917.	1916.	1915.	1914.
Gross earnings	\$429,475	\$396,638	\$327,905	\$282,098
Oper. exp. and taxes	230,316	199,573	169,831	163,435
Net earnings	\$199,159	\$177,065	\$158,074	\$118,663
Interest	63,604	59,371	53,470	46,991
Balance	\$135,555	\$117,694	\$104,604	\$71,672

OFFICERS.—John F. Diehl, President; W. A. Brackenridge and R. H. Ballard, Vice-Presidents; S. M. Kennedy, Secretary; W. L. Percey, Treasurer; R. H. Sterling, Manager.

BOARD OF DIRECTORS.—John F. Diehl, Jerome T. Johnson, John B. Miller, R. H. Sterling, W. A. Brackenridge, R. H. Ballard, S. M. Kennedy, A. B. Cram, Geo. I. Drysdale.

Annual meeting last Thursday in August.

Precision Orsats or Flue Gas Analyzers for either 50 or 100 CCs always in stock. Prices and Bulletins on request.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

WESTERN STATES GAS & ELECTRIC CO., STOCKTON, EUREKA AND RICHMOND, CAL.

The Western States Gas & Electric Co. was incorporated in November, 1910, under the laws of California and is a consolidation of Humboldt Gas & Electric Co., Stockton Gas & Electric Corporation, Richmond Lighting Corporation, American River Electric Co., Eureka Lighting Co., Arcata Light & Power Co., Fortuna Lighting Co. and Ferndale Electric Light Co.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$10,000,000	\$2,125,000
Common stock	5,000,000	3,231,500

Shares, \$100. Transfer agents, H. M. Byllesby & Co. Registrars, H. M. Byllesby & Co.

FUNDED DEBT.—Bonds, first and refunding gold 5s. authorized, \$10,000,000; outstanding (Dec. 31, 1917), \$4,465,500, dated June 1, 1911; due June 1, 1941. Interest payable December 1 and June 1 at Girard Trust Co., Philadelphia, Pa. Denominations, \$500 and \$1,000. Coupon, but prin-

cipal may be registered. Redeemable at 105 on any interest date. Trustee of bonds, Girard Trust Co., Philadelphia, Pa.

SINKING FUND.—On the first of December and June, from December 1, 1912, to June 1, 1914, $\frac{1}{2}$ per cent of bonds issued semi-annually; on the first of December and June, from December 1, 1914, to June 1, 1919, 1 per cent of bonds issued semi-annually; on the first of December and June, from December 1, 1919, to maturity of bonds, $1\frac{1}{4}$ per cent of bonds issued semi-annually.

Six per cent gold notes, \$1,564,000; dated Feb. 1, 1917, due Feb. 1, 1927; callable at 102 and interest any time prior to Feb. 1, 1921; at 101 and interest thereafter and prior to Feb. 1, 1925; and thereafter at 100 and interest. Guaranty Trust Co., New York, Trustee.

Bonds: Am. River first mortgage 5 per cent; authorized, \$1,000,000; outstanding, \$331,000; dated July 1, 1903; due July 1, 1953; interest payable January and July 1.

CONDENSED GENERAL BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Plant, property and franchises....	\$11,543,067.11
Cash deposited with trustees against 1st and refunding bonds.	25,500.00
Sinking funds:	
For American River Electric Company 1st mortgage bonds:	
Cash and accrued interest on bonds in sinking fund..	\$3,752.07
For West. States Gas & Electric Co. 1st and refunding bonds:	
Cash	49,000.94
	<hr/> 52,753.01
Investments	36,347.40
Materials and supplies.....	128,189.59
Insurance premiums—Unexpired portion	1,283.37
Interest paid in advance.....	651.80
Cash	22,070.78
Special deposits	300.00
Notes and accounts re- ceivable	\$192,757.28
Less—Reserve for un- collectible accounts.	5,254.63
	<hr/> 187,502.65
Unamortized bond discount and expense	660,500.23
Deferred charges	26,806.69
Total	<hr/> \$12,684,972.63

<i>Liabilities.</i>	
Preferred capital stock.....	*\$2,125,000.00
Common capital stock.....	*3,231,500.00
Bonded Debt:	
Am. River Elec- tric Company— 1st mortgage 5% gold bonds.....	\$1,000,000.00
Deposited with trustee, \$520,000; purchased through sinking fund, \$149,- 000	669,000.00
	<hr/> \$331,000.00
West. States Gas & Elec. Company— 1st and refunding 5% gold bonds..	\$4,472,500.00
Less—In treasury.	7,000.00
	<hr/> \$4,465,500.00
Ten-year 6% gold notes—Due Feb. 1, 1927	1,564,000.00
Notes payable	240,500.00
Accounts and wages payable.....	113,803.65
Standard Gas & Electric Company.	80,954.94
Consumers' deposits	16,113.34
Unclaimed checks	810.37
Taxes accrued	48,575.09
Interest accrued	58,505.81
Dividends on preferred capital stock—Accrued	37,187.50
Dividends on common capital stock—Payable	4,847.28
Reserve for renewal of plant prop- erty	269,639.69
Surplus	97,034.96
Total	<hr/> \$12,684,972.63

*Western States Gas & Electric Company of Delaware owns all except qualifying directors' shares.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

STATEMENT OF EARNINGS FOR YEAR ENDED
DECEMBER 31, 1917.

Gross earnings	\$1,402,869.74
Operating expenses	777,638.33
Net earnings	\$625,231.41

OFFICERS.—President, H. M. Bylesby; Vice-Presidents, F. C. Gordon, Otto E. Osthoff, Samuel Kahn, J. J. O'Brien, Elmer Dover; Sec-

retary, A. L. Chickering; Treasurer, Samuel Kahn; Manager, Samuel Kahn.

DIRECTORS.—B. F. Wellington, Jr., H. M. Bylesby, A. L. Chickering, O. E. Osthoff, Samuel Kahn.

Under management of H. M. Bylesby & Co., Chicago, Ill.

Annual meeting of stockholders held November 15 at San Francisco, Cal.

Company's fiscal year ends December 31.

THE COLORADO SPRINGS LIGHT, HEAT & POWER CO., COLORADO SPRINGS, COL.

The Colorado Springs Light, Heat & Power Co. was incorporated in June, 1910, under the laws of Colorado, and is a consolidation of the Colorado Springs Light & Power Co., Colorado Springs Electric Co. and Pike's Peak Hydro-Electric Co.

FRANCHISES.—Franchises expire in 1923.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,000,000	\$1,000,000
Common stock	1,000,000	1,000,000

Shares, \$100. Transfer agents, Bertron, Griscom & Co., Philadelphia, Pa.

Dividend on preferred stock, annual rate 6%, payable quarterly.

FUNDED DEBT.—Electric Co. Bonds, first 5s, authorized, \$1,000,000; issued, \$1,000,000; dated April 20, 1900; due April 20, 1920. Interest payable April 20 and October 20 at the New York Trust Co. Denomination, \$1,000. Coupon bonds, registerable as to principal. Redeemable at 110. Trustee, the New York Trust Co. Security, first mortgage on property formerly Colorado Springs Electric Co.

Light & Power Co. bonds, first 5s, authorized, \$300,000; issued, \$300,000; dated April 1, 1899; due April 1, 1919. Interest payable April 1 and October 1 at the New York Trust Co. Denomination, \$1,000 and \$500. Coupon bonds, registerable as to principal. Redeemable up to April 1, 1914, at 102½ and interest; thereafter at par. Trustee, the New York Trust Co. Security, first mortgage on property formerly Colorado Springs Light & Power Co.

Light, Heat & Power Co. bonds, first and refunding 5s, authorized, \$3,500,000; issued, \$1,284,000; dated August 1, 1910; due August 1,

1920. Interest payable August 1 and February 1 at the New York Trust Co. Denominations, \$1,000, \$500 and \$100. Coupon bonds, registerable as to principal. Redeemable prior to February 1, 1917, at 105; thereafter at 102½. Trustee, the New York Trust Co. and Mortimer N. Buckner. Security, first mortgage on Pike's Peak Hydro-Electric Company; second mortgage on property formerly Colorado Springs Electric Co. and Colorado Springs Light & Power Co.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR
ENDING DECEMBER 31, 1917.

Gross earnings	\$570,837.09
Operating expenses, renewals and replacements	402,435.18

Net earnings	\$168,401.91
Fixed charges	149,515.60

	\$18,886.31
Preferred stock dividend	60,000.00

Deficit	\$41,113.69
---------------	-------------

PRESIDENT—Geo. Bullock, New York City; First Vice-President, R. L. Holland; Second Vice-President, E. G. Connette; Secretary and Treasurer, John W. Ryter; Assistant Secretary and Assistant Treasurer, J. A. McKenna; General Manager, J. F. Dostal.

DIRECTORS—Geo. Bullock, Wilfrid M. Hager, M. J. Dodge, Clarence Underhill, C. T. Fertig, F. T. Homer, J. A. Hays, R. L. Holland, E. G. Connette.

EXECUTIVE COMMITTEE—R. L. Holland, C. T. Fertig, E. G. Connette.

THE DENVER GAS & ELECTRIC LIGHT CO., DENVER, COL.

The Denver Gas & Electric Light Co. was incorporated in November, 1909, under the laws of Colorado, to succeed Denver Gas & Electric Co., the Lacombe Electric Co., the Denver City Steam Heating Co. and the Denver Highlands Electric Co.

FRANCHISES.—Heat, dated July 29, 1901; expires December 15, 1919. Gas, dated May 15, 1906; expires May 15, 1926. Electric, dated May 15, 1906; perpetual.

CAPITAL STOCK.—Authorized, \$10,000,000; outstanding, \$10,000,000. Shares, \$100. Transfer

agents, International Trust Co., Denver, Col. Registrars, First National Bank, Denver, Col.

The Denver Gas & Electric Light Co. and its predecessor, the Denver Gas & Electric Co. have uninterruptedly paid dividends on their stock since 1907.

New issue, March 1, 1917, \$1,500,000 6% cumulative preferred stock, proceeds from sale to be applied to retirement of \$900,000 outstanding bonds of the Lacombe Electric Co., and for extensions and improvements to the property. Preferred as to both assets and dividends, with full

CALORIMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

The American-Junkers' Calorimeter has been greatly improved and accessories added until it has been made what we consider the most advanced type of instrument for this purpose now in use. This is confirmed by the numerous orders we are constantly receiving for it from all parts of the country and that it has been furnished to all the large syndicates, State Public Utilities Commissions and the City Gas Inspectors, the Public Utilities Commission at Washington, D. C., the U. S. Bureau of Standards, and the U. S. Department of War.

voting rights. Dividends payable monthly on 6% cumulative preferred stock, on the first of month, to holders of record on the 15th of the preceding month. Par value \$100. Callable on 30 days' notice at \$110. Registrars: The German-American Trust Co., Denver, Colo., and Metropolitan Trust Co. of New York. Transfer Agents: The International Trust Co., Denver, Colo., and Henry L. Doherty & Co., New York.

FUNDED DEBT.—(1) First and refunding sinking fund 5s of Denver Gas & Electric Light Co.; authorized, \$25,000,000; outstanding, \$5,372,000; dated May 1, 1911; due May 1, 1951. Denomination, \$1,000. Principal and interest payable at Henry L. Doherty & Co. Interest dates, May 1 and November 1. Trustee, Bankers Trust Co. Redemption at 105. Sinking fund, 1 per cent, beginning May 1, 1912, or may expend 2 per cent in improvements.

(2) General mortgage 5s of Denver Gas & Electric Co.; authorized, \$8,000,000; outstanding, \$6,583,150; dated May 1, 1903; due May 1, 1949; Denominations, \$1,000, \$500, \$250, \$100. Principal payable at Equitable Trust Co., trustee.

Interest on May 1 and November 1 at Henry L. Doherty & Co. Redemption at 105. Sinking fund, 1 per cent, beginning April 26, 1910.

(3) First mortgage of Lacombe Electric Co.; authorized (closed); outstanding, \$900,000; dated May 1, 1901; due May 1, 1921. Denomination, \$500. Principal payable at International Trust Co., Denver, trustee. Interest on May 1 and November 1 at Henry L. Doherty & Co. Redemption at 104. Sinking fund, \$15,000 annually, 1904 to 1919.

OFFICERS.—President, F. W. Frueauff; Chairman, Henry L. Doherty; Vice-President, W. J. Barker; General Manager, W. J. Barker; Secretary, Clare N. Stannard; Treasurer, H. T. Hughes.

DIRECTORS.—Henry L. Doherty, Frank W. Frueauff, Henry T. Rogers, Clare N. Stannard, Harry T. Hughes, Harry C. James, Fred. G. Moffat, John H. Porter, E. W. Rollins, W. J. Barker, John C. Mitchell, Godfrey Schirmer, R. J. Bardwell.

Annual meeting, third Tuesday in November.

THE BRIDGEPORT GAS LIGHT CO., BRIDGEPORT, CONN.

The Bridgeport Gas Light Co. was incorporated in 1849 under the laws of Connecticut, and in 1901 absorbed the Citizens Gas Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Common stock, authorized, \$4,000,000; outstanding, \$2,000,000. Shares, \$100. Registrars, Bridgeport Trust Co., Bridgeport, Conn.

Dividend on common stock, annual rate 8%, payable quarterly February 1, May 1, August 1 and November 1.

FUNDED DEBT.—Bonds, first mortgage 4s, authorized, \$1,000,000; issued, \$1,000,000; dated January 1, 1902; due January 1, 1952. Interest payable January 1 and July 1 at Central Trust

Co. of New York. Denomination, \$1,000. Coupon, with privilege of registration as to principal. Central Trust Co. of New York, registrars and trustees. Security, first mortgage.

OFFICERS.—President, De Ver H. Warner; Vice-President, F. M. Travis; Secretary, Ralph I. Munson; Treasurer, Geo. W. Roberts.

DIRECTORS.—De Ver H. Warner, L. T. Warner, C. F. Dieterich, A. E. Dieterich, F. B. Nairne, J. C. Brady, N. W. Bishop, F. M. Travis, Chas. G. Sanford, A. H. Mackenzie, H. A. Bishop, G. W. Roberts.

Annual meeting of stockholders held Tuesday after third Monday in May at Bridgeport, Conn. Company's fiscal year ends December 31.

THE DANBURY & BETHEL GAS & ELECTRIC LIGHT CO., DANBURY, CONN.

The Danbury & Bethel Gas & Electric Light Co. was incorporated in May, 1854, under the laws of Connecticut.

FRANCHISES.—Operating under state charter; perpetual.

CAPITALIZATION.—Common stock, authorized, \$525,000; issued, \$400,000. Shares \$25.

FUNDED DEBT.—Bonds: First refunding mortgage, gold, authorized, \$150,000; issued, \$150,000; dated December 1, 1903; due December 1, 1953; interest payable June 1 and December 1, at South Norwalk Trust Co., trustee. Denomination, \$1,000.

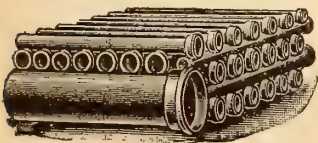
SECURITY.—First lien on property of company.

SINKING FUND.—Commencing December 1, 1923, \$5,000 of bonds at par and accrued interest may be retired.

OFFICERS.—President, Chas. H. Merritt; Vice-President, Frank W. Frueauff; Secretary, G. E. Cowperthwait; Treasurer, Alfred N. Wildman.

DIRECTORS.—Chas. H. Merritt, Charles A. Malory, Henry Bernd, George H. Williams, Alfred N. Wildman, George W. Merritt, Benezet A. Hough, Henry L. Doherty, J. Moss Ives, Frank W. Frueauff.

Annual meeting of stockholders held third Saturday in March.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO.
PHILADELPHIA, PA.

HARTFORD CITY GAS LIGHT CO., HARTFORD, CONN.

The Hartford City Gas Light Co. was incorporated in May, 1848, under the laws of Connecticut.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$750,000	
Common stock	1,250,000	

Shares, \$25. Transfer agents, Security Co.

Dividend on preferred stock, annual rate 8%, payable quarterly; common stock, 12% payable quarterly.

FUNDED DEBT.—Bonds, first mortgage 4s, authorized, \$1,000,000; issued, \$750,000; dated July 1, 1905; due July 1, 1935. Interest payable July 1, January 1, at Connecticut Trust & Safe Deposit Co. Denomination, \$1,000. Coupon bonds, registerable as to principal. Not redeemable. Trustee of bonds, Connecticut Trust & Safe Deposit Co. Security, first mortgage on entire property.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR
ENDING DECEMBER 31, 1917.

Gross earnings	\$792,677.39
Operating expenses	575,359.16
Net earnings	\$217,318.23
Fixed charges	41,576.18
	\$175,742.05
Preferred stock dividends	60,000.00
Surplus	\$115,742.05

OFFICERS.—President, E. B. Bennett; Vice-President, Francis R. Cooley; Secretary, J. A. McArthur; Treasurer, J. A. McArthur; Assistant Treasurer, W. A. Kneeland; Manager, E. E. Eysenbach.

DIRECTORS.—J. T. Robinson, E. B. Bennett, F. B. Cooley, J. H. Knight, Philip Roberts, J. J. Bodell, Philip B. Simonds, Morgan G. Bulkley, Jr., Frank C. Sumner.

Annual meeting of stockholders held third Tuesday in January at Hartford.

Company's fiscal year ends December 31.

THE CONNECTICUT POWER COMPANY, NEW LONDON, CONN.

This company has acquired by consolidation the properties formerly owned by The New London Gas and Electric Company and The Middletown Electric Light Company, and does the entire gas, electric lighting and commercial power business in New London, Conn., and the entire electric lighting and commercial power business in Middletown, Middlefield, Durham, Portland and Cromwell, Conn. Through the purchase of the properties of The Berkshire Power Company, The Sharon Electric Light Company and The Norfolk Electric Light Company, the company does the entire electric lighting and commercial power business in North Canaan, Norfolk, Sharon and Salisbury, Conn. Under a 999-year lease the company operates the Thomaston Electric Light Company which serves Thomaston, Conn., and vicinity. From the new hydro-electric plant on the Housatonic River at Great Falls, Falls Village, Conn., where 12,000 horse power has been developed, wholesale current is furnished to public service companies in Torrington, Bristol and Hartford.

FRANCHISES.—Not limited in time.

Stock.—(Shares, \$100 par.) Non-taxable in Connecticut. Preferred authorized (by stockholders) and outstanding, \$1,250,000. Redeemable at 115. Preferred as to dividends and in case of liquidation. Common authorized (by stockholders) and outstanding, \$1,000,000.

NOTE.—Capital stock, preferred and common, authorized by charter, is unlimited, but only so much of the unissued stock shall be preferred as the stockholders may determine.

DIVIDENDS.—Preferred stock, 6% cumulative, payable March 1, June 1, September 1 and December 1. Common stock paid in 1917, 6%.

TRANSFER AGENTS.—Stone & Webster, Boston.

STOCK REGISTRAR.—Old Colony Trust Company, Boston.

BONDS.—First and consolidated mortgage, 50 year, 5% gold, due April 1, 1963:

Outstanding	\$1,928,000
In sinking fund cancelled	36,000
Authorized (see Note)	1,964,000
Callable as a whole (or in part for sinking fund) at 107½, and interest on any interest day.	

NOTE.—The amount of authorized bonds is not limited, but additional bonds may be issued only under the carefully guarded restrictions of the mortgage. The issued bonds bear interest at the rate of 5%, but the unissued bonds may bear interest at a lower rate, as determined by the Board of Directors. These bonds are issued in exchangeable denominations and forms: in coupon form in \$500 and \$1,000 denominations, registerable as to principal only; in registered

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

form in \$5,000 denomination and multiples thereof.

SINKING FUND.—1% per annum of bonds outstanding, payable April 1.

Bonds of underlying companies outstanding:
 The Connecticut Power Co. 1st 5's, due 1956 (closed mortgage) \$517,000
 The New London Gas and Electric Company 5's, due 1927, 1929 and 1933 (closed mortgages) 725,500
 The Berkshire Power Company 5's, due 1934 (closed mortgage) 100,000
\$1,342,500

COUPONS.—April 1 and October 1, payable at office of trustee.

TRUSTEE AND REGISTRAR OF BONDS.—Old Colony Trust Company, Boston.

WILMINGTON GAS CO.

(Operating in Wilmington, Del.)

Principal office: 1127 Land Title Building, Philadelphia, Pa.

The Wilmington Gas Co. was incorporated in August, 1909, under the laws of Delaware, and is successor to Wilmington Gas & Electric Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,500,000	\$1,240,800
Common stock.....	3,000,000	3,000,000

Shares, \$100. Transfer agents, The C. H. Geist Co. Registrars, Girard Trust Co., Philadelphia.

Dividend on preferred stock, annual rate 6%, payable semi-annually.

FUNDED DEBT.—First and refunding sinking fund mortgage 40-year 5 per cent gold bonds, authorized, \$5,000,000; issued, \$2,616,000; dated September 1, 1909; due September 1, 1949. Interest payable March 1 and September 1 at

EARNINGS AND EXPENSES (COMBINED COMPANIES). FOR TWELVE MONTHS ENDING DECEMBER 31, 1917:

Gross earnings	\$870,621.42
Operating expenses and taxes	473,171.52
Net earnings	397,449.90
Interest charges and rentals	186,697.93
Balance	210,751.97
Sinking fund requirements	20,563.28
Balance	\$190,188.69

Dividends:
 Preferred stock, 6%...\$75,000.00
 Common stock, 6%.... 60,000.00 **135,000.00**

Balance for reserves and replacements \$55,188.69

OFFICERS.—President, Fredk. P. Royce; Vice-Presidents, Marcy L. Sperry and Winthrop G. Bushnell; Treasurer, Henry B. Sawyer; Secretary, William T. Crawford. Under the management of Stone & Webster.

Girard Trust Co., Philadelphia, Pa. Denomination, \$1,000. Coupon; may be registered as to principal. Redeemable at 105 and interest on September 1, 1919, or any interest date due thereafter. Trustee of bonds, Girard Trust Co. Security, first lien on all property now owned or hereafter acquired. Sinking fund, \$25,000, June 1, 1924, and each June 1 thereafter.

OFFICERS.—President, C. H. Geist; Vice-President, Edmund Mitchell; Secretary, C. H. Weak; Treasurer, H. A. Lang; General Manager, H. S. Schutt.

DIRECTORS.—C. H. Geist, C. H. Weak, H. A. Lang, Geo. H. Eyre, Edmund Mitchell.

Annual meeting of stockholders held first Tuesday of September at Wilmington, Del.

Company's fiscal year ends August 31.

WASHINGTON GAS LIGHT CO., WASHINGTON, D. C.

Office, 413 Tenth St., N. W.

The Washington Gas Light Co. was incorporated in 1848 by Act of Congress. In 1917 the Company became owner of the entire capital stock of the Georgetown Gas Light Company, and acquired by purchase the entire capital stock and bonds of the Rosslyn Gas Company of Rosslyn, Va.

FRANCHISE.—No limit, except right to repeal as in all laws made by Congress.

CAPITALIZATION.

Capital stock, \$2,600,000; shares, \$20.
 Dividend reduced in 1917 from \$1.20 per share to 90 cents per quarter per share.

REGISTRAR OF STOCK.—American Security and Trust Co.

FUNDED DEBT.—Bonds: general mortgage 5s, authorized, \$5,000,000; issued, \$4,196,652; dated

Nov. 1, 1910; due Nov. 1, 1960. Interest payable May 1 and November 1 at the office of trustee, American Security and Trust Company. Denomination, \$500, coupon form.

DETAILED STATEMENT OF WASHINGTON GAS LIGHT CO. FOR YEAR ENDED DEC. 31, 1917.

Book value of plant.....	\$13,777,365.87
Amount of paid up capital stock..	2,600,000.00
Amount and character of the indebtedness of the company:	
Fifty-year 5% gold coupon bonds.....	\$4,196,652.00
Consumers' deposits...	231,871.55
Notes payable.....	828,000.00
Accounts payable (current)	214,706.10
	\$5,471,229.65



SMOKE STACK AND CHIMNEY PAINTS

We have different kinds of smoke stack and chimney paints depending upon the temperature to be met with and on other conditions; write and we will submit specifications. For most service we recommend our No. 750 Smoke Stack Black.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Extensions, equipment, construction and betterments made in year 1917:	
General structures.....	\$27,479.88
General office equipment	2,025.97
General shop equipment	51.53
General store equipment	623.10
General stable equipment	22,099.11
Distribution department equipment.....	691.75
Works and station-structures	46,885.84
Furnaces, boilers and accessories	5,182.74
Steam engines	3,833.84
Water gas sets and accessories	10,118.36
Purification apparatus	974.41
Accessory equipment at works.....	7,478.09
Trunk lines and mains	26,989.18
Gas services	34,872.09
Gas meters	31,116.37
Gas meters installation	3,725.49
Municipal street lighting fixtures.....	698.32
Gas tools and implements	141.76
Gas laboratory equipment	2,432.30
Engineering and superintendence	4,643.92
Fence square east of square 1025	50.17
Coal scow	5,113.15
Lots 20 and 21, square 2914, cement sidewalk, etc.....	110.75
Lot 815, square 378, water main and paving	164.31
Lot 809, square 378, paving	13.20
	<u>\$237,515.63</u>

REVENUES.

Gas sales	\$2,418,487.06
Sale of residuals and by-products:	
Tar	\$4,031.60
Light oils	65,362.88
	<u>69,394.48</u>
Other revenues	53,531.75
Total revenues from all sources.	<u>\$2,541,413.29</u>

EXPENSES.

Gas making labor.....	\$114,810.23
Generator fuel (54,325 223/2240 tons)	376,217.60
Boiler fuel (20,386 1158/2240 tons)	101,329.06
Carried forward	<u>\$592,356.89</u>

Brought forward	\$592,356.89
Fuel under retorts (85 100/2240 tons)	522.96
Oil (13,243,535 gallons).....	450,109.70
Purifying material	5,056.87
Water	429.98
Miscellaneous works, expense, gas storage works and station structures, maintenance, etc.....	46,916.82
Power plant equipment maintenance	11,580.72
Gas appliances maintenance.....	35,695.31
Transmission and distribution expenses	163,423.55
Street and park lighting expenses	5,220.55
Commercial expenses	130,419.69
Salaries and expenses general offices, general office clerks and administrative expenses, including law expenses.....	100,393.27
Insurance	7,862.98
Relief department and pensions..	17,261.10
Residual expenses	185.67
General amortization	80,594.82
Injuries to persons and property..	1,197.00
Stationery, printing and postage..	8,712.63
Store expenses	11,053.93
Stable and automobile expenses...	48,589.29
General structures maintenance..	6,384.73
Accounts written off.....	474.86
Taxes	176,201.89
Interest	242,067.62
Amortization of debt discount and expense	3,528.60
Other expenses	3,970.09

\$2,150,211.52

Less miscellaneous adjustments, balance	44,590.35
---	-----------

\$2,105,621.17

Surplus after paying operating expenses and fixed charges, but before payment of dividends.....	435,792.12
---	------------

\$2,541,413.29

Gas manufactured, cubic feet....	3,607,865,000
Less condensation, leakage, etc...	293,170,895
Gas sold	3,314,694,105
Average price received per 1,000 cubic feet sold to consumers....	\$0.73944
Total number of consumers' meters in use Dec. 31, 1917.....	73,326
Actual cost of extensions, equipment, construction and betterments paid from earnings.....	\$237,515.63
Amount expended for labor.....	580,195.59
Amount set aside and paid in interest	242,067.62
Amount set aside and paid in dividends	585,000.00
Amount set aside for depreciation and renewals after deducting amount expended for maintenances	80,594.82
Total number of stockholders....	1,649



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

APPENDIX

557

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Current Assets:

Cash	\$167,046.20	
Bills receivable	4,678.03	
Accounts receivable	500,222.66	
Interest and dividends receivable.....	2,760.39	
Materials and supplies.....	350,333.08	
Other current assets.....	1,205.00	
		\$1,026,245.36

Miscellaneous Investments:

Georgetown Gas Light Co. stock, 6,000 shares.....	555,891.50	
Georgetown Gas Light Co. bonds.....	132,503.00	
Washington Gas Light Co. Mont. Co. Md., stock, 497 shares....	10,000.00	
Rosslyn Gas Co. stock, 500 shares.....	39,000.00	
Rosslyn Gas Co. bonds.....	81,000.00	
		\$18,394.50

Fixed Capital:

Fixed capital December 31, 1909.....	12,214,841.37	
Fixed capital installed since December 31, 1909.....	1,562,524.50	
		13,777,365.87

Miscellaneous Temporary Debits:

Prepayments	31,568.78	
Unamortized debt discount and expense.....	10,666.17	
Construction work in progress.....	30,628.57	
Suspense accounts	473.43	
		73,336.95

Liabilities.

\$15,695,342.68

Unfunded Debt:

Taxes accrued	\$195,767.54	
Interest accrued	43,181.58	
Consumers' deposits	231,871.55	
†Bills payable	\$28,000.00	
Accounts payable	214,706.10	
Other unfunded debt.....	1,331.11	
		\$1,514,857.88

Funded Debt:

Fifty-year 5% gold coupon bonds.....	4,196,652.00	
		4,196,652.00

Consumers' proportion of gas services.....

46,417.94

Reserves:

Accrued amortization of capital.....	508,852.46	
Unamortized premium on debt.....	9,144.80	
		517,997.26

Capital stock 2,600,000.00

*Corporate surplus 6,819,417.60

\$15,695,342.68

* Corporate surplus Dec. 31, 1916, \$6,970,772.15

* Corporate surplus Dec. 31, 1917, 6,819,417.60

† Bills payable. \$828,000.

Of this amount \$778,000 is secured by collateral.
(Stock and bonds owned by the company.)

INCOME ACCOUNT, 1917.

Operating Income:

Operating revenues	\$2,498,528.30	
Operating expenses	1,679,378.11	

Net operating revenue..... \$819,150.19

Outside Operations:

Revenues	321,728.38	
Expenses	298,544.06	

Net gain from outside operations..... 23,184.32

Total net revenue..... 842,334.51

HUNT INDUSTRIAL RAILWAYS for handling coal are built in a variety of special forms, for side or bottom dumping, or for emptying with minimum labor with shovels. Standard designs of cars, track, curves, switches, etc., can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Total net revenue (brought forward).....		\$842,334.51
Deductions from Total Net Revenue:		
*Taxes (excess profits tax, if any, not included)	176,201.89	
Total deductions from net revenue.....		176,201.89
Net operating income.....		666,132.62
Other income		16,676.31
Gross corporate income.....		682,808.93
Deductions from Gross Corporate Income:		
Interest	242,067.62	
Other deductions	4,949.19	
Total deductions from gross corporate income.....		247,016.81
Net corporate income.....		\$435,792.12

* Excess profits tax—When this report was made there was not sufficient information available to determine the amount of excess profits tax, if any, this company will be required to pay.

OFFICERS.—President, Howard S. Reeside; Secretary, William B. Orme; Assistant Secretary, George M. Whitwell; Treasurer, Lawrence Townsend; Assistant Treasurer, Rawlins Hume;

General Auditor, Sanford N. Whitwell; Engineer, J. S. McIlhenny.

DIRECTORS.—Howard S. Reeside, Ord Preston, Guy F. Whiting, Joseph Leiter, James M. Green, Daniel Fraser, John D. McIlhenny.

JACKSONVILLE GAS COMPANY, JACKSONVILLE, FLA.

The Company was incorporated July 14, 1874, under the laws of Florida. The Company does all of the gas business in the City of Jacksonville, Florida, and suburbs. Population served, 90,000 (estimated).

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,500,000	\$250,000
Common stock	3,000,000	1,500,000

Dividend on preferred stock, 7 per cent, payable March, June, September and December 1.

BONDED DEBT.

*First mortgage sinking funds 5s	\$6,000,000	\$1,880,000
6% 10-year debentures....	1,200,000	1,200,000

*Dated June 1, 1912. Due June 1, 1942. Redeemable on any interest date at 105 and interest. Interest payable semi-annually, on the first day of June and December. Coupon bonds of \$1,000 denomination. May be registered as to principal. Principal and interest payable at First National Bank, New York City, or Central Trust Company of Illinois, Chicago, Trustee.

SECURITY OF INVESTMENT.—These bonds are secured by an absolute first mortgage upon all the property, rights and franchises owned by the Company at the time of the execution of such mortgage, and such mortgage also covers all after acquired property.

SINKING FUND.—The mortgage provides for the creation of a sinking fund by the payment to the Trustee of the following named sums, which fund must be held by the Trustee as so

much additional security for the bonds, unless used to retire outstanding bonds of this issue at not exceeding 105 and accrued interest: Beginning June 1, 1917, which is at the end of five years, \$5,000 annually for a period of five years; \$10,000 annually during the next five years; \$30,000 annually during the next five years; \$35,000 annually during the next five years, and \$40,000 annually during the next five years, making a total payment of \$600,000 into the sinking fund before the maturity of the bonds.

ESCROW BONDS.—The escrow bonds are deposited with the Trustee. \$600,000 of these bonds may be used by the Company after January 1, 1914, to retire a like amount of the 6 per cent Debentures of the Company, at the rate of not more than \$100,000 a year, provided the net earnings of the Company for the preceding 12 months shall have been at least double the bond interest, including the interest on the bonds which it is proposed to use for this purpose. The remaining escrow bonds can be issued for only 80 per cent of the actual cost of improvements, betterments and additions, and then only provided the net earnings of the Company for the preceding 12 months shall have been at least double the bond interest, including the interest on the bonds which it is proposed to issue.

ADDITIONAL SECURITY OF INVESTMENT.—In order to meet the growing demands of the Company, an issue of \$1,200,000 of 6 per cent 10-Year Debenture Bonds has been authorized, \$1,035,000 of which have already been issued. These Debenture Bonds come after the First Mortgage Bonds and therefore add materially to the security of the investment.



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



EARNINGS AND EXPENSES.
Year ending December 31.

	1916	1917
Gross earnings	\$327,591	\$379,142
Operating expenses, taxes, maintenance and renewals.	151,521	174,848
Net earnings.....	\$176,070	\$204,294
Annual interest charge on \$1,880,000 first 5s.....	94,000	94,000
Surplus	\$82,070	\$110,294

OFFICERS.—K. L. Ames, President and Treasurer; H. B. Hoyt, Vice-President; L. R. Kennedy, Secretary; H. B. Hoyt, General Manager.

DIRECTORS.—K. L. Ames, W. W. Ross, J. C. Markley, Geo. F. Goodnow, H. B. Hoyt.

Annual meeting of stockholders held the third Monday in February at Jacksonville, Fla.

Company's fiscal year ends December 31.

SOUTHERN UTILITIES COMPANY, JACKSONVILLE, FLORIDA.

The Southern Utilities Company was incorporated in March, 1913, under the laws of Florida, and is a holding company, owning all the outstanding securities, with two minor exceptions, of the following companies: Ariston Ice & Electric Co. of West Palm Beach, Fla.; Arcadia (Fla.) Ice & Electric Co., Cordele (Ga.) Electric Co., Live Oak, Fort Lauderdale (Fla.) Ice & Electric Co., Fort Myers (Fla.) Ice & Electric Co., Lake City (Fla.) Ice Co., Lakeland (Fla.) Ice Co., Live Oak Lime Stone Co., Live Oak (Fla.) Ice & Electric Co., Manatee Electric Co., serving Bradentown, Manatee and Palmetto, Fla.; Miami (Fla.) Ice & Cold Storage Co., Okeechokee (Fla.) Ice Co., Palatka (Fla.) Public Service Co., Pensacola (Fla.) Ice Co., Punta Gorda (Fla.) Ice Co., St. Augustine (Fla.) Ice Co., Sanford (Fla.) Public Service Co., Sanford (Fla.) Ice & Water Works Co., Tarpon Springs (Fla.) Ice & Electric Co., Tifton (Ga.) Ice & Power Co., Titusville (Fla.) Ice Co.

CAPITALIZATION.—Preferred stock, cumulative, authorized, \$5,000,000; outstanding, \$1,520,000. Common stock, authorized, \$5,000,000; outstanding, \$2,596,100. Shares, \$100. Transfer agents, J. G. White & Co., Inc. Registrars, Guaranty Trust Co. of New York. Dividend on preferred stock, annual rate, 7%, payable quarterly.

FUNDED DEBT.—Bonds, 1st mortgage, S. F., 6% gold; authorized, \$20,000,000; outstg., \$2,300,000; dated April 1, 1913; due April 1, 1933; interest payable April and October at United States Mortgage & Trust Co., or London office of Guaranty Trust Co. Denomination, \$1,000. Coupon registerable in \$10,000 denomination at company's option. Redeemable at 105 and interest.

SECURITY.—First mortgage on all company's property subject to \$46,000 par of underlying bonds.

SINKING FUND.—1 per cent on outstanding bonds beginning April 1, 1916. Redemption of bonds.

OFFICERS.—President, J. H. Pardee; Vice-Presidents, C. I. Day and J. I. Mange; Secretary and Treasurer, T. W. Moffat; General Managers, The J. G. White Management Corporation.

DIRECTORS.—C. I. Day, S. L. Selden, Frank Battles, J. I. Mange, George G. Mason, Joseph K. Choate, R. B. Marchant, J. H. Pardee, Edward Shearson, P. A. Vans Agnew, Walter L. Worrall, J. G. White.

Annual meeting of stockholders held fourth Tuesday of March at Kissimmee, Florida. Company's fiscal year ends December 31.

TAMPA GAS COMPANY, TAMPA, FLORIDA.

The Tampa Gas Co. was incorporated under the laws of Florida.

CAPITALIZATION.—Authorized, \$600,000; outstanding, \$600,000. Shares, \$100.

FUNDED DEBT.—Bonds: First mortgage gold 5s, authorized \$1,000,000, issued \$985,000. Dated May 1, 1907; due May 1, 1937. Interest payable May 1 and November 1 at Fidelity Trust Co.,

Philadelphia, Trustee. Denomination, \$1,000 coupon, registerable as to principal.

OFFICERS.—President, John Gribbel; Vice-President, D. J. Collins; Secretary, Rosco Nettles; Treasurer, D. J. Collins; Manager, Rosco Nettles.

DIRECTORS.—John Gribbel, D. J. Collins, P. O. Knight.

GEORGIA RAILWAY & POWER CO., ATLANTA, GA.

The Georgia Railway & Power Company was incorporated on October 16, 1911, under the laws of Georgia.

In addition to the properties acquired in the early part of 1912, the Georgia Railway & Power Co. has acquired by purchase properties on the Tallulah River for the construction of the hydro-electric development at Tallulah Falls and for the storage reservoir at

Mathis, Ga., on the Tallulah River, about seven miles from Tallulah Falls. Also the dam across the Tallulah River; the intake, tunnel and forebay, power house, machinery and equipment at Tallulah Falls; the Steel Tower transmission line extending from Tallulah Falls to Atlanta, Ga., and from Atlanta, Ga., to Rome, Ga., and Newnan, Ga., and wooden-pole transmission line extending from Rome, Ga., to the Tennessee

HOLDERS, WATER AND GAS WORKS APPLIANCES, PIPE

R. D. WOOD & CO., PHILA., PA.



State line, and from Atlanta, Ga., to Social Circle, Ga., and Monroe, Ga., and from Newnan, Ga., to Carrollton, Ga., together with electric sub-stations. Also various distributing systems, and a line of electric railroad, extending eight miles.

The Georgia Railway & Power Company owns four developed hydro-electric plants, viz., one at Tallulah Falls, Ga., one at Gainesville, Ga., one on the Chattahoochee River, one on the Savannah River; and also owns property controlling other undeveloped powers on the Etowah, Chattahoochee, Tugaloo and Savannah Rivers.

CAPITALIZATION.—First preferred stock (6% cumulative) authorized, \$2,000,000; second preferred (4% non-cumulative), authorized \$10,000,000; common stock, authorized, \$15,000,000. Shares, \$100. Transfer agents, Old Colony Trust Co., Boston, Mass. Registrar, American Trust Company, Boston, Mass. Par value, \$100.

The first preferred stock may also be transferred at Atlanta (Ga.) Trust Co. and registered at the Trust Co. of Georgia, Atlanta, Ga.

Second preferred has preference over the common stock, to the extent of receiving 4% non-cumulative dividends. Its preference ceases whenever it and the common have received as much as 4 per cent per annum for three (3) consecutive years, when it becomes common.

Voting trust agreement dated March 18, 1912.

Trustees of voting trust certificates: H. M. Atkinson, Bradley W. Palmer, C. Elmer Smith, George G. Moore, Randal Morgan, Percy R. Pyne, Elliott G. Stevenson.

Depository: Old Colony Trust Company, Boston, Mass.

**BONDED DEBT—TOTAL \$14,003,500, AS OF
DECEMBER 31, 1917.**

\$12,167,000.* First and refunding 5s; dated April 1, 1914; due April 1, 1954; interest April 1 and October 1, at the office of Fidelity Trust Company, Philadelphia, Pa., or at option of the holder, in sterling money of Great Britain at the office of Morgan, Grenfell & Company, London. Coupon, \$1,000 or £205, 15s. 3d. and \$500 or £102 17s. 7d.; principal may be registered, subject to call on April 1 in each of the years 1919 to 1923, inclusive, at 102½ per cent and accrued interest, or on any interest date thereafter at 105 per cent and accrued interest after 56 days' notice. Sinking fund payments on February 1 in each of the years: 1919 to 1924 inclusive, each year, \$75,000; 1925 to 1928 inclusive, each year, \$100,000; 1929 to 1953 inclusive, each year, \$125,000.

Bonds are callable for the sinking fund at not exceeding 102½ per cent and accrued interest to April 1, 1923, or at 105% and accrued interest after April 1, 1923. Bonds purchased for and held in the sinking fund shall be in force for the purpose of the sinking fund, but for all other

* Includes \$436,500 certified for retiring like amount of Blue Ridge Electric Co. and Savannah River Power Co. bonds.

purposes shall be considered paid. Authorized \$30,000,000, of which \$1,000,000 issued to reimburse the Company for construction and acquisition of properties, and \$11,917,000 reserved to retire prior liens. Of these \$8,865,000 have been issued and exchanged at par for a like amount of the first mortgage bonds of the Georgia Power Company; the balance for additions, extensions or improvements at 80 per cent of actual cost, and for lands for and construction of hydro-electric plants at 85 per cent of actual cost.

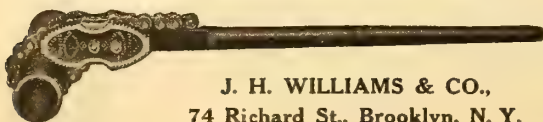
\$236,500 (closed mortgage) Blue Ridge Electric Company first gold 5s; dated July 1, 1910; due July 1, 1940; interest January 1 and July 1, at Columbia Trust Company, New York, Trustee. Coupon, \$500; principal may be registered. Authorized, \$1,370,000. The Georgia Railway and Power Company has assumed the agreement indorsed on each bond by the Georgia Power Company to purchase them at par for cash on or before October 1, 1916, or to substitute for them at its option at par Georgia Power Company first 5 per cent bonds, due 1940. These latter bonds are assumed and guaranteed by the Georgia Railway and Power Company.

\$1,400,000. Atlanta Water and Electric Power Company first 5s; dated October 1, 1903; due January 1, 1943; interest, January 1 and July 1 at Columbia Trust Company, New York, Trustee. Coupon, \$1,000; principal may be registered. Authorized, \$1,500,000; \$62,000 held in sinking fund. Sinking fund, \$5,000 per annum, January 1, 1908, to January 1, 1917; thereafter, \$10,000 per annum for purchase of bonds at not exceeding 105 per cent and accrued interest. Bonds must not be canceled, but kept alive and the interest accruing to be added to the sinking fund payments for the redemption of bonds. Subject to call at 105 per cent and accrued interest by sinking fund and drawings. A sufficient amount of Georgia Railway and Power Company first and refunding 5s are reserved to retire this issue.

\$200,000 (entire issue) Savannah River Power Company first 5s; dated October 1, 1911; due October 1, 1921; interest, April 1 and October 1 at Columbia Trust Co. Coupon, \$1,000; subject to call at par and accrued interest on any interest date. A sufficient amount of Georgia Railway and Power Company first and refunding 5s are reserved to retire this issue.

STATEMENT, DECEMBER 31, 1917.

<i>Assets.</i>	
Construction, plant	\$43,379,972.58
New construction, G. R. & E. Co....	323,262.05
Construction of additional water power developments	456,605.43
Supplies	640,034.38
Cash and accounts receivable....	850,306.73
Special deposit accounts.....	2,600,267.46
Prepaid accounts	24,691.83
Stocks and bonds.....	493,889.19
Treasury bonds	200,000.00
Sinking fund bonds.....	62,000.00
Sinking fund trustee.....	13,335.97
Bond discount	588,535.24
Suspense accounts	188,705.20
	<hr/>
	\$49,821,606.06



J. H. WILLIAMS & CO.,
74 Richard St., Brooklyn, N. Y.

**Williams' Improved "Vulcan"
Drop-Forged Chain Pipe Wrench**

With Double-Ended Reversible Jaws for Turning
or Holding Pipe, Pipe-Fittings, etc., from ¼ to 12
Inches Diameter.

<i>Liabilities.</i>	
Capital stock:	
First preferred	\$2,000,000.00
Second preferred	10,000,000.00
Common	15,000,000.00
Mortgage bonds	14,000,500.00
Collateral gold notes.....	2,500,000.00
Accounts payable	596,483.39
Notes payable	1,985,000.00
Interest payable	168,462.50
Taxes payable	103,763.44
Dividends payable	390,000.00
Accrued fixed charges—G. R. & E. Co.	99,018.67
Reserve accounts	269,754.76
*Georgia Railway and Electric Co.	465,678.82
Profit and loss, surplus.....	2,239,944.48
	<u>\$49,821,606.06</u>

* Net assets turned over to Georgia Railway and Power Co. by Georgia Railway and Electric Co. in accordance with terms of lease.

INCOME STATEMENT GEORGIA RAILWAY AND POWER COMPANY AND LEASED AND SUBSIDIARY COMPANIES DECEMBER 31, 1917.

Operating revenues....	\$7,807,039.41
Operating expenses....	<u>4,317,404.45</u>
Net operating revenue.....	\$3,489,634.96
Less taxes	<u>574,037.72</u>
	\$2,915,597.24
Other income	<u>189,270.58</u>
Gross income	\$3,104,867.82
Bond interest and rental of leased and subsidiary companies.....	<u>1,647,972.58</u>
	\$1,456,895.24
Interest on notes of leased and subsidiary companies	<u>\$15,775.67</u>
Extinguishment of discount on securities of leased and subsidiary companies....	<u>4,447.21</u>
	20,222.88
	<u>\$1,436,672.36</u>

Brought forward	\$1,436,672.36
Sinking fund contributions:	
Georgia Railway & Electric Co.....	\$115,719.25
Atlanta Gas Light Co.	7,590.00
Atlanta Water & Electric Power Co.....	10,000.00
Atlanta Northern Railway Co.....	<u>5,000.00</u>
	138,309.25
	<u>\$1,298,363.11</u>
Bond interest, Georgia Railway & Power Co.	<u>587,132.83</u>
	\$711,230.28
Interest on notes Georgia Railway & Power Co.....	<u>\$70,671.80</u>
Extinguishment of discount on securities, Georgia Railway & Power Co.....	<u>20,932.28</u>
	91,604.08
Balance	<u>\$619,626.20</u>

OFFICERS.—Chairman of the Board, H. M. Atkinson; President, P. S. Arkwright; Vice-President and General Manager, G. W. Brine; Vice-President and Operating Mgr., W. H. Glenn; Secretary, W. H. Wright; Treasurer, I. S. Mitchell, Jr.; Auditor, H. Flynn.

DIRECTORS.—Forrest Adair, P. S. Arkwright, H. M. Atkinson, G. W. Brine, Mell R. Wilkinson, T. K. Glenn, Frank Hawkins, R. F. Maddox, John E. Murphy, F. J. Paxon, J. J. Spalding, Atlanta, Ga.; E. G. Stevenson, Detroit, Mich.; Randal Morgan, Lewis Lillie, Philadelphia, Pa.; C. E. Smith, York, Pa.

Annual meeting last Tuesday in January.

GEORGIA RAILWAY & ELECTRIC COMPANY.
(Leased to Georgia Railway & Power Company.)

Incorporated January 28, 1902, in Georgia; on April 1, 1902, took over the Atlanta Railway & Power Company, Atlanta Rapid Transit Company, Georgia Electric Light Company, and Atlanta Steam Company. Owns the entire capital stock of the Atlanta Northern Railway and the Atlanta Gas Light Company.

On March 18, 1912, the Georgia Railway and Power Co. took over under lease for 999 years from January 1, 1912, the properties of the Georgia Railway and Electric Company. The shares of the Atlanta Gas Light Co. and of the Atlanta Northern Railway Co. are not included in the premises demised under the lease, but the lessor assigned and transferred to the lessee the income arising from the said shares.

Franchises in large part, perpetual; others are

for fifty (50) years from August, 1899. As consideration for franchises, the company paid to the City of Atlanta \$50,000 in cash, and agrees to pay a tax of 1% of gross earnings from 1902 to 1904, inclusive; 2% from 1905 to 1924, inclusive, and pay 3% thereafter. Owns 211.820 miles of electric railway. Gauge, standard. Rails, 70, 80 and 90 lbs. Motor cars, 389. Power stations, 2; engines to generate power, 12. Leased to Georgia Railway & Power Company, effective January 1, 1912, for 999 years, the lessee to pay interest, taxes, and dividends of 5% on preferred, and 8% on common stocks. (See also statement of Georgia Railway & Power Company.)

CAPITAL STOCK.—Authorized and outstanding, \$8,514,600 common, and \$2,400,000 5% non-cumu-

RELIABLE



RANGES

So readily apparent are the many desirable features of "RELIABLE 'ANGLIRON'" ranges and so strongly do they appeal to the most exacting that sales are effected with least effort. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

lative preferred; par \$100. Listed on the Boston and Louisville Stock Exchanges. Registrar, American Trust Co., Boston. Transfer Agent, Old Colony Trust Company, Boston.

Dividends received under lease; 5% on preferred, and 8% on common; payments quarterly—on preferred, January 20, etc.; on common, February 20, etc.

BONDED DEBT.—Total, \$13,527,000, as of Dec. 31, 1917.

\$225,000 Atlanta Street Railroad first gold 6s; dated June 20, 1890; due July 1, 1930; interest January and July 1, at Fourth National Bank, New York. Central Trust Company, New York, trustee. Denomination, \$1,000. A first lien on the property of the former Atlanta Street Railroad.

\$1,900,000 Atlanta Consolidated Street Railway Company gold 5s; dated January 2, 1899; due January 1, 1939; interest payable January 1 and July 1, at New York Trust Company, New York City, and at Mercantile Trust and Deposit Company, Baltimore, trustee. Coupon, \$1,000; principal may be registered. Original issue, \$2,500,000. Sinking fund, \$25,000 per annum on the first day of January of each year. Subject to call at 107½ and accrued interest, and under the sinking fund clause, \$25,000 may be retired by lot at 105 and accrued interest on the first day of January of each year.

\$1,350,000 Georgia Electric Light Company first gold 5s; dated July 2, 1900; due July 1, 1930; interest January and July 1, at Old Colony Trust Company, Boston, trustee. Coupon, \$1,000; principal may be registered. Authorized issue, \$2,000,000. Subject to call at 105 and accrued interest on any interest date.

\$5,760,000 First Consolidated Gold 5s; dated April 1, 1902; due January 1, 1932; interest January and July 1, at Old Colony Trust Company, Boston, Trustee. Coupon, \$1,000; principal may be registered. Authorized, \$11,000,000; \$3,850,000 being reserved to retire prior liens; balance has been canceled. Sinking fund retires \$10,000 years 1907-1911, \$25,000 bonds in each year 1912 to 1916, and \$50,000 per annum thereafter. Subject to call at 110 and accrued interest on any interest payment date, provided four weeks' notice is given.

\$4,292,000 Refund, and Impt. Gold 5s; dated January 1, 1909; due January 1, 1949; interest January 1 and July 1, at American Trust Company, Boston, Mass. Coupon, \$1,000; principal may be registered. Subject to call at 105 and accrued interest on any interest payment date, provided fifty (50) days' notice is given. Sinking fund equal to 1% of bonds outstanding at October 1 is payable annually on October 1 of each year, beginning with the year 1910. Authorized, \$20,000,000, of which \$11,230,000 are reserved to retire prior liens (including the \$400,000 Atlanta Northern Railway Company bonds); balance for extensions and improvements up to 75% of actual cost. Secured by general lien on entire property of the company, subject to above described prior liens.

OFFICERS.—Frank E. Block, President; Thos. K. Glenn, Vice-President; W. H. Wright, Secretary and Treasurer, Atlanta, Ga.

DIRECTORS.—Frank E. Block, Frank Hawkins, J. C. Hallman, Thomas K. Glenn, Jas. D. Robinson, Atlanta, Ga.

Annual meeting last Tuesday in January.

Office, Electric and Gas Building, Atlanta, Ga.

ATLANTA GAS LIGHT COMPANY, ATLANTA, GA.

Principal address: Electric and Gas Building, Atlanta, Ga.

The Atlanta Gas Light Co. was incorporated in February, 1856, under the laws of Georgia.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$600,000	\$600,000
Common stock	1,014,625	1,014,625

Shares, \$25.

All capital stock owned by Georgia Railway and Electric Company.

FUNDED DEBT.—Bonds: First mortgage, authorized, \$1,150,000; issued, \$1,150,000. Dated June, 1897; due June 1, 1947. Interest payable June 1, and December 1, at New York Trust Co. Trustee, and Bank of Scotland, London.

Denomination, \$1,000; registerable as to principal.

SECURITY.—First mortgage on present and future acquired property and franchises.

SINKING FUND.—\$6.60 for each bond invested in bonds of the issue or other described securities.

OFFICERS.—President, G. W. Brine; Vice-President, P. S. Arkwright; Secretary, R. C. Congdon; Treasurer, I. S. Mitchell, Jr.; Secretary and Manager, R. C. Congdon; Auditor, H. Flynn; Superintendent, A. D. Whitaker.

DIRECTORS.—P. S. Arkwright, G. W. Brine, R. J. Lowry, E. C. Peters and J. J. Spalding.

Annual meeting of stockholders held first Tuesday in March at Atlanta, Ga.

Company's fiscal year ends December 31.

GEORGIA LIGHT, POWER AND RAILWAYS, MACON, GA.

Office of the Secretary, 62 Cedar Street, New York City, N. Y.

The Georgia Light, Power and Railways was formed Sept. 18, 1911, in Massachusetts to acquire the securities of the Macon Railway and Light Company, the Macon Gas Company,

the Central Georgia Power Company, the Central Georgia Transmission Company, and for the acquisition of securities of other companies owning or operating public utilities, power plants or transmission lines in Georgia.

EFFICIENCY is the watch-word of progress. The GOODMAN STOPPER will help you attain efficiency.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

CAPITALIZATION.

Common stock, authorized issue	\$8,000,000
Outstanding	7,660,000
Preferred stock, 6% non-cum. authorized.....	2,000,000
Outstanding	500,000
First lien 5% sinking fund gold bonds, authorized issue.....	\$6,500,000
Reserved under carefully guarded restrictions for the acquisition of securities of companies owning or operating public utilities, power plants or transmission lines in Georgia, and for extensions, betterments and improvements to the properties of companies the securities of which are so acquired	2,583,000
Retired by sinking fund.....	137,000
Held in company's treasury.....	291,000
Outstanding	3,489,000

Bonds are dated September 1, 1911; maturing September 1, 1941. Principal and interest (March and September) payable at the office of A. B. Leach & Co., New York, or at the Bank of Scotland, London. Coupon bonds. Denom.. \$1,000, with privilege of registration of principal, or may be exchanged for registered bonds of \$1,000 and \$5,000 denomination. These bonds are redeemable at the option of the Railways on any interest date at 105 and interest upon thirty days' previous notice. The New York Trust Co., New York, Trustee.

SECURITY.—These bonds are secured by first lien on practically all (\$887,700) of the common stock of the Macon Railway and Light Company, practically all of the common stock and preferred stock of the Macon Gas Company, \$3,660,000 stock of the Central Georgia Power Company, the entire capital stock of the Central Georgia Transmission Co. and \$2,003,194 6 per cent securities of constituent companies issued to provide for extensive improvement and construction work.

All of these securities are deposited with the New York Trust Company as trustee. Accordingly through ownership of the above mentioned securities these bonds are a first lien on the Macon Gas Company and a lien upon the Macon Railway and Light Company and Central Georgia Power Company subject to prior issues, viz.: \$1,001,500 bonds of the Macon Railway and Light Company, and \$2,856,400 bonds of the Central Georgia Power Company.

SINKING FUND.—The indenture securing this issue provides that the Georgia Light, Power and Railways shall pay to The New York Trust Company, trustee, \$50,000 annually 1916 to 1920, \$75,000 annually 1921 to 1925, \$100,000 annually 1926 to 1940 for the retirement of these bonds either by purchase at the lowest price or drawn by lot at 105 and interest.

FRANCHISES.—The franchises of the Macon Railway and Light Company and the Macon Gas Company and the charters of the Central Georgia Power Company and the Central Georgia Transmission Company extend many years be-

yond the life of the bonds. All franchises and charters are exceedingly liberal and contain no objectionable restrictions.

PROPERTY.—The Georgia Light, Power and Railways, through its constituent companies, the Central Georgia Power Company, the Central Georgia Transmission Company, the Macon Railway and Light Company and the Macon Gas Company, furnishes electricity for light and power to the cities and towns of Macon, Jackson, Forsyth, Barnesville, Griffin, Bibb, Monticello, Hampton, Thomaston and Jonesboro in the state of Georgia, and also the entire gas and street railway business in the city of Macon, Ga.

In addition to above the Georgia Light, Power & Rys. through one of its constituent companies sells under a long term contract, assuring a substantial income, a large amount of electricity in the city of Atlanta, the capital of and the largest city in the State of Georgia.

The properties of the Georgia Light, Power and Railways are located and operate in the heart of one of the most prosperous and rapidly growing sections of the South, rich in agriculture and manufacturing industries of a varied character, the territory served constituting the center of the cotton belt of Georgia.

The system's hydro-electric plant (of the Central Georgia Power Company) is located on the Ocmulgee River near Jackson, Ga., about midway between Macon and Atlanta, Georgia. The plant consists of a dam of solid concrete construction of 1,070 feet in length, 102 feet in height, and power house of concrete and brick, 190 feet in length, in which there has been installed hydraulic and electrical equipment having a generating capacity of 24,000 electrical horsepower. High tension transmission lines (of the Central Georgia Power Company) extend to large, modern and in every respect up-to-date sub-stations at Macon, Forsyth, Griffin, Barnesville and Bibb (supplying Jackson and Thomaston), while the lines of the Central Georgia Transmission Company extend from the plant of the Central Georgia Power Company to Monticello and from Griffin to Hampton, Jonesboro and Atlanta, Ga.

The total length of the transmission lines extending to the various cities and towns mentioned above is about 100 miles. They represent the most modern steel tower construction. The company in addition has 37 miles of wooden pole line high tension construction.

At Macon the system, through the Macon Railway and Light Company, owns an auxiliary steam plant of 5,000 horsepower capacity, held in reserve.

The street railway department at Macon (Macon Railway and Light Co.) includes 36.26 miles of trolley lines, with adequate equipment, including 56 cars, new car barns, etc.

The gas department at Macon (Macon Gas Company) embraces a complete coal-gas manufacturing plant, three gas holders (one of 500,000 cu. ft. capacity recently completed), 54 miles of mains, etc. The gas output now exceeds 138,000,000 cu. ft. annually.

Metropolitan No. 2 Argand Burners, specified for candlepower test use by the London Gas Referee. The only burner which approaches perfect combustion of any kind of gas, whether coal gas, enriched coal gas or coal gas mixed with carburetted water gas. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

APPENDIX

There are served at Macon by the Macon Railway and Light Company over 4,000 customers with electricity, and by the Macon Gas Company about 4,100 customers with gas.

OFFICERS.—Geo. P. Toby, President; John D. Everitt, Vice-President; F. B. Lasher, Secretary and Treasurer; W. E. Fulcher, Assistant Treasurer and Assistant Secretary.

DIRECTORS.—M. J. Murphy, F. B. Lasher, Geo. P. Toby, Chas. Neilson, William W. Miller, F. W. Leach and John D. Everitt.

CONSOLIDATED SURPLUS AND PROFIT AND LOSS
ACCOUNT FOR YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$1,093,412.19
Operating expenses and taxes.....	548,897.12
Net earnings	\$544,515.07
Interest charges	426,801.43
Net income	\$117,713.64
Surplus, December 31, 1916.....	209,337.83
Total.....	\$327,051.47

Brought forward	\$327,051.47
Deductions—Dividends:	
Preferred stock, Macon Railway & Light Co. in hands of public..	\$17,016.00
Preferred stock, Macon Gas Co., in hands of public	310.00
Common stock, Macon Gas Co. in hands of public	50.00
Common stock, Central Georgia Power Co. in hands of public.....	5,100.00
Preferred shares Georgia Light, Power & Railways in hands of public	7,500.00
Sinking fund	28,800.95
Net sundry adjustments applying prior to 1917	17,999.64
Total deductions	76,776.59
Surplus, December 31, 1917.....	\$250,274.88

CONSOLIDATED BALANCE SHEET (INTER-COMPANY ITEMS ELIMINATED), DECEMBER 31, 1917.

Assets.

Property, franchise and investments.....	\$17,485,310.76
Sinking fund	528.27
Current assets:	
Cash	\$220,692.07
Accounts receivable	123,894.63
Materials and supplies.....	62,843.84
	407,430.54
Prepaid accounts	1,954.95
Unamortized debt discount.....	234,230.99
Suspense	20,694.95
Special deposits	69,700.00
Total assets	\$18,219,850.46

Liabilities.

Georgia Light, Power & Railways shares issued and outstanding:	
6% preferred shares.....	\$500,000.00
Common shares	7,660,000.00
	\$8,160,000.00
Subsidiary companies capital stock outstanding.....	659,654.82
	\$8,819,654.82
Funded debt subsidiary companies outstanding.....	3,898,900.00
Georgia Light, Power & Railways first lien 5% thirty-year gold bonds.....	3,489,000.00
Georgia Light, Power & Railways convertible 6% gold debentures.....	35,000.00
Loans secured by Georgia Light, Power & Railways convertible 6% gold debentures	641,150.00
Current liabilities:	
Notes payable	\$527,237.34
Accounts payable	123,384.10
	650,621.44
Accrued interest	127,208.93
Accrued taxes	1,600.00
Other accruals	8,287.51
Reserves:	
Depreciation, repair and renewal reserve.....	\$97,789.52
Sinking fund reserve.....	187,620.72
Casualty reserve	10,396.16
Others reserves	2,346.48
	298,152.88
Surplus	250,274.88
Total liabilities	\$18,219,850.46

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

SAVANNAH GAS COMPANY, SAVANNAH, GEORGIA.

The Savannah Gas Company was incorporated in Georgia as the Mutual Gas Light Company; name changed to above, Dec. 22, 1903.

CAPITAL STOCK.—Authorized and outstanding: Preferred, \$450,000; common, \$550,000. Shares, \$25.

FUNDED DEBT outstanding consists of \$1,255,000 first mortgage 5 per cent sinking fund gold bonds, dated Mar. 1, 1904, due Sept. 1, 1923. Interest, March 1 and September 1, at office of the trustee, Pennsylvania Company for Insurances on Lives and Granting Annuities, Philadelphia, Pa. The bonds have been subject to call at 105 and interest since Mar. 1, 1909.

Sinking fund began June 1, 1905; 1½ per cent of outstanding bonds to be invested in said bonds. Authorized amount, \$1,750,000.

OFFICERS.—President, Walton Clark; Vice-Presidents, John W. Golden, Lewis Lillie, Paul Thomson; Treasurer, James Ball; Secretary, G. W. Curran.

DIRECTORS.—S. T. Bodine, Walton Clark, J. A. P. Crisfield, G. W. Curran, J. W. Golden, Lewis Lillie, James Ball, Paul Thompson, W. H. Marshall.

Annual meeting held third Monday in January.

WESTERN UNITED GAS AND ELECTRIC COMPANY, AURORA, ILLINOIS.

The Western United Gas and Electric Co. was incorporated in June, 1905, under the laws of Illinois, and is a consolidation of the Fox River Light, Heat and Power Co. of Aurora, the Joliet Gas Light Co. of Joliet, the La Grange Gas Co. of La Grange, and the Elgin-American Gas Co. of Elgin. The plant, under private ownership at Lockport, Ill., was purchased in July, 1905.

FRANCHISES.—From 20 to 50 years; some are perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,500,000	\$1,500,000
Common stock	5,000,000	3,000,000

Shares, \$100 each; transfer agents, officers of company; registrars, Continental and Commercial Trust and Savings Bank.

Five per cent first mortgage and refunding gold bonds, authorized, \$5,000,000; issued \$4,856,900. Dated Feb. 1, 1905; due \$25,000 annually, February 1, 1918 to 1924, \$30,000, February 1, 1925-1949; Balance February 1, 1950. Interest payable August 1 and February 1 at Continental and Commercial Trust and Savings Bank, Chicago, Ill. Denomination, \$100, \$500 and \$1,000. Coupon form. Principal can be registered. Redeemable at Continental and Commercial Trust and Savings Bank, Chicago, Ill., on any interest date after February 1, 1915, at 103.

TRUSTEE OF BONDS.—Continental and Commercial Trust and Savings Bank, Chicago, Ill.

SECURITY.—First-lien.

SINKING FUND.—\$25,000 per year, beginning 1915; after 1925, \$30,000 per year.

General mortgage gold bonds, authorized, \$20,000,000; outstanding, \$470,000 6s, \$995,500

5s; \$5,000,000 was reserved to retire prior issues; balance in escrow for extensions and refunding balance 6s this issue. These 6s are due 1918 to 1920, interest payable February 1 and August 1, at First Trust and Savings Bank, Chicago, Ill.; denominations, \$100, \$500 and \$1,000. Principal can be registered. Registrar, First Trust and Savings Bank, Chicago, Ill. Redeemable any interest date at 102½. Trustee, First Trust and Savings Bank.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR
ENDING JANUARY 31, 1918.

Income	\$1,846,890.28
Expenses and taxes.....	1,144,809.61

Net earnings	702,080.67
Bond interest	314,666.28

Net earnings over bond interest..	\$387,414.39
Sundry interest and amortization, bond discount and expense.....	41,285.47

Net profits	346,128.92
-------------------	------------

OFFICERS.—President, I. C. Copley; Vice-President, R. N. Strohn; Secretary, Fred Bennitt; Treasurer, R. N. Strohn; General Manager, W. M. Willett; Auditor, E. H. O'Meara.

DIRECTORS.—W. S. Beaupre, C. E. Colwell, I. C. Copley, E. S. Hobbs, T. N. Holden, S. D. Seamans, C. C. Smith, R. N. Strohn, all of Aurora; Fred Bennitt, Joliet; John C. Lowry and Morris W. Stroud, Philadelphia.

Annual meeting of stockholders held 4th Wednesday in March at Aurora, Ill. Company's fiscal year ends January 31.

UNION GAS AND ELECTRIC COMPANY, BLOOMINGTON, ILL.

The Union Gas and Electric Co., incorporated in July, 1899, under the laws of Illinois, acquired physical property of Bloomington Gas Light and Coke Co. and Citizens Gas Light and Heating Co.

FRANCHISE.—Expires 1998.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$250,000	\$250,000
Common stock	750,000	750,000

Shares, \$100; transfer agents, Union Gas and Electric Co., 40 Wall St., New York City.

SPECIFIC GRAVITY

American Meter Company

561 W. 47th St., New York, N. Y.

APPARATUS; YOUNG'S SULPHUR TEST—REFEREES' SULPHUR AND AMMONIA TEST. We manufacture these apparatus, the Referees' Sulphur and Ammonia Tests being made in accordance with the latest notifications of the London Board of Gas Referees.

Dividend on preferred stock, annual rate 7%, from July, 1913, payable quarterly.

FUNDED DEBT.—First mortgage 5s: Authorized, \$750,000; issued, \$602,000. Dated September 1, 1905; due Sept. 1, 1935. Interest payable September 1 and March 1 at First Trust and Savings Bank, Chicago, Ill. Denomination, \$1,000; coupon. Can be registered as to principal. Redeemable at 105 on any interest date at Trustee of Bonds, First Trust and Savings Bank, Chicago, Ill.

SECURITY.—First mortgage on entire property.

SINKING FUND.—Five per cent of gross earnings.

OFFICERS.—President, J. F. Wessel, New York City; Vice-Presidents, J. W. Brown, G. F. Bauer, M. M. Wheeler; Secretary and Treasurer, J. A.

McKenna; Assistant Secretary and Treasurer, J. W. Brown; General Manager, Ray Stretch.

DIRECTORS.—Lee Rust, J. W. Brown, Chas. Agle, E. G. Connette, J. F. Wessel.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$178,018.37
Operating expenses, renewals and replacements	134,879.01
Net earnings	\$43,139.36
Fixed charges	42,523.15
Surplus	\$616.21
Annual meeting of stockholders held first Monday in October, at Bloomington, Ill.	
Company's fiscal year ends December 31.	

MIDDLE WEST UTILITIES COMPANY, CHICAGO, ILL.

The Middle West Utilities Company was organized under the laws of the State of Delaware in May, 1912, to acquire and develop public utility properties, particularly in the smaller cities and towns. The subsidiary companies of the Middle West Utilities Company serve 388 communities, having a combined population estimated at more than 1,055,300, with one or more

classes of public utility service, namely, electric light and power, gas, heat, ice, transportation and water.

TERRITORY SERVED.—The number of communities and population served by the Middle West Utilities Company in the various states is given in the following table:

SUBSIDIARY OPERATING COMPANIES.	STATE	COMMUNITIES	
		SERVED	POP.
Central Illinois Public Service Company.....	Illinois	135	385,000
Central Illinois Utilities Company.....	Illinois	27	29,700
Eastern Illinois Ice Company.....	Illinois	...	...
Illinois Northern Utilities Company.....	Illinois	65	32,500
Sterling, Dixon & Eastern Electric Railway Co.....	Illinois	...	...
McHenry County Light and Power Company.....	Illinois	2	1,500
Interstate Public Service Company.....	Indiana	25	84,000
Southern Indiana Power Company.....	Indiana	3	2,500
Central Indiana Lighting Company.....	Indiana	2	22,000
Franklin Water, Light and Power Company.....	Indiana	1	5,600
United Gas and Electric Company.....	Indiana	7	46,900
New Albany Water Works.....	Indiana	...	
Louisville and Northern Railway & Lighting Co.....	Indiana	1	
Louisville and Southern Indiana Traction Co.....	Indiana	...	80,700
Kentucky Utilities Company.....	Kentucky	29	
Kentucky Light and Power Company.....	Kentucky	5	13,900
Electric Transmission Company of Virginia.....	Virginia	5	6,100
Tennessee Public Service Company.....	Tennessee	1	500
Citizens Gas Light Company.....	Tennessee	1	19,600
Public Service Company of Oklahoma.....	Oklahoma	10	82,000
Chickasha Gas and Electric Company.....	Oklahoma	3	13,900
Central Power Company.....	Nebraska	9	17,100
Nebraska City Utilities Company.....	Nebraska	1	6,900
Missouri Gas and Electric Service Company.....	Missouri	9	23,500
Southern Wisconsin Electric Company.....	Wisconsin	9	13,400
Michigan Gas and Electric Company.....	Michigan	12	56,000
Twin State Gas and Electric Company.....	New England	35	112,000
Totals of all Companies.....		397	1,055,300

CAPITALIZATION.

As of April 30, 1917.

	Authorized	Outstanding
Preferred stock	\$12,000,000	\$12,000,000
Common stock	12,000,000	9,593,700
Common stock, scrip.....		8,353

Shares, \$100. Dividend, on preferred stock, 6%, payable quarterly; on common stock, 4% (2% stock, 2% cash.)

BONDS.—6 per cent collateral gold; outstanding, \$7,622,200. Dated, Jan. 1, 1915; due January 1, 1925; interest payable April 1 and Octo-

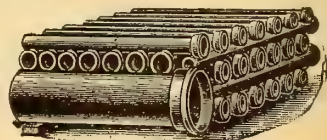
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



ber 1 in Chicago and New York. Denominations, \$100, \$500 and \$1,000 each. Issue limited to 75 per cent of outstanding capital stock. Redeemable at 102½ and interest on any interest date on or before April, 1922, and at 101½ and interest thereafter, upon 60 days' notice. Pro-

EARNINGS, APRIL 30, 1917.

Gross earnings	\$9,620,216.13
Operating expenses, including taxes	6,117,459.75
Net earnings from operation....	\$3,502,756.38
Rentals on leased properties.....	205,940.17
	<u>\$3,296,816.21</u>
Bond, debenture and other interest charges paid or accruing to outside holders	\$1,485,755.72
Yearly amortization of discount on outstanding securities	36,557.28
Dividends on stock and proportion of undistributed earnings to outside holders.....	294,829.17
	<u>1,817,142.17</u>
Total earnings accruing to M. W. U. Co.	\$1,479,674.04
Of the above amount the M. W. U. Co.	
Received and accrued as interest on bonds and debentures	\$564,789.11
Received and accrued as interest and brokerage on money advanced	173,628.64
Received and accrued as dividends on stocks..	600,071.27
	<u>\$1,338,489.02</u>
Middle West Utilities Co.'s proportion of the surplus carried to the aggregate surplus accounts of the subsidiary companies on their own books	\$141,185.02

BALANCE SHEET AS AT APRIL 30, 1917.

Assets.

Securities, plants, contracts, goodwill, etc., at book value....	\$29,570,777.82
Less reserve against discount on company's own securities, etc., provided out of income to date	330,000.00
	<u>\$29,240,777.82</u>
Notes and accounts receivable: Being advances to subsidiary companies for construction, etc.	2,190,815.44
Carried forward	\$31,431,593.26

ceeds to reimburse the treasury for development work and to pay \$3,500,000 of 3-year 6% coll.

EARNINGS.—Subsidiary Companies: The following is a consolidated operating statement of the various companies now owned or controlled by the Middle West Utilities Company.

Brought forward	\$31,431,593.26
Advances on account of unclosed contracts	358,875.50
Interest accrued but not due, and accrued dividends not declared, etc.	209,377.23
Cash in hands of trustees on account of ten-year bond coupons..	14,304.72
Cash in banks and on hand.....	502,569.05
	<u>\$32,516,719.76</u>

Liabilities.

Capital stock:	
Authorized—	
Common stock, 120,000 shares at \$100 each.	\$12,000,000.00
Preferred stock, 120,000 shares at \$100 each	12,000,000.00
	<u>\$24,000,000.00</u>
Issued—	
Common stock, 97,441 shares of \$100 each, fully paid,	\$9,744,100.00
Less: In treasury	150,400.00
	<u>\$9,593,700.00</u>
Preferred stock, 120,000 shares of \$100 each, fully paid....	12,000,000.00
Common stock, scrip.	8,353.00
	<u>\$21,602,053.00</u>
Ten-year 6% collateral gold bonds. (Secured by deposit of bonds of subsidiaries of the par value of \$8,996,000 and the deposit of their capital stock as provided by the trust deed.)	7,622,200.00
Collateral loans	980,250.00
Deferred payments on purchase contracts	541,653.00
Accounts payable	13,388.81
Preferred stock dividend accrued but not due	150,000.00
Accrued charges for interest and taxes	60,225.33
Surplus	1,546,949.62
Contingent liability in respect of underwriting capital stock	\$331,416.62
	<u>\$32,516,719.76</u>



FOR GAS HOLDERS IN EXPOSED POSITIONS

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York

INCOME ACCOUNT FOR YEAR ENDING APRIL 30, 1917.

<i>Income</i>	
Interest received and accrued on bonds and debentures	\$564,789.11
Dividends received and accrued—	
On stocks of subsidiary companies	\$600,071.27
On stocks of outside companies	12,851.20
	<u>\$612,922.47</u>
Sundry interest on notes receivable, brokerage, etc	189,453.44
	<u>\$1,367,165.02</u>
Profits derived from the sale of properties and securities to subsidiary companies and others, for cash.....	\$127,233.28
Profits derived from the sale of properties and securities to subsidiary companies where proceeds in bonds have not yet been sold ...	98,042.53
	<u>225,275.81</u>
Profit arising from re-valuation of securities and from valuation of securities hitherto carried at nominal values—values determined by Board of directors	159,303.54
Securities received for services rendered and valued by board of directors	37,500.00
	<u>196,803.54</u>
Fees for engineering and other services to the subsidiary companies.	34,825.06
	<u>\$1,824,069.43</u>
Carried forward	\$1,824,069.43

Expenses

Total income (brought forward) ...	\$1,824,069.43
Administration expense	\$170,343.74
Miscellaneous charges, including taxes, etc....	86,913.63
	<u>257,257.37</u>
	\$1,566,812.06
Interest on collateral notes and bonds.....	\$424,375.09
Interest on collateral loans, etc.	115,852.01
	<u>540,227.10</u>
Net income for year, carried to surplus account	\$1,026,584.96
SURPLUS ACCOUNT, APRIL 30, 1917.	
Balance, April 30, 1916.....	\$1,398,356.46
Net income for year ending April 30, '17..	\$1,026,584.96
Deduct:	
Dividends paid and accrued to date:	
Preferred stock	\$645,862.30
Common stock	142,129.50
	<u>787,991.80</u>
	\$238,593.16
Deduct:	
Appropriated towards writing off the discount on the company's own securities	90,000.00
	<u>148,593.16</u>
Balance, April 30, 1917.....	\$1,546,949.62

OFFICERS.—President, Samuel Insull; Vice-Presidents, Martin J. Insull, John F. Gilchrist; Treasurer, R. W. Waite; Secretary, E. J. Doyle; Assistant Secretary, Oliver E. McCormick.

DIRECTORS.—Frank J. Baker, Edward J. Doyle, Louis A. Ferguson, William A. Fox, John F. Gilchrist, John H. Gulick, Martin J. Insull, Samuel Insull, Charles A. Munroe, F. S. Peabody, Edward P. Russell, Marshall E. Sampsell, Frederick Sargent, L. E. Myers, Harold L. Stuart.

EXECUTIVE COMMITTEE—Frank J. Baker, John H. Gulick, Samuel Insull, William A. Fox, Martin J. Insull, Charles A. Munroe, Edward P. Russell.

CHICAGO SUBURBAN GAS AND ELECTRIC CO., CHICAGO, ILL.

The Chicago Suburban Gas & Electric Co. owns every share of the capital stock of the North Shore Gas Co., consisting of \$1,000,000 preferred and \$2,000,000 common stock. There are also outstanding \$1,750,000 first mortgage 5 per cent bonds of the North Shore Gas Co.

CAPITALIZATION.

Preferred stock, 6 per cent cumulative	Authorized	Outstanding
Common stock	\$2,000,000	\$1,000,000
	4,000,000	2,750,000
SHARES.—\$100.		
Dividend on preferred stock, annual rate 6%, payable quarterly.		

The Company operates under the most favorable long-time franchises, all running until 1946.

REGISTRAR OF TRANSFERS.—Central Trust Co., Chicago. Dividends payable quarterly on the first day of January, April, July and October. Redeemable at option of the company at 105.

OFFICERS.—President, Everett L. Millard; Vice-President, A. Volney Foster; Vice-President in charge of operations and Consulting Engineer, W. A. Baehr; Secretary, D. S. Boynton; Treasurer, W. Irving Osborne.

DIRECTORS.—A. Volney Foster, W. Irving Osborne, D. S. Boynton, W. A. Alexander, Kennett Cowan, W. A. Baehr, Everett L. Millard.



THE SCIENTIFIC SAFETY GARAGE HEATER

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

MISSISSIPPI VALLEY GAS AND ELECTRIC CO.

Principal office: 208 South LaSalle Street, Chicago, Ill.

The Mississippi Valley Gas and Electric Co. was incorporated in May, 1912, under the laws of Maine for the purpose of acquiring stocks and securities and assisting in the developing of electric, gas, railway and water power properties.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$2,500,000	\$1,300,000
Common stock	2,500,000	1,250,000

Shares, \$100. Transfer agents, H. M. Byllesby & Co.; registrars, Continental and Commercial Trust and Savings Bank, Chicago.

FUNDED DEBT.—Bonds: Collateral Trust 5s, auth. \$10,000,000, outstg. \$5,000,000. Dated May 25, 1912; due May 1, 1922. Interest payable May 1 and November 1 at Continental and Commercial Trust and Savings Bank, Chicago. Denomination, \$500 and \$1,000. Coupon, but may be registered. Redeemable at 102 on any interest date at Continental and Commercial Trust and Savings Bank, Chicago, trustee.

The bonds are secured by deposit of \$4,500,000 preferred stock and \$2,500,000 common stock of Louisville Gas & Electric Co., and are guaranteed both as to principal and interest by Standard Gas & Electric Co.

OFFICERS.—President, A. S. Huey; Vice-Presidents, J. J. O'Brien and F. C. Gordon; Secretary, Wm. C. McKenna; Assistant Secretary, Herbert

List; Treasurer, J. J. O'Brien; Assistant Treasurers, W. F. Moss and Herbert List.

DIRECTORS.—R. J. Graf, M. A. Morrison, A. S. Huey, Wm. C. McKenna, Herbert List, F. C. Gordon, J. J. O'Brien.

Under the management of H. M. Byllesby & Co., Chicago, Ill.

Annual meeting of stockholders held February 20 at Portland, Maine, or Chicago. Company's fiscal year ends December 31.

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Securities owned	\$7,551,276.82
Organization expense	7,727.05
Discount on preferred capital stock sold	22,800.00
Profit and loss deficit	82,501.39
Total	\$7,664,305.26
<i>Liabilities.</i>	
Preferred capital stock	\$1,300,000.00
Common capital stock	1,250,000.00
Bonded debt	5,000,000.00
Standard Gas & Electric Co.	71,507.40
Interest accrued	41,666.66
Taxes accrued	1,131.20
Total	\$7,664,305.26

THE NORTH AMERICAN LIGHT AND POWER CO.

Principal address: Chicago, Ill.

The North American Light and Power Co., through the ownership of all of the securities and stocks of the following companies, except qualifying directors' shares, owns and operates under favorable long-time franchises, the properties of Washington Gas & Electric Co., Washington Court House, Ohio; Moberly Light & Power Co., Moberly, Mo.; Adair County Light, Power & Ice Co., Kirksville, Mo.; Ardmore City Gas Co., Ardmore, Okla.; Consumers Light & Power Co., (formerly Durant Ice & Lt. Co., Durant, Okla.; Caddo Power Co., Caddo, Okla.; Southwestern Public Service Co., Ringling, Okla.; Ardmore Ice, Light & Power Co., Waurika Ice & Electric Co., Waurika, Okla.; the Bennington Ice, Light & Power Co., Bennington, Okla., and the Bokchito Electric Plant, Bokchito, Okla.); Boonville Lt., Heat & Power Co., Boonville, Mo.; Citizens Electric Light Co., Higbee, Mo.; Huntsville Light & Power Co., Huntsville, Mo.; La Plata Light, Heat & Ice Co., La Plata, Mo.; Missouri Heat, Light & Power Co., Kirksville, Mo.; Southern Oklahoma Pipe Line Co., Ardmore, Okla., and Madill Ice, Light & Power Co., Madill, Okla.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$10,000,000	\$850,000
Common stock		60,000
shares (nominal par value of \$5)		
First lien 6% gold bonds \$25,000,000		\$2,455,000
Three year 6% notes due July 1920.		
	\$500,000	\$350,000

Bonds are dated January 2, 1917; due January 1, 1937. Interest payable January 1 and July 1 at the First Trust and Savings Bank, Chicago, or the First National Bank, New York City. Coupon bonds, interchangeable denominations of \$1,000, \$500 and \$100 each, registerable as to principal only. Callable at 102½ and interest on any interest payment date. Interest payable without deduction of the present normal federal income tax. First Trust and Savings Bank, Chicago, trustee.

SINKING FUND.—The Company covenants and agrees that it will make annual deposits in a sinking fund with the trustee, beginning May 1, 1922, in amounts as follows: May 1, 1922, to May 1, 1926, both inclusive, one and one-quarter per cent (1¼%); May 1, 1927, to May 1, 1931, both inclusive, one and three-quarters per cent (1¾%); May 1, 1932, to May 1, 1936, both inclusive, two per cent (2%) of the aggregate par value of all bonds issued and outstanding under this indenture.

The moneys in this sinking fund shall be held by the trustee as part of the mortgaged property and be paid out from time to time as follows:

(a) One-half (½) may be used for extensions and additions to existing property against which no bonds can be issued.

HUNT COAL AND COKE VALVES are made in a variety of forms

—simplex, duplex, Seaton or "S," Briggs, etc.—in designs and materials especially adapted to gas works and coke oven requirements. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

(b) One-half ($\frac{1}{2}$) shall be used for the retirement of outstanding bonds, if they can be acquired in the open market, and if not, to be called by lot at 102 $\frac{1}{2}$ and accrued interest.

OFFICERS—President, Clement Studebaker, Jr.; Vice-President, William A. Baehr; Secretary, Henry L. Hanley; Treasurer, Scott Brown; General Manager, William A. Baehr.

DIRECTORS—Clement Studebaker, Jr.; Wm. A. Baehr, Scott Brown, Henry L. Hanley, Geo. M. Studebaker.

Annual meeting of stockholders held fourth Tuesday in March. Company's fiscal year ends December 31.

EARNINGS.

Consolidated statement of earnings and expenses of subsidiary companies officially reported for twelve months ended November 30, 1917.

Gross earnings	\$783,900.32
Operating expenses and taxes.....	501,442.04
Gross earnings, less operation and taxes	\$282,458.28
Other income	3,057.51
Total	\$285,515.79
One year's interest on bonds issued..	147,300.00
Balance	\$138,215.79

NORTH SHORE GAS COMPANY OF ILLINOIS.

Principal office: Chicago, Ill.

The North Shore Gas Co. first began business in 1898, supplying gas to the city of Waukegan, Ill. Extensions were commenced in 1900 and service in the remainder of the territory began in 1901. The business has shown an uninterrupted and satisfactory growth and owing to the strong ownership of the Company, its entire earnings for the past ten years have been expended on the property.

FRANCHISES.—The Company operates under long-time franchises in the towns and territory served. The franchises are without any burdensome restrictions. The shortest one expires in 1946 and the balance run a few years longer, thus insuring the continuation of the business many years beyond the maturity of these bonds.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,000,000	\$1,000,000
Common stock	2,000,000	2,000,000

Dividend on preferred stock, annual rate 6%, payable quarterly.

FUNDED DEBT.—Bonds: 1st mortgage 5s, authorized, \$5,000,000; issued, \$1,830,000. Dated February 1, 1912; due February 1, 1937. Interest payable August 1 and February 1 at First National Bank, New York City, or at Continental and Commercial Trust and Savings Bank, Chicago. Denomination, \$1,000 and \$500, registerable as to principal. Redeemable at 103 and interest on 60 days' notice at Continental and

Commercial Trust and Savings Bank, Chicago, trustee.

\$400,000 10-year debenture bonds, authorized \$1,000,000. Central Trust Co., Trustee.

SINKING FUND.—Beginning June, 1914, and each six months thereafter the Company shall set aside as a sinking fund 10 per cent of its gross receipts from the sale of gas, by-products and residuals. This fund shall either be expended (1) on the property for the purposes for which bonds would otherwise be issuable and in lieu thereof or (2) expenditures after Oct. 31, 1913, for maintenance of the Company's plants and properties or (3) the purchase and cancellation by the trustee of outstanding bonds at or less than 103 and interest.

The remaining \$3,170,000 escrow bonds are deposited with the trustee and are issuable only at 80 per cent of actual and reasonable cash cost of additional property acquired or constructed after July 1, 1912, at such time, if within five years, as the net earnings for the preceding 12 months shall exceed one and one-half times one year's interest, and if after five years one and three-quarter times one year's interest on all bonds outstanding, including those applied for. The mortgage provides that no dividends may be declared or paid on its capital stock unless the net earnings for the preceding 12 months shall have been equal to twice the interest on the bonds outstanding.

DIRECTORS.—A. V. Foster, E. L. Millard, D. S. Boynton, W. I. Osborne, Kennett Cowan, W. A. Alexander, W. A. Baehr.

THE PEOPLES GAS LIGHT AND COKE COMPANY, CHICAGO, ILLINOIS.

The Peoples Gas Light & Coke Co. is a consolidation of the principal gas properties of Chicago, perfected in August, 1896, under authority of the State Legislature, and now controlling the entire gas business of the city. The Company operates under a charter granted in perpetuity by the State of Illinois.

The constituent companies are: The Chicago Gas Light & Coke Co., Consumers' Gas Co., Suburban Gas Co., Lake Gas Co., Illinois Light, Heat & Power Co., Equitable Gas Light & Fuel Co., Chicago Economic Fuel Gas Co., Mutual Fuel Gas Co., Hyde Park Gas Co., Calumet Gas Co., Pullman Gas Co.

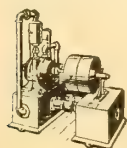
In 1907 the plants, properties and business, severally, of the Ogden Gas Co. and Universal Gas Co. were acquired by lease and are now operated by the Company. Previously the Peoples Co. bought gas of these concerns.

For history of company and agreements between it and City, see Brown's Directory for 1909, p. 317.

CAPITALIZATION.

Capital stock: Authorized, \$50,000,000; outstanding, \$38,500,000.

Dividends have been paid in each year since 1889, 6 per cent being paid in each year from



THE CORRECT AMOUNT OF AIR FOR ANY AMOUNT OF GAS. THE NEEDHAM HIGH PRESSURE GAS SYSTEM compresses and delivers the gas to the burner under uniform high pressure and by utilizing specially designed injectors supplies the correct amount of air.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

1897 (except in 1906 when 5 per cent was paid) to and including the first quarter of the fiscal year 1909, since which time the rate has been 7 per cent upon \$35,000,000 stock outstanding. in 1910, 1911 and 1912; 1913, 7½ per cent; 1914, 1915, 8 per cent; 1916, 6½ per cent; 1917, 3½ per cent.

FUNDED DEBT.

*Refunding mortgage 5% gold bonds.	\$20,554,000
Underlying prior liens.....	24,077,000
General and refund, bonds.....	1,712,000

EXTRACT FROM CHAIRMAN INSULL'S STATEMENT OF
FEBRUARY 11, 1918.

In the last annual report of the company the attention of the stockholders was directed to the negotiations instituted on December 9, 1915, by the Board of Directors of the Company with the city of Chicago, suggesting the advisability of substituting a heat unit standard for gas instead of the existing candle power standard.

On June 25, 1917, the City Council, after long delay, finally passed the ordinance consenting to the gradual elimination of the candle power standard, the sliding scale of rates, and the building of a coal gas plant by the company.

On July 26, 1917, the State Public Utilities Commission of Illinois established the present standards of gas and schedule of rates embodied in said ordinance.

On October 6, 1917, the company began the construction of its coal gas plant.

Owing to the abnormal times, the unprecedented increase in the cost of materials and labor used in the manufacture of gas has more than offset the economies effected by the reduction of the candle power and seriously affected the net revenue of the company. In consequence on January 17, 1918, the company filed with the State Public Utilities Commission of Illinois its petition asking for an immediate increase in rates to offset the abnormal costs of the manufacture of gas. The Commission will hear the petition on February 26, 1918.

The inventory of the company's properties referred to in the last annual report has been completed by the engineering firms William A. Baehr, Henry I. Lea, William J. Hagenah, Sanderson and Porter, and Sloan, Huddle, Fuestel and Freeman, and their valuations will be completed at an early date. Upon completion the valuations will be immediately filed with the authorities and should settle for all time the question of the relation of the value of the company's properties to its securities authorized and outstanding. The cost of making the inventory and valuation is carried in the balance sheet under the title of "Deferred Expenses" and will be written off from year to year. It is of interest to note that the inventory and valuation of the company's physical property will have taken over two years to complete and will comprise more than fifty volumes of approximately 500 pages each.

At a meeting of the Board of Directors held on October 9, 1917, it was unanimously decided that the interests of the stockholders would be

best conserved by passing the dividend, in view of the fact that the company was about to expend more than \$10,000,000 on the construction of a new coal gas plant and that the decreased earnings of the company, due to the high cost of materials, would not justify the payment of dividends.

It should be borne in mind that the effects of the war have fallen severely on the earnings of Public Utility Companies in particular as evidenced by the fact that during 1917 applications throughout the country for increased rates have been filed by 462 companies, of which number 401 were granted, the largest proportion relating to Gas Companies.

Following is the report of Mr. E. G. Cowdery, President, together with the Financial Statement of the Company, and comparative figures showing the increase in cost of manufacture over a period of years.

EXTRACT FROM PRESIDENT E. G. COWDERY'S ANNUAL
REPORT FOR YEAR ENDED DEC. 31, 1917.

On behalf of the Board of Directors, I submit herewith the Twenty-first Annual Report, since consolidation of The Peoples Gas Light and Coke Company, covering operations of the company for the year ending December 31, 1917.

The gross receipts for the year were \$19,338,637.74; for 1916, \$17,037,894.02, not including industrial or natural gas. For the purpose of comparison with figures of 1917 which include industrial or natural gas the 1916 figures are \$17,786,737.92.

During the year, 34 miles of gas mains were laid in extension of the company's system, the total amount of mileage now being 3,069 miles. The increase in the number of meters set was 17,764, and in the number of gas stoves installed was 34,001, and in the number of arc lamps, 7,390.

The company has 6,893 stockholders, of whom 4,091 are residents of the State of Illinois.

1917 has been the most difficult year for the operations of the company of any year for at least the past twenty years.

Although the stock of gas making fuel was fully up to the maximum in the Fall of 1916, such stock was reduced to the danger point in March, 1917, and while the receipts were ample for the daily use for the summer, it was not possible to recover the usual stock, so that during the present winter it has required constant effort to secure the daily supply with the disadvantage of the increasing prices prevailing.

Oil, upon which the manufacture of water gas is so dependent, has advanced from time to time until at present the price is at the maximum and nearly three times that paid for several years previous to 1916. The increase in the cost of oil for 1917 over 1916, was \$1,835,756.66, or 55.7 per cent, equal to 5 77/100c. per 1,000 feet of gas made. At this time the average cost of oil is 6 15/100c. per gallon as against 5 1/3c. per gallon the same time a year ago, and 4 1/3c. per gallon in 1916.

It should also be noted the increase in the cost of gas making fuel for 1917 over 1916 was \$1,195,969.98, or 94.2 per cent, equal to 4 72/100c. per 1,000 feet of gas made.

NATURAL GAS GASOLINE.

Laboratory and field testing combined enable us to give unbiased reports on the advisability of installing a gasoline plant. We solicit your inquiries.

HOPE ENGINEERING & SUPPLY COMPANY,
Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

* Dated Sept. 1, 1897; due Sept. 1, 1947. Interest payable March 1 and September 1 at Central Trust Co. of New York. Coupon bonds, registerable as to principal.

Great attention has been given to the study of economy in every branch of the service, and it is believed that as good results have obtained as was possible with the present conditions relating to labor, given consideration.

On August 1, 1917, the new schedule of rates took effect, with the accompanying reduction of candle power. Methods were adopted to develop the use of gas in large manufacturing establishments and for heating purposes, etc., to a much greater extent than heretofore undertaken, as the low wholesale price permitted the use of gas for such purposes. This development proved to be more rapid than anticipated and has resulted in largely increased sales of gas, the largest customer now using 10,000,000 feet per month, with several others closely approximating the same amount.

The schedule provided for a decreased candle power standard during a period of eighteen months before reaching a strictly heat unit basis. Six months of this period have passed, and at this time and for one year to come the standard provides for nine candle power and an average monthly heat unit basis of 565 B. t. u's; when the heat unit basis is finally reached, it is believed it will be of material benefit in many ways to the company, and at least of equal advantage to the consumer.

During the past eighteen months the company has developed plans for the new coal gas plant until at present they are well perfected, and on October 1, 1917, the field work was started, and has continued uninterruptedly, with the exception of the excessively cold and stormy days during January.

During the year the company installed apparatus in two of its plants to recover from the gas the light oil known as toluol, in order that it might be turned over to the Government. During the present month two more plants will be completed, which will largely increase the present production of toluol. The resulting product is naturally a by-product, the income from which tends to lessen the increasing operating expenses.

Attached hereto is a table showing the total cost, and the cost per 1,000 feet of gas in detail for each of the past four years. A study of this table should make it quite plain to everyone the cause of the present difficulties of the company, and at the same time show the distribution of the money received for each 1,000 feet of gas.

The gross receipts of the company from all sources were.....	\$19,338,637.74
While the operating expenses, exclusive of bond interest were....	15,866,738.21
Leaving	\$3,471,899.53
Deducting depreciation, reserves, etc.	1,461,950.88
	\$2,009,948.65
Deducting bond interest.....	2,375,150.00
Leaving a deficit for the year of.	\$365,201.35

It is to be noted that dividends paid during 1917 were declared from surplus.

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Real estate, franchise, tunnels, street mains, meters, fixtures, furniture, etc.	\$99,307,278.58
Green street and other property..	159,526.76
Special deposits and securities in the hands of trustees.....	1,362,171.50
Oil, coke, materials, etc., on hand	2,344,660.27
Gas accounts receivable.....	1,346,769.20
Accounts receivable	1,177,591.79
Deposits with agencies for bond coupons	333,725.00
Deferred expenses	967,725.85
Cash	1,364,856.04
	<u>\$108,364,304.99</u>

Liabilities and Capital.

Capital stock: Authorized \$50,000,-	
000.00 issued	\$38,500,000.00
Underlying prior lien bonds....	24,077,000.00
Refunding mortgage bonds of 1897	20,554,000.00
General and Refunding bonds of 1913	1,712,000.00
Deposits, security for gas bills, etc.	335,379.05
Accounts payable	2,429,662.96
Bond interest due and accrued..	816,283.33
Depreciation and other reserves..	7,802,954.93
Surplus	12,137,024.72
	<u>\$108,364,304.99</u>

INCOME ACCOUNT FOR TWELVE MONTHS ENDING DECEMBER 31, 1917.

Gross receipts from all sources..	\$19,338,637.74
Operating expense	15,866,738.21
	<u>\$3,471,899.53</u>
Depreciation for street mains, services, meters, works, renewals, etc., and other reserves...	1,461,950.88
	<u>\$2,009,948.65</u>
Bond interest	2,375,150.00
Deficit	\$365,201.35
Dividends paid in 1917 (first quarter at rate of 6%; two quarters at 4%)	1,347,477.00
Deficit	<u>\$1,712,678.35</u>

OFFICERS.—Chairman of the Board, Samuel Insull; President, E. G. Cowdery; Vice-Presidents, J. Williamson and E. J. E. Ward; Secretary, T. V. Purcell; Treasurer, J. E. Dougherty; Assistant Secretary, Robert Blair; Assistant Treasurer, A. L. Tossell.

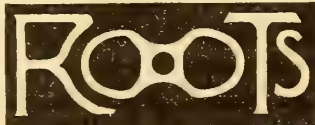
DIRECTORS.—Samuel Insull, J. J. Mitchell, James A. Patten, E. G. Cowdery and Stanley Field.

Annual meeting of stockholders held February 10.

Company's fiscal year ends December 31.

GAS EXHAUSTERS

Industrial Gas Pumps



GAS BOOSTERS

Also Gas Governors

PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS.

Principal office: 72 West Adams Street, Chicago, Ill.

The Public Service Company of Northern Illinois was incorporated in August, 1911, under the laws of Illinois, and is a consolidation of North Shore Electric Co., Economy Light and Power Co., Illinois Valley Gas and Electric Co., Chicago Suburban Light and Power Co., Kankakee Gas and Electric Co., Pontiac Light and Water Co. and the Northwestern Gas Light and Coke Co., which latter company was acquired by consolidation in July, 1913.

FRANCHISES.—Varying in duration—20, 25, 30, up to 50 years.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$10,000,000	\$7,672,000
Common stock	15,000,000	11,951,600

Shares, \$100; transfer agents, Company its own transfer agent; registrars, Central Trust Co. of Illinois.

Dividend on preferred stock, annual rate 6%, payable quarterly, February 1, May 1, August 1, November 1.

Dividend on common stock, annual rate, 6 p. c., payable quarterly.

FUNDED DEBT.—Bonds: First and refunding 5 per cent gold, authorized open; issued \$15,041,000. Dated Oct. 1, 1911; due Oct. 1, 1956. Interest payable April 1 and October 1 at Illinois Trust and Savings Bank, Chicago. Denomination, \$1,000 only; coupon form. Redeemable on any interest date on and after Oct. 1, 1921, at 110. Trustee of bonds: Illinois Trust and Savings Bank, Chicago.

Six per cent debenture bonds, authorized and issued \$5,000,000; dated March 1, 1917, and mature \$1,000,000 annually March 1, 1918, 1919, 1920, 1921 and 1922. Interest is payable semi-annually, March 1 and September 1, in Chicago. Debentures are in coupon form, registerable as to principal, in denominations of \$1,000, \$500 and \$100 (1918 maturity in \$1,000 denomination only), and are payable, principal and interest, without deduction of the present 2 per cent nor-

mal federal income tax. They are callable as a whole or any entire maturity on any interest payment date on a 5 per cent income basis in accordance with the table of prices incorporated in the indenture.

EARNINGS FOR TWELVE MONTHS ENDING
DECEMBER 31, 1917.

Gross earnings	\$8,797,764.64
Operating revenue from electricity, gas, heating and water	\$7,610,322.29
Merchandise sales and other income	1,187,442.35
Expense (including taxes)	5,309,333.42
Operating for electricity, gas, heating and water	\$4,388,441.09
Merchandise dep't.	920,892.33

Earnings	\$3,488,431.22
Charges against earnings: Interest on bonds and notes	\$1,614,866.64

Available for dividends	\$1,873,564.58
Dividends paid: Preferred stock	455,280.00

Common stock	\$1,418,284.58
(Including \$56,850 on stock held by trustees of Employees' Savings Fund and not yet paid for, which amount has been returned to company's treasury.)	832,733.62

Surplus for the year	\$585,550.96
Appropriated out of surplus earnings for year for amortization and depreciation reserve (in addition to charge against income of \$64,318.80)	451,570.80

Balance carried to surplus	\$133,980.16
----------------------------------	--------------

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Plants, real estate, etc.	\$53,344,502.06
Open accounts	60,879.02
Securities (proceeds of sale of Oak Park water mains) deposited with Illinois Trust & Savings Bank	227,500.00
Deposits with trustees of underlying mortgages in accordance with provisions of trust deeds	5,991.68
Securities account	298,915.66

Current Assets.

Material in storerooms	\$816,137.54
Coke, gas oil, etc., on hand	153,643.14
Coal in storage	186,327.32
Contract wiring work unbilled	60,872.91
Accounts and notes receivable, and municipal warrants.	1,267,058.93
Cash	809,700.97
Deposits of cash in hands of trustees to pay interest on bond and note coupons at maturity	44,232.50
	3,336,973.31
	\$57,213,882.71

BLOWERS
For Industrial Appli-
cances. High Efficiency



P.H. & F.M. ROOTS CO.
Connersville
Indiana
New York Chicago

Liabilities.

Capital stock:		
Preferred		\$7,672,000.00
Common issued	\$11,951,600.00	11,951,600.00

(Of the outstanding common stock \$860,000 par value was sold to the trustees of the employes' savings fund, and is held by them to be paid for as and when applied to the purposes of the fund, and until the shares are paid for the dividends on them come back to the company's treasury by agreement.)

Funded debt:

Five per cent first and refunding mortgage gold bonds of Public Service Company of Northern Illinois outstanding in the hands of the public.....	15,041,000.00
Five per cent first mortgage gold bonds of North Shore Electric Co.....	1,864,000.00
Five per cent first and refunding mortgage gold bonds of North Shore Electric Company	1,676,500.00
Five per cent first mortgage gold bonds of Economy Light & Power Co.....	1,423,000.00
Five per cent first mortgage gold bonds of Citizens Gas Co. of Kankakee....	131,500.00
Five per cent first and refunding mortgage gold bonds of Kankakee Gas & Electric Company	241,000.00
Five per cent Village of La Grange, Ill., water fund certificates.....	20,000.00
Five per cent first mortgage gold bonds of La Grange Water, Light & Power Co.	171,000.00
Five per cent first mortgage gold bonds of Pontiac Light & Water Co.....	89,000.00
Five per cent mortgage bonds of Northwestern Gas Light & Coke Co.....	1,747,000.00
Six per cent first mortgage bonds of Cicero Gas Co.	500,000.00
Five per cent refunding and general mortgage bonds of Cicero Gas Co.....	3,365,000.00
Stark County Power Co. 6 per cent mortgage bonds	12,000.00
Six per cent gold debentures of Public Service Co. of Northern Illinois.....	5,000,000.00
Six per cent collateral gold notes.....	1,500,000.00

Current Liabilities.

Accounts and notes payable.....	\$680,275.11
Customers' deposits	49,230.17
Bond and note interest matured but uncollected.....	44,232.50
Bond and note interest accrued to date, but not matured	469,919.16
Taxes accrued	267,182.34
	1,510,839.28
Amortization and depreciation reserve.....	2,185,559.30
Balance surplus, December 31, 1917.....	1,112,884.13
	\$57,213,882.71

OFFICERS.—President, Samuel Insull; Vice-Presidents, Frank J. Baker, Charles A. Munroe, John H. Gulick; Secretary-Treasurer, Paul D. Sexton; Assistant Secretary-Treasurer, E. E. Brenneman; Assistant to the President, John F. Gilchrist; Auditor, S. J. Palmer; Assistant Auditor, H. W. Wyman; Assistant to Vice-President, John G. Learned.

DIRECTORS.—Samuel Insull, Frank J. Baker,

Henry A. Blair, John L. Norton, William A. Fox, John H. Gulick, John F. Gilchrist, Charles A. Munroe, Frank G. Logan, Martin J. Insull, Solomon A. Smith, Louis A. Ferguson, Edward P. Russell.

Annual meeting of stockholders held last Monday in February at Chicago, Ill.

Company's fiscal year ends December 31.

STANDARD GAS AND ELECTRIC COMPANY.

Principal Office: 208 South LaSalle St., Chicago.

Standard Gas and Electric Co. was incorporated in April, 1910, under the laws of Delaware, with broad powers to acquire, operate, sell and deal in stocks and bonds of electric light and power, street railway, gas, water, hydro-electric and other properties as specified in its charter, and it owns certain bonds, stocks and other securities of certain public utility companies, all of the properties being under the management of H. M. Byllesby & Co., Chicago.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$30,000,000	\$11,784,950
Common stock	15,000,000	9,343,150

Shares, \$50; transfer agents, Company; registrars, Continental and Commercial Trust and Savings Bank, Chicago; Guaranty Trust Co., New York.

The initial dividend on the preferred stock, at the rate of 7% per annum, was paid for the quarter ended September 1, 1910, and this rate was continued up to and including the quarter ended June 1, 1911; beginning with the quarter ended September 1, 1911, up to and including the quarter ended September 1, 1914, at the rate of 8% per annum; beginning with the quarter ended December 1, 1914, up to and including the quarter ended September 1, 1916, at the rate of 4%



Tycos Temperature Instruments for Gas Works
INDICATING—CONTROLLING—RECORDING
To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



per annum; beginning with the quarter ended December 1, 1916, up to and including the quarter ended March 1, 1918, at the rate of 6% per annum. The quarterly dividends during the period beginning September 1, 1913, up to and including the quarter ended September 1, 1915, were paid in scrip bearing 6%. The total scrip issued amounted to \$1,649,893, which amount has been reduced on March 1, 1918, to \$266,690.50.

FUNDED DEBT.—Bonds: Convertible 6s, authorized, \$30,000,000; outstanding, \$5,771,000. Dated Dec. 1, 1911; due Dec. 1, 1926. Interest payable June and December 1 at Philadelphia Trust, Safe Deposit and Insurance Co. Denomination, \$500 and \$1,000; coupon, but may be registered. Redeemable at 105 on any interest date. Trustee of bonds, Philadelphia Trust, Safe Deposit and Insurance Co.

SINKING FUND.—Semi-annually beginning December 1, 1913, to June 1, 1916, one-half per cent bonds certified; December 1, 1916 to June 1, 1921, five-eighths per cent; December 1, 1921, to June 1, 1926, three-quarter per cent.

NOTES.—6 per cent; authorized, \$15,000,000; outstanding, \$6,772,100; dated October 1, 1915; due October 1, 1935; interest payable October 1 and April 1 in Chicago and New York. Denominations, \$50, \$100, \$500 and \$1,000. Callable on 90 days' notice at 103 and interest on any interest date. Guaranty Trust Co., New York, trustee.

Preferred stock dividend scrip, due 1923: Outstanding on December 31, 1914, \$1,296,344.50; September 15, 1915, \$1,607,719.00; December 31, 1915, \$1,410,946.00; March 15, 1916, \$1,088,871.50; December 31, 1916, \$323,568.00; March 1, 1917, \$305,288.50; December 31, 1917, \$266,690.50. The issuance of scrip was discontinued with the quarter ended September 1, 1915, cash dividends having been resumed from that date. The total scrip issued aggregated \$1,649,893, of which \$1,383,202.50 has been redeemed to January 1, 1918, leaving outstanding on that date \$266,690.50.

GENERAL BALANCE SHEET—DECEMBER 31, 1917.

Assets.

Securities owned	\$32,832,937.75
Sinking fund for redemption of 6% bonds.....	64,705.27
Current assets:	
Cash	\$209,114.20
Accounts receivable, from subsidiary companies	1,371,275.76
Notes receivable, from subsidiary companies	129,000.00
Accounts receivable	57,836.48
Notes receivable	2,200.00
Prepaid interest and taxes.....	3,568.33
Preferred stock dividends receivable.....	31,148.91
Common stock dividends receivable.....	115,748.24
Interest accrued on bonds owned.....	45,999.99
Total current assets.....	1,965,891.91
Office furniture and fixtures.....	1.00
Deferred charge, unamortized debt discount and expense	966,599.44
Total.....	\$35,830,135.37

Liabilities.

Preferred capital stock.....	\$11,784,950.00
Common capital stock.....	9,343,150.00
Bonded debt:	
Convertible 6% sinking fund gold bonds.....	\$5,840,500.00
Twenty-year 6% gold notes.....	\$7,053,750.00
Less—In treasury	281,650.00
.....	6,772,100
Total bonded debt.....	12,612,600.00
Preferred stock dividend scrip.....	266,690.50
Current liabilities:	
Notes payable	\$115,000.00
Accounts payable to subsidiary companies.....	211,541.17
Accrued accounts:	
Taxes	13,231.47
Interest on bonds.....	29,202.50
Interest on 20-year 6% gold notes.....	101,581.50
Interest on preferred stock dividend scrip	1,333.45
Total current liabilities.....	471,890.09
Dividends on preferred capital stock, accrued.....	58,924.75
Profit and loss surplus.....	1,291,930.03
Total.....	\$35,830,135.37



R. D. WOOD & CO., PHILA., PA.
GAS HOLDERS, PURIFIERS, CAST IRON PIPE



SUMMARY OF INCOME AND PROFIT AND LOSS FOR YEAR ENDED DECEMBER 31, 1917.

Gross Revenue:	
Interest on bonds owned.....	\$374,772.57
Dividends on preferred stocks owned.....	293,277.77
Dividends on common stocks owned.....	850,913.99
Interest on notes and accounts receivable.....	93,065.82
Profits on sales of securities—net.....	8,312.50
Total.....	\$1,620,342.65
General expenses and taxes.....	54,291.47
Net revenue	\$1,566,051.18
Add—Earnings from financial services rendered	100,000.00
Gross income	\$1,666,051.18
Interest Charges:	
Interest on bonds.....	\$370,491.74
Interest on 20-year notes.....	404,019.66
Interest on preferred stock scrip.....	16,845.28
Miscellaneous interest	1,389.63
	792,746.31
Balance for amortization of debt discount and expense and dividends.....	\$873,304.87
Dividends on preferred stock:	
Paid in cash.....	\$648,172.25
Accrued	58,924.75
	\$707,097.00
Amortization of debt discount and expense.....	55,000.00
	762,097.00
Balance transferred to profit and loss account.....	\$111,207.87
Profit and loss surplus at beginning of period.....	1,171,701.33
Profit and loss credit—interest on bonds prior year	9,020.83
Profit and loss surplus, December 31, 1917.....	\$1,291,930.03

EARNINGS FOR YEAR ENDED DECEMBER 31, 1917.

Gross revenue	\$1,620,342.65
Net revenue	1,566,051.18
Other income	100,000.00
Gross income	1,666,051.18
Interest charges	792,746.31
Balance for amortizations and divs.	873,304.87
Preferred dividends	707,097.00
Rate	6%
Amortization of debt disc. and exp.	55,000.00
Surplus	111,207.87

OFFICERS.—President, H. M. Byllesby; Vice-Presidents, Arthur S. Huey, J. J. O'Brien, Otto E. Osthoff, Geo. H. Harries, F. C. Gordon; Secretary and Assistant Treasurer, M. A. Morrison;

Assistant Secretary and Treasurer, R. J. Graf; Assistant Secretary and Assistant Treasurer, Herbert List; Assistant Treasurer, J. D. Baker.

DIRECTORS.—H. M. Byllesby, A. S. Huey, O. E. Osthoff, J. J. O'Brien, Geo. H. Harries, R. J. Graf, D. T. Flynn, W. H. Clarke, S. W. Childs, B. E. Sunny, F. W. Stehr, John H. Roemer, Donald McDonald, Elmer Dover and W. R. Thompson.

Under the management of H. M. Byllesby & Co., Chicago, Ill.

Annual meeting of stockholders held third Wednesday in April, at Wilmington, Del., or Philadelphia, Pa.

Company's fiscal year ends December 31.

WESTERN STATES GAS AND ELECTRIC CO. OF DELAWARE.

Principal address, 208 So. LaSalle St., Chicago, Ill.

The Western States Gas and Electric Co. was incorporated in March, 1911, under the laws of Delaware, and controls the Western States Gas and Electric Co. of California.

ings Bank, Chicago, and Columbia Trust Co., New York.

GENERAL BALANCE SHEET—DECEMBER 31, 1917.

CAPITALIZATION.		
	Authorized	Outstanding
Preferred stock	\$10,000,000	\$2,125,000
Common stock	5,000,000	3,503,000
Shares, \$100. Transfer agents, Cont. & Com. Trust & S. B., Chicago; Brooklyn Trust Co., New York. Registrars, Standard Trust and Sav-		

Assets,	
Securities owned	\$5,625,000.00
Preferred stock dividend receivable	37,187.50
Common stock dividend receivable	4,845.00
Standard Gas & Electric Co.....	12,259.95
Taxes paid in advance.....	404.25
Deferred charge	6,037.00
Total.....	\$5,685,733.70



Williams' "Agrippa" Turning-Tool Holder
CAM LOCK, Rapid and Positive

J. H. WILLIAMS & CO., 74 Richards St., Brooklyn, N. Y.

Liabilities.

Preferred capital stock.....	\$2,125,000.00
Common capital stock.....	3,503,000.00
Dividend on pref. cap. stock, accrued	37,187.50
Divided on com. cap. stock, accrued	14,692.57
Accrued taxes	4,798.00
Profit and loss surplus.....	1,055.63
Total.....	\$5,685,733.70

EARNINGS AND EXPENSES FOR YEAR ENDED
DECEMBER 31, 1917.

Gross earnings	\$1,402,869.74
Expenses	777,634.33
Net earnings	\$625,235.41

UNION GAS AND ELECTRIC COMPANY.

Principal Address: 1615 Harris Trust Building, Chicago, Ill.

The Union Gas and Electric Company was incorporated March 12, 1903, under the laws of Delaware, and acts as a holding company for the Dawes Bros. interests.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$2,000,000	\$2,000,000
Common stock	2,700,000	2,627,920

Transfer agents and registrars, Central Trust Co. of Illinois. Dividend on preferred stock, an-

OFFICERS.—President, H. M. Bylesby; Vice-Presidents, Elmer Dover, Otto E. Osthoff and F. C. Gordon; Secretary, R. J. Graf; Treasurer, R. J. Graf.

DIRECTORS.—H. M. Bylesby, O. E. Osthoff, A. S. Huey, R. J. Graf, J. J. O'Brien, Elmer Dover, Samuel Kahn, R. S. Moore and M. A. Morrison.

Under the management of H. M. Bylesby & Co., Chicago, Ill.

Annual meeting of stockholders held February 15 at Wilmington, Del.

Company's fiscal year ends December 31.

DANVILLE, CHAMPAIGN & DECATUR RAILWAY AND LIGHT CO., CHAMPAIGN, ILL.

The company controls substantially all the electric, gas, street railway and public heating systems in the Illinois cities of Danville, Decatur, Champaign and Urbana, which have a combined population according to the United States Census 1910 of 79,677. These public utilities are under the efficient management of the Illinois Traction Company and have been in successful operation for many years.

CAPITALIZATION.

Capital stock, common.....	\$3,688,000
Capital stock, preferred.....	730,000
Bonded debt: Collateral trust 5s.....	3,618,000
Underlying bonds (mtg. closed)....	2,330,500

Consolidated and Refunding Col. Trust 5% gold bonds; authorized, \$15,000,000; outstanding, \$3,618,000; dated March 1, 1913; due March

1, 1938; redeemable at 104 and interest on any interest date; interest payable March 1 and September 1 in the city of Boston; coupon bonds, \$1,000 each, interchangeable with registered bonds; Boston Safe Deposit and Trust Company, trustee.

OFFICERS.—President, Rufus C. Dawes; Vice-President and Treasurer, Henry M. Dawes; Secretary, H. B. Hurd.

DIRECTORS.—Rufus C. Dawes, Charles G. Dawes, Henry M. Dawes, W. Irving Osborne, W. T. Abbott, A. R. Barnes, E. J. Buffington, H. B. Hurd, Warren C. Fairbanks, Howard Baker, A. Volney Foster, W. W. Mills.

SINKING FUND.—From March 1, 1914, to 1925, $\frac{3}{4}\%$ on \$2,092,000 and \$2,617,000 bonds plus any bonds issued for 80% of additional bonds of subsidiary companies, to be paid annually; from March 1, 1926 to maturity, $1\frac{1}{8}\%$ of such amounts is payable.

OFFICERS.—President, S. H. Ewing; Vice-President, J. A. Ewing; Secretary, E. A. Macnutt; Treasurer, W. G. Brown.

DIRECTORS.—S. H. Ewing, J. A. Ewing, E. A. Macnutt, Edward Woodman, W. S. Green, W. G. Brown.

MICHIGAN GAS AND ELECTRIC COMPANY, CHICAGO, ILL.

Incorporated in Maine on November 19, 1906, as the Houghton Gas and Coke Co. Name changed to the above February 14, 1917. The company acquired, effective January 1, 1917, the Constantine Hydraulic Co., Three Rivers Light and Power Co., Three Rivers Gas Co., Milling and Power Co., and the Marquette County Gas and Electric Co. (excluding the street railway, which see below). Stock control is held by the Middle West Utilities Co.

STOCK AND BONDS.—Common, \$500,000 (\$100); outstanding, \$500,000. Preferred, cumulative, \$400,000 (\$100); 6 per cent interest; outstand-

ing, \$400,000. First and refunding, \$3,000,000 (\$100, \$500, \$1,000) gold—c*.tf.; of 1917; interest, 5g J-J; outstanding, \$512,000; due January 1, 1932; Central Trust Co. of Illinois, Chicago, trustee. M. Co. G. & El. 1st mortgage, \$1,000,000 (\$1,000) gold—c*.tf.; dated 1910; interest, 6g J-J; outstanding, \$411,000; due January 1, 1930; First Trust and Savings Bank, Chicago, trustee. Hough. Co. Gas & Coke Co., \$350,000 (\$1,000) gold c*.tf.; dated 1906; interest, 5g F-A; outstanding, \$85,000; due 1913; Central Trust Co. of Illinois; Chicago, trustee. Constantine Hydraulic Co., \$250,000

RELIABLE

"ANGLIRON"

RANGES

The bright polished and nickel-plated door frames, ebony black finished angle iron main front, main top and base in connection with the white porcelain enameled trimmings, all with surface smooth as glass, effect a most beautiful and attractive appearance. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

(\$1,000) gold c.t.f.; dated 1905; interest 5g A-O; outstanding, \$228,000; due April 1, 1925; Central Trust Co. of Illinois, Chicago, trustee. Three Rivers Gas Co., \$75,000 (\$500) c.t.f.; dated 1907; interest, 5g A-O; outstanding \$59,000; due October 1, 1936; Detroit Trust Co., Detroit, Mich., trustee.

BONDS.—The first and refunding 5s are secured, in addition to their lien on the property, by pledge of entire capital stock (with exception of directors' shares) of the Marquette County Electric Railroad Co. Of the bonds not reported outstanding an amount is reserved which is sufficient to retire prior liens and the balance is available for corporate purposes. Are callable at 102½ and interest on or before January 1, 1927, and at 101 and interest from January 1, 1927, to January, 1931, on three weeks' notice. Of the \$411,000 Marquette County Gas and Electric Co. 1st 6s reported outstanding \$139,000 have been assumed by the Marquette County Electric Railway Co. (see below), which has acquired and owns a part of the property upon which the mortgage is a

lien. Sinking fund of 1 per cent from 1913 to 1915 and 2 per cent thereafter. Are callable at 105 on any interest date. The Houghton County Gas and Coke Co. 1st 6s are due serially on February 1, as follows: 1917-19, \$4,000 per annum; 1920-24, \$5,000 per annum; 1925-29, \$6,000 per annum; in 1930, \$10,000, and in 1931 the remainder. The 1st mortgage 5s of the Constantine Hydraulic Co. are subject to call at 105. The 1st mortgage 5s of the Three Rivers Gas Co. are callable at 105 on any interest date.

(a) The Marquette County Electric Railway Co.—Organized with \$25,000 capital stock (all of which, with the exception of directors' shares, is owned by the Michigan Gas and Electric Co.). Property leased to the Michigan Gas and Electric Co. under general contract which provides for payment of bond interest, operating expenses and natural upkeep. The company has assumed \$139,000 of the 1st mortgage bonds of the Marquette County Gas and Electric Co.

OFFICERS.—L. E. Myers, President; J. Paul Clayton, Vice-President; R. W. Waite, Treasurer, and Oliver E. McCormick, Secretary.

ILLINOIS NORTHERN UTILITIES COMPANY, DIXON, ILL.

The Illinois Northern Utilities Co. was incorporated under the laws of Illinois on July 31, 1916, being a consolidation of the Illinois Northern Utilities (organized in April, 1912), Freeport Railway & Light Co. and the Tri-County Light & Power Co., all Illinois corporations. It has acquired and now owns in fee all the properties formerly belonging to twenty-eight operating companies, some of the more important of which are: Belvidere Gas and Electric Co.; Sterling Gas and Electric Co.; Lee County Lighting Co.; De Kalb County Gas Co.; Oregon Power Co.; Morrison Gas and Electric Co.; Mendota Light and Heat Co.; Plano Heat, Light and Power Co.

In addition, the company operates the Sterling, Dixon & Eastern Electric Railway Co., owning its entire issues of stock and bonds.

CAPITALIZATION AS OF DECEMBER 31, 1917.

Stock.	
Common—authorized	\$10,000,000
outstanding	4,635,000
Preferred—6% cumulative, authorized	10,000,000
outstanding	2,749,300
2d preferred, non-cum., outstanding	250,000
Bonds.	
Illinois Northern Utilities Co., 1st and Ref. 5s. outstanding	4,455,000
Underlying bonds on portion of property (to retire which a sufficient amount of 1st and Ref. 5s is reserved with the Trustee)	962,800

FUNDED DEBT.—Bonds: First and refunding 5s, \$4,455,000 outstanding. Dated April 1, 1912; due April 1, 1957. Interest payable semi-annually April 1 and October 1; both

principal and interest payable in Chicago. Coupon bonds in \$1,000 denomination. Redeemable at the option of the Company, as a whole or in part, on any interest payment day, at 105 and interest, Illinois Trust and Savings Bank, Chicago, Ill., Trustee.

SECURITY OF BONDS.—The first and refunding mortgage covers as a direct lien all fixed property now owned or hereafter acquired by the company. It is a first lien on property now producing approximately 63 per cent of the gross earnings of the company. On the balance of the company's property, the first and refunding mortgage is subject to the lien of \$968,000, underlying bonds, as explained above. The first and refunding bonds are additionally secured by deposit with the trustee of \$432,000 first mortgage 5 per cent bonds (entire issue) and \$300,000 par value of the capital stock (entire issue) of the Sterling, Dixon & Eastern Electric Railway Co.

MORTGAGE PROVISIONS.—The first and refunding mortgage provides that bonds secured thereunder may be issued, in addition to those now outstanding, as follows:

(a) \$962,800 par amount for the acquisition, refundment, or redemption of the underlying bonds now outstanding.

(b) In exchange, par for par, for mortgage indebtedness, existing thereon at the time of acquisition, of any properties acquired by the Company in the future;

(c) For expenditures made by the company in acquiring additional property, bonds may be issued only to the extent of 75 per cent of the cost thereof.

At the end of the calendar year 1917, and each



year thereafter, the Company shall place to the credit of a Depreciation Reserve Fund a sum equal to 2 per cent of the par value of all bonds which shall have been outstanding under the first and refunding mortgage for a period of not less than six months.

ST. CLAIR COUNTY GAS AND ELECTRIC CO., EAST ST. LOUIS, ILL.

The St. Clair Co. Gas and Electric Co. was incorporated February 15, 1907, under the laws of Illinois, and is a consolidation of East St. Louis Gas Light Co. and the Belleville Gas and Electric Co., Edwardsville Gas. Co.

CAPITAL STOCK.—Authorized, \$3,500,000; outstanding, \$3,500,000. Shares, \$100.

FUNDED DEBT.—Bonds: First Consolidated mortgage 5 per cent, authorized \$5,000,000; issued, including merged companies' issues, \$2,485,000. Dated March 1, 1909; due March 1, 1959. Interest payable March 1 and September 1 at Central Trust Co. of Ill., Chicago, Ill.

OFFICERS.—President, Samuel Insull; Vice-President, E. D. Alexander; Secretary and Treasurer, John H. Gulick.

DIRECTORS.—Samuel Insull, John H. Gulick, William A. Fox, Martin J. Insull, E. D. Alexander, Walter S. Brewster and A. Hardgrave.

Denomination, \$1,000. Coupon, registerable as to principal. Redeemable at Central Trust Co. of Ill., Chicago, Ill., trustee of bonds.

OFFICERS.—President, M. W. Stroud; Vice-President, S. P. Curtis; Vice-President, J. C. Lowry; Secretary, W. L. Fox; Treasurer, J. B. Townsend, 3rd; Manager, C. H. Quackenbush.

DIRECTORS.—M. W. Stroud, L. D. Turner, Geo. Gauss, C. H. Quackenbush, R. W. D. Holder, F. R. Steingoetter, J. B. Townsend, 3d.

Annual meeting of stockholders held Thursday after 4th Wednesday in April at Belleville, Ill.

FREEPORT GAS CO., FREEPORT, ILL.

Principal address: 1127 Land Title Building, Philadelphia, Pa.

The Freeport Gas Company was incorporated in 1855, under the laws of Illinois, as the Freeport Gas Light and Coke Co.; name changed to Freeport Gas Co. in 1912.

Franchises expire 1937.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$300,000	\$300,000
Common stock	200,000	200,000

Shares, \$100; transfer agents, The C. H. Geist Company. Dividend on preferred stock, annual rate 6 per cent, payable quarterly.

FUNDED DEBT.—Bonds: 1st mortgage 5% gold, authorized \$1,000,000; issued, \$562,000. Dated Sept. 1, 1912; due Sept. 1, 1932. Interest pay-

able March 1 and September 1 at Central Trust Co. of Illinois, Chicago. Denomination, \$1,000. Coupon, registerable as to principal. Redeemable at 105 and interest September 1, 1922, or any interest date thereafter. Trustee of bonds, Central Trust Company of Illinois, Chicago.

SECURITY.—First on all property now owned or which may be hereafter acquired.

OFFICERS.—President, C. H. Geist; Vice-President, H. A. Lang; Secretary, C. H. Weak; Treasurer, H. A. Lang; Manager, E. D. V. Dickey.

DIRECTORS.—C. H. Geist, C. H. Weak, H. A. Lang, Geo. H. Eyre, C. J. Gabler, Carlton Geist, E. D. V. Dickey.

SOUTHERN ILLINOIS LIGHT AND POWER COMPANY, HILLSBORO, ILL.

Business Offices, Central National Bank Building, St. Louis, Mo.

The Company owns and operates the utilities at the following points, serving the population indicated:

ELECTRIC LIGHT AND POWER.—Hillsboro (6,500), Greenville (3,500), Collinsville (8,178), Gillespie (3,500), Witt (2,800), Coffeen (1,000), Raymond (1,200), Morrisonville (1,126), Irving (978), Harvel (400), Butler (300), Schram City (1,000), Taylor Springs (1,500), Benld (2,500), Caseyville (650), Maryville (800), Palmer (410), Fillmore (500), Panama (1,200), Donnellson (400), O'Fallon (3,000). In addition, power is supplied to the lighting company at Ramsey (950), Pocahontas (1,000), Pierron (400), Marine (1,000), St. Jacobs (600), Litchfield (6,000), Carbon (50), Chapman (100), Mt. Clair (250), Troy (1,500), and municipal light plant at Sawyerville (525), Eagerville (500).

GAS.—Hillsboro and Litchfield.

STEAM HEAT.—Hillsboro and Morrisonville.

STREET RAILWAY.—Hillsboro, Taylor Springs

and Schram City. In addition, electric power is sold to the Illinois Traction Co. for operating its interurban lines in the Hillsboro district.

MUNICIPAL PUMPING.—Hillsboro, Greenville, Collinsville and Morrisonville.

The principal generating stations are located at Hillsboro and Collinsville, from which central points the adjacent districts are served.

FRANCHISES.—Hillsboro, perpetual; with minor exceptions all franchises extend beyond maturity of bonds.

CAPITALIZATION.

	Authorized	Issued
Preferred stock	\$1,100,000	\$416,900
Common stock	900,000	700,000

Shares, \$100. Dividend on preferred stock, annual rate 6 per cent, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage 6 per cent gold, authorized, \$5,000,000; issued, \$1,006,700. Dated April 1, 1913; due January 1, 1931. Interest payable January 1 and July 1 at Continental and Commercial Trust and Savings

Do your GOODMAN STOPPERS need repairs? Send them to us today. They will be returned like new.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Bank, Chicago, Trustee. Denomination, \$1,000; \$500 and \$100; coupon bonds, registerable as to principal. Optional on any interest date at 105 and interest.

SINKING FUND.—One per cent of outstanding bonds to be retired November 1, 1914 and 1915, 2 per cent of outstanding bonds thereafter; for refunding and providing capital for additions.

OFFICERS.—President, J. J. Frey; Vice-President, Guy C. Lane; Secretary, A. C. Hall;

Treasurer, C. A. Ramsey; Auditor, M. R. Noack; Manager, J. J. Frey.

DIRECTORS.—J. J. Frey, C. A. Ramsey, Guy C. Lane, J. E. Hitt, R. R. Hammond, J. W. Esmond, W. A. White, A. W. Bullard, David Davis.

Annual meeting of stockholders held October 6, at company's office, Hillsboro.

Company's fiscal year ends December 31st.

CENTRAL ILLINOIS PUBLIC SERVICE COMPANY, MATTOON, ILL.

The Central Illinois Public Service Co. was organized under the laws of Illinois in 1902. Prior to Aug. 1, 1912, the Company did an electric light, power and heat business in Mattoon, Ill., and an electric light and power business in Charleston and Kansas, Ill. It also operated electric street railways in the cities of Mattoon and Charleston and an electric interurban railway between these two cities. On and since that date the Company has acquired additional public service properties. (See "Parent Companies.")

CAPITALIZATION.

	Authorized	Outstanding
Common	\$7,500,000	\$6,000,000
Preferred 6% cumulative.	7,500,000	3,225,000
	\$15,000,000	\$9,225,000

Dividend on preferred stock, annual rate 6 per cent, payable quarterly.

BONDED DEBT.

Central Illinois Public Service Co. first and refunding 5s, 1952, out- standing	\$9,592,000
Underlying bonds on thirteen of the properties outstanding	763,000
Total bonds outstanding.....	\$10,355,000

Central Illinois Public Service Co. 6
per cent 10 year gold debentures,
outstanding \$110,000

FUNDED DEBT.—Bonds: First and refunding underlying 5s, dated Aug. 1, 1912; due Aug. 1, 1952. Interest payable February 1 and August 1. Denomination, \$1,000; coupon bonds, registerable as to principal. Redeemable at 105 on any interest date at Trustee of Bonds, Continental and Commercial Trust and Savings Bank, Chicago, Ill.

SECURITY.—A first lien on properties. These bonds are subject to underlying liens outstanding with public, aggregating only \$763,000.

MORTGAGE PROVISIONS.

The first and refunding mortgage provides that bonds secured thereunder may be issued in

addition to the three million par amount, which have been recently purchased, as follows:

(a) In exchange, par for par, for mortgage indebtedness existing thereon at the time of acquisition of any properties acquired by the Company.

(b) For expenditures made in acquiring properties over and above amount of mortgage indebtedness existing thereon at the time of the acquisition, bonds may be issued only to the extent of 75 per cent of the cost thereof.

(c) For expenditures made by the Company for betterments, improvements or additions to its property as and for a part of its permanent or fixed investment for its business, bonds may be issued only to the extent of 75 per cent of the cost thereof.

(d) After the bonded indebtedness of the Company, including all underlying bonds, shall have reached the sum of \$6,000,000 no more bonds can be issued unless net earnings of the Company applicable to interest charges for the preceding 12 months shall have been at least one and one-half times the interest on all bonds outstanding and those proposed to be issued.

(e) At the end of the calendar year 1918 and each year thereafter the Company shall place to the credit of a "Depreciation Reserve Fund" a sum equal to 2 per cent of the par value of all bonds which shall have been outstanding under the mortgage for a period of not less than six months.

EQUITY.

The avails of the \$9,592,000 Central Illinois Public Service Co. first and refunding 5 per cent gold bonds now outstanding have been used in payment for a portion of the properties acquired, and in reimbursing treasury for 75% of new construction expenditures. The total cost of the properties was largely in excess of the proceeds of the bonds, constituting a satisfactory equity.

OFFICERS.—President, Marshall E. Sampsell; Vice-President, G. W. Hamilton; Secretary and Treasurer, C. E. Cripe.

DIRECTORS.—Samuel Insull, Walter S. Brewster, J. Paul Clayton, G. W. Hamilton, Martin J. Insull, John F. Gilchrist, Marshall E. Sampsell.

ROCKFORD GAS LIGHT & COKE COMPANY, ROCKFORD, ILL.

The Rockford Gas Light & Coke Co. was incorporated February 22, 1861, under the laws of Illinois.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock authorized, \$300,000; outstanding, \$300,000. Shares, \$50.

FUNDED DEBT.—First consolidated 5 per cent bonds, authorized, \$600,000; issued, \$600,000; dated March 1, 1900; due March 1, 1950. Interest payable March 1 and September 1 at Girard Trust Co., Philadelphia, Pa. Denomination, \$1,000; coupon, registerable as to principal.

Precision 3-in-1 Gauges for forced-draught indications are of the dead-beat type, and give concentrated control of draught conditions by showing in one instrument conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Trustee of bonds, Girard Trust Co., Philadelphia, Pa.

First refunding and consolidated mortgage 5 per cent bonds, authorized, \$2,500,000; issued, \$1,021,000; dated March 1, 1909; due March 1, 1959. Interest due March 1 and September 1 at office of trustee, Central Trust Co. of Illinois, Chicago. Denomination, \$1,000 par; coupon, registerable as to principal.

OFFICERS.—President, M. W. Stroud; Vice-Pres-

idents, J. C. Lowry, S. P. Curtis; Manager, H. S. Whipple; Treasurer, J. B. Townsend, 3d; Secretary, W. L. Fox.

DIRECTORS.—M. W. Stroud, A. W. Kendall, H. S. Whipple, E. P. Lathrop, J. B. Townsend, 3d, and J. C. Lowry.

Annual meeting of stockholders held Saturday after third Wednesday, April, at Rockford, Ill.

Company's fiscal year ends December 31.

GARY HEAT, LIGHT AND WATER COMPANY, GARY, INDIANA.

The Gary Heat, Light & Water Company was incorporated August 23, 1906, under the laws of Indiana, and is a subsidiary of the United States Steel Corporation.

CAPITALIZATION.—Capital stock, authorized, \$1,250,000; outstanding, \$1,250,000. Shares, \$100.

FUNDED DEBT.—Bonds, first mortgage 5 per cent gold bonds, authorized, \$4,000,000; issued, \$1,250,000. Dated, March 1, 1913; due, \$75,000 per year commencing March 1, 1917, to and including March 1, 1932, and \$50,000 on March 1, 1933. Interest payable, March 1 and September 1, at office of the corporation in Chicago, Ill. Denomination, \$1,000. Coupon; principal can be registered. Redeemable at its office or agency in the city of Chicago, Ill., on any interest date, at par and accrued interest plus 5% premium upon the principal. Continental & Com. T. & S. Bank, Chicago, Henry G. Hay, Jr., Gary Ind., Trustee.

Security: First lien. Mortgage or deed of trust dated March 1, 1913. Liquidating in part the unsecured indebtedness incurred by the company for the acquisition of its property and the construction, extension and enlargement of its plant and supply and distribution system prior to March 1, 1913, at Gary, Indiana.

OFFICERS.—President, L. W. McNamee; Vice-Presidents, Leonard Fitzgerald, Wm. Luscombe; Secretary, W. J. Mlodoch; Treasurer, L. W. McNamee.

DIRECTORS.—E. J. Buffington, G. G. Thorp, L. W. McNamee, Leonard Fitzgerald, Wm. Luscombe.

Annual meeting of stockholders held June 10 at Gary, Indiana.

Company's fiscal year ends December 31.

THE NORTHERN INDIANA GAS & ELECTRIC CO., HAMMOND IND.

The Northern Indiana Gas & Electric Co. was formed March 1, 1909, by the consolidation of the following companies: South Shore Gas & Electric Co., Indiana Harbor & East Chicago Electric Co., Michigan City Gas & Electric Co. The Company subsequently purchased the South Bend & Mishawaka Gas Co. and the Plymouth Lighting Co., Whiting Electric Light Co., which gives the Company control of the entire gas and electric business of Hammond, East Chicago, Indiana Harbor, Whiting, Michigan City, and the entire gas business of South Bend, Mishawaka, Plymouth, together with the adjacent territory.

Company also operates in Fort Wayne, Bluffton, Decatur, Lafayette, Crawfordsville, Logansport, Wabash, Frankfort and Lebanon; heating plant at Lafayette, and water works at Crawfordsville; having purchased on February 2, 1916,

the plants and franchises of the Indiana Lighting Co. and General Service Co., who formerly operated in the above territory. The transfer of the property of the above two companies was made subject to obligations and indebtedness, as contained in mortgages, of the following:

Indiana Lighting Co.—Bonds outstanding and in hands of treasurer December 31, 1917, \$3,990,000; due August 1, 1958.

Crawfordsville Water & Gas Co.—Bond outstanding and in hands of treasurer December 31, 1917, \$135,000; due June 1, 1928.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,000,000	\$1,000,000
Common stock.....	4,000,000	4,000,000

FUNDED DEBT.—Bonds, first refunding mortgage 5 per cent gold, authorized, \$10,000,000,* is-

*Authorized \$10,000,000, of which a sufficient amount is reserved to retire the following described prior liens:

	Rate.	Year Due.	Amount.
Michigan City & Northern Indiana Gas Co.....	5%	1933	\$270,000
Michigan City Gas & Electric Co.....	5%	1937	271,500
Whiting Electric Light Co.....	5%	1923	16,000
Hammond Illuminating Co.....	5%	...†	230,000
Indiana Harbor & East Chicago Electric Co.....	5%	1927	128,500
South Shore Gas & Electric Co.....	5%	1933	680,000
South Bend Fuel & Gas Co.....	5%	1920	324,000
South Bend & Mishawaka Gas Co.....	5%	1926	1,131,000

† A portion retireable each year until the year 1926.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

sued, \$6,348,000; dated April 1, 1909; due April 1, 1929. Interest payable April 1 and October 1. Coupon bonds, denominations, \$100, \$500 and \$1,000; registerable as to principal. Redeemable at 103 and interest on any interest date after April 1, 1912. Trustee of bonds, Central Trust Co. of Illinois, Chicago.

\$5,400,000 ten-year 6% general mortgage gold bonds, dated Jan. 1, 1916, for the purpose of purchasing the properties of the General Service Co. and the Indiana Lighting Co.

CITY CONTRACTS.—The Northern Indiana Gas

& Electric Co. has contracts with the municipalities for street lighting, the majority having over nineteen years to run.

OFFICERS.—President, C. H. Geist; Vice-Presidents, B. S. Walters, Walton Clark, Lewis Lillie and S. E. Mulholland; Secretary, G. W. Curran; Treasurer and Assistant Secretary, H. C. Miller.

DIRECTORS.—C. H. Geist, H. C. Miller, B. S. Walters, S. E. Mulholland, G. W. Curran.

Annual meeting of stockholders held first Tuesday of March.

CITIZENS GAS COMPANY, INDIANAPOLIS, IND.

Incorporated under Indiana laws May 23, 1906, and in October, 1907, acquired the distribution system formerly owned by the Consumers' Gas Trust Co., a natural gas company which had been placed in liquidation by order of the courts. The company immediately constructed a water gas plant with a capacity of about 2,000,000 cu. ft. of gas per day, which was placed in operation in April, 1909. It also constructed 50 by-product coke ovens, which were first put into commission in November, 1909. It has since constructed 50 additional coke ovens of the same type. On October 1, 1913, the company acquired by 99-year lease the plant and distribution system of the Indianapolis Gas Co., which company had a well equipped water gas plant, having a capacity of over 4,000,000 cu. ft. of gas per day, and had undertaken the construction of by-product coke ovens for its regular supply of gas. The Citizens Gas Co. completed the ovens and put them into commission about the middle of February, 1914. Under ordinary conditions the entire supply of gas for the city of Indianapolis is derived from the by-product coke ovens, the water gas plant being operated only in times of emergency, or when there is a sudden increase in the demand for gas. Both the owned and the leased plants are operated regularly, and the entire business is conducted as a unit. The total owned and leased distribution system consists of 624 miles, and the company has 60,183 meters in use. The population served is about 275,000, and this company conducts the entire gas business for the city and suburbs.

FRANCHISES.—The Company holds a franchise from the City of Indianapolis, issued in 1905, and amended at the request of the Company May 22, 1912; also a franchise from the Board of County Commissioners, granted September 23, 1910; also a franchise from the Town of Broad Ripple, granted January 12, 1912. None of these have been given any valuation on the books of the Company.

CAPITALIZATION.—Capital stock, authorized, \$2,000,000; outstanding, \$1,500,000. Par \$25. Annual dividend, 10 per cent., paid semi-annually in March and September. All stock of

one class, entitled under the company's franchise to dividends of 10 per cent, cumulative, from dates of issue of stock. Voting rights of stock perpetually trustee, and trustees' certificates only issued to stockholders. Dividend checks are mailed. Par value, \$25 per share.

FUNDED DEBT.—Bonds: First and refunding, 5 per cent gold bonds, authorized, \$10,000,000; issued, \$2,462,000; dated July 1, 1912; due July 1, 1942. Interest payable January 1 and July 1 at Bankers Trust Co., New York.

Principal and interest payable in gold. Normal Federal Income Tax paid by company. Denominations, \$500 and \$1,000. Sinking fund 1915 and 1916, $\frac{1}{4}$ of 1 per cent; thereafter $\frac{1}{2}$ of 1 per cent, to be used in purchasing or calling bonds. Bonds callable, after due notice, on any interest-paying date at 108. Bonds may be issued only for 80 per cent of cost of betterments actually made. A first lien on all property owned by Citizens Gas Co. Company has \$514,000 bonds in treasury for betterments made prior to July 1, 1914.

Stock of the Indianapolis Gas Co., authorized, \$2,000,000; outstanding, \$2,000,000; dividends guaranteed by Citizens Gas Co. of Indianapolis, under ninety-nine year lease, dated September 30, 1913, at present rate of 6 per cent, payable January and July. Dividends payable by lessee to be increased to $6\frac{1}{2}$ per cent if the price of gas is reduced to 50 cents per thousand cubic feet, and to $6\frac{3}{4}$ per cent if the price is reduced to 45 cents. Dividend checks are mailed by Citizens Gas Co. Stock likewise entitled to dividends from profits or liquidation of unleased property of the Indianapolis Gas Co., as and when declared by the directors of that company. Par value, \$50 per share. Of the total stock of the Indianapolis Gas Co. 34,453 shares of a par value of \$1,722,650 are held by the Trustee for the "Home Association of Stockholders of the Indianapolis Gas Company."

First consolidated mortgage gold bonds of Indianapolis Gas Co., authorized, \$7,500,000; outstanding, \$5,073,000; dated October 1, 1902; mature October 1, 1952; interest 5 per cent; coupons, April and October. Trustee, Equitable Trust Co. Coupons payable at Equitable Trust Company, New York. Principal and interest payable in gold. Denominations, \$1,000. In-

EXPERIMENTAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. We make various styles, including the calorimeter, photometer and laboratory meters. These are carried in stock.

terest and refunding of bonds at maturity guaranteed by Citizens Gas Co. of Indianapolis, under the lease of September 30, 1913. Non-callable bonds may be issued only for 90 per cent of cost of betterments actually made. A first lien on all property owned by the Indianapolis Gas Company and leased to the Citizens Gas Company, but not a lien on unleased property of the former company.

REVENUE STATEMENT—YEAR ENDING DEC. 31, 1917.

Operating Revenue:

Gas	\$1,466,689.44
Coke	2,458,224.79
Ammonia	243,304.82
Coal tar	129,112.10
Miscellaneous	663.67
	<hr/> \$4,297,994.82

Operating Expenses:

Manufacturing	\$3,204,658.39
Distribution	198,759.01
Commercial	64,653.62
Coke and by-products:	
Sales expense.....	128,636.52
General (administra-	
tion, insurance,	
legal, etc.).....	72,582.89
	<hr/> 3,669,290.43

Net operating revenue.....	\$628,704.39
Taxes	115,134.60

Net operating income.....	\$513,569.79
---------------------------	--------------

Non-operating Revenue:

Net mercantile earn-	
ings	\$4,395.89
Net Pintsch gas earn-	
ings	7,854.83
Net benzol earnings	227,349.08
Net cyanide earnings	18,472.53
Interest and discount	15,555.15
Miscellaneous	1,528.89
	<hr/> \$275,156.37

Total net revenue.....	\$788,726.16
Leasehold rental	376,892.50

Net earnings	\$411,833.66
Interest	121,678.61

Net profits	\$290,155.05
-------------------	--------------

BALANCE SHEET—DECEMBER 31, 1917.

Assets.

Property—Manufacturing and distribution systems, real estate and miscellaneous equipment.....	\$3,658,328.32
Indianapolis Gas Co. construction account	346,195.51
Inventories—Raw materials, manufacturing supplies, manufactured products, construction materials and supplies.....	601,001.84
Accounts receivable	414,434.97
Prepaid accounts	18,216.61
Cash	98,085.09
Reserve investments	78,824.31
First Liberty Loan bonds.....	60,000.00
Second Liberty Loan bonds.....	75,000.00
United States Treasury certificates	20,000.00
Sinking fund investments.....	48,231.30
Miscellaneous, contingent and suspended accounts	122,361.38

Liabilities.

Capital stock	\$1,500,000.000
First and refunding bonds.....	2,462,000.00
Accounts payable	286,611.70
Accrued accounts	151,973.55
Indianapolis Gas Co. miscellaneous leasehold account	126,900.43
Miscellaneous, contingent and suspended accounts	2,917.29
Stock premiums	253,714.90
Sinking fund reserve.....	48,231.30
Depreciation reserves	546,473.86
Contingent reserves	84,319.88
Undistributed surplus	77,536.92

\$5,540,679.33

OFFICERS.—President, John R. Welch; Vice-President, A. F. Potts; Secretary and General Manager, J. D. Forrest; Assistant Secretary, F. G. Rastenburg; Treasurer, G. A. Efroymsen; Assistant Treasurer, V. V. Smith.

DIRECTORS.—H. W. Bennett, J. D. Forrest, J. H. Hooker, H. H. Hornbrook, Robert Lieber, G. A. Efroymsen, A. F. Potts, Franklin Vonnegut, John R. Welch.

Annual meeting of stockholders held second Monday in January.

Company's fiscal year ends June 30.

CENTRAL INDIANA GAS COMPANY, MUNCIE, IND.

The Central Indiana Gas Co. was incorporated February 7, 1888, under the laws of Indiana, and is a consolidation of the Heat, Light & Power Co., Muncie Gas Light & Fuel Co. and Anderson Gas Co. The company has been supplying natural gas since October 1, 1913.

FRANCHISES.—Muncie, January 1, 1938; Marion, April 25, 1936; Hartford City, perpetual; Alexandria, July 24, 1936.

CAPITALIZATION.

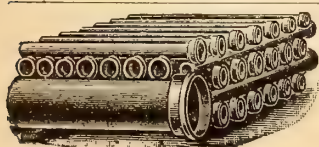
	Authorized	Outstanding
Preferred stock.....	\$500,000	\$500,000
Common stock.....	5,000,000	5,000,000
Shares, \$100.		

Annual dividend on preferred stock 7 per cent, payable quarterly.

FUNDED DEBT.—Bonds, first mortgage 5 per cent, authorized, \$5,000,000; issued, \$2,482,000; dated September 1, 1911; due September 1, 1931. Interest payable March 1 and September 1 at Cont. & Commercial Trust & Savings Bank, Chicago. Coupon bonds; denomination, \$1,000. Redeemable at 102 and interest on any interest date. Trustee of bonds, Cont. & Commercial Trust & Savings Bank, Chicago.

SECURITY.—First lien.

DEBENTURE BONDS.—Authorized, \$1,000,000; is-



CAST IRON PIPE
ALL REGULAR SIZES
R. D. WOOD & CO., PHILADELPHIA, PA.

sued, \$475,000; dated November 1, 1915; due November 1, 1925. Interest payable May 1 and November 1 at Central Trust Co. of Illinois. Denominations, \$100, \$500 and \$1,000. Redeemable at 101 and interest.

OFFICERS.—President, J. H. Maxon; Vice-Pres-

ident, F. B. Tracy; Secretary, George W. Cromer; Treasurer, R. A. Zeigler; Manager, J. H. Maxon.

DIRECTORS.—Rufus C. Dawes, F. B. Tracy, J. H. Maxon, Geo. W. Cromer, Henry M. Dawes, John W. Lansley, R. A. Zeigler.

INDIANA GAS LIGHT COMPANY, NOBLESVILLE, IND.

The Indiana Gas Light Co. is a corporation organized under the laws of the State of Indiana for the purpose of acquiring gas properties and distributing gas in various cities and towns in six counties in the central part of Indiana.

It has a capitalization of \$1,000,000, and the Company has already acquired all of the property of the Noblesville Gas & Improvement Co. of Noblesville, Ind.; the Citizens Gas Co. of Tipton, Ind., and the Tipton Heat & Power Co., as well as valuable leases and pipe lines adjacent thereto. It is now furnishing gas in Noblesville, Tipton, Atlanta and Cicero.

The company owns pipe lines connecting its territory with that of Central Indiana Gas Co.,

thus being assured of a continuous supply of gas, either natural or artificial.

FRANCHISE.—Indeterminate permit from Public Service Commission.

CAPITALIZATION.—Capital stock authorized, \$1,000,000.

FUNDED DEBT.—First mortgage 5 per cent gold bonds; dated November 1, 1912; due November 1, 1932; issued, \$388,000. Interest May 1 and November 1 at Central Trust Co. of Illinois, trustee.

OFFICERS.—President, Col. I. C. Elston; Secretary-Treasurer, Frank Anderson; Manager, C. R. Heath.

RICHMOND LIGHT, HEAT & POWER COMPANY, RICHMOND, IND.

The Richmond Light, Heat & Power Co. was incorporated in June, 1893, under the laws of Indiana.

FRANCHISES.—Indeterminate permit as provided by the Indiana State Public Utility Commission Act.

CAPITALIZATION.

	Authorized.	Issued.
Preferred stock	\$200,000	85,000
Common stock	500,000	300,000

Dividend on preferred stock, annual rate 7 per cent, from April 1, 1913, payable quarterly.

FUNDED DEBT.

Bonds: First mortgage 6s, authorized \$3,000,000; outstanding \$188,300; dated March 1, 1914; due March 1, 1939. Interest payable March 1 and September 1 at the New York Trust Co. and Demas Deming, Trustees. Redeemable at 105.

NOTES.—Six per cent guaranteed gold, dated March 1, 1914; due March 1, 1919; authorized, \$1,500,000; outstanding, \$450,000. Interest, March 1 and September 1, at Penna. Co. for Insurance on Lives and Guar. of Annuities and Demas Deming, Trustees. Redeemable at 101 and interest on any interest date.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$198,030.73
Operating expenses, renewals and replacements	142,505.66
Net earnings	\$55,525.07
Fixed charges	56,989.74
Deficit	\$1,464.67

OFFICERS.—President, W. Jessup; Vice-President, J. F. Wessel; Secretary and Treasurer, Wm. Beasley; Assistant Secretary and Assistant Treasurer, J. A. McKenna; General Manager, N. H. Johnson.

DIRECTORS.—Wilfred Jessup, Frank M. Taylor, William Beasley, Francis T. Homer, John F. Wessel, E. G. Connette, Nimrod H. Johnson.

Annual meeting of stockholders held third Wednesday in January at Richmond.

Company's fiscal year ends December 31.

CITIZENS GAS & FUEL COMPANY, TERRE HAUTE, IND.

The Citizens Gas & Fuel Co. was incorporated in 1889 under the laws of Indiana.

FRANCHISES.—Terre Haute, perpetual; West Terre Haute, expires in 1954.

CAPITALIZATION.—Capital stock authorized, \$375,000; outstanding, \$375,000. Shares, \$100. Transfer agents, Citizens Gas & Fuel Co., Terre Haute.

FUNDED DEBT.

Bonds: First and refunding 5s, authorized, \$2,000,000; outstanding, \$568,500; dated January 1, 1910; due January 1, 1960. Interest payable January 1 and July 1 at New York Trust Co. Denominations, \$1,000, \$500 and \$100; coupon. May be registered as to principal. Redeemable at 105. Trustee of bonds, New York Trust Co. and Demas Deming.

ULCO LEAD WOOL FOR TIGHT JOINTS

INIROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Bonds: First refunding 5s, authorized, \$500,000; issued, \$283,000; dated October 1, 1902; due October 1, 1922. Interest payable April 1 and October 1 at New York Trust Co. Denominations, \$1,000 and \$500; coupon. Registerable as to principal and interest. Trustee of bonds, New York Trust Co. and Demas Deming.

SECURITY.—First mortgage on entire property.

OFFICERS.—President John T. Beasley; Vice-President, Demas Deming; Secretary and Treasurer, J. G. Terhorst; Assistant Secretary and Assistant Treasurer, J. A. McKenna; Manager, C. D. Shaul.

DIRECTORS.—M. D. Evans, John T. Beasley, Demas Deming, W. S. Rea, B. V. Marshall, Clifford D. Shaul, J. F. Wessel.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$288,954.67
Operating expenses, renewals and replacements	179,382.37
Net earnings	\$109,572.30
Fixed charges	46,658.06
Surplus	\$62,914.24
Preferred stock dividend.....	1,837.50
	\$61,076.74

Annual meeting of stockholders held third Wednesday in July.

BURLINGTON GAS LIGHT CO., BURLINGTON, IOWA.

Incorporated June 18, 1855, under the laws of Iowa.

CAPITAL STOCK.—Authorized, \$625,000; issued, \$622,850. Shares, \$50. Transfer office, Burlington, Ia. Annual meeting fourth Wednesday in January.

FUNDED DEBT outstanding consisted, December 31, 1917, of \$142,000 first mortgage 5 per cent 15 year \$1,000 coupon gold bonds, due March 1, 1924; interest payable March 1 and September 1.

Bonds are redeemable at option of the Company on any interest date, at 105 and interest. Authorized, \$400,000; balance to be issued for future betterments and extensions. Trustee Fidelity Trust Co., Philadelphia, Pa.

OFFICERS.—President, Walton Clark; Vice-Presidents, Lewis Lillie, Paul Thompson; Secretary, E. D. Clary; Treasurer, James Ball; Comptroller, G. W. Curran.

DIRECTORS.—S. T. Bodine, Walton Clark, W. F. Douthirt, Lewis Lillie, Paul Thompson.

THE BURLINGTON RAILWAY & LIGHT CO., BURLINGTON, IA.

The Burlington Railway & Light Co., incorporated in 1912, has acquired the Peoples' Gas & Electric Co. of Burlington, Ia., and the Burlington Railway & Light Co. of Burlington, Ia., which companies have been doing business in Burlington and its suburbs for many years, the latter and its predecessors having operated in the City of Burlington since 1874.

The Company owns and operates the entire electric street railway system in Burlington, Ia., and its suburbs, serving a population of about 30,000. This system covers the principal streets of Burlington, with extensions into the suburbs, comprising about 5.2 miles of double track and about 8.1 miles of single track, or a total trackage of about 18.5 miles.

The Company owns and operates the electric light plant and does the entire municipal and commercial electric lighting and power business in Burlington and its suburbs.

It also owns and maintains a steam heating plant and a gas plant.

FRANCHISES.—The railway department is at present operating under franchises which are unlimited as to time, save as to two suburban extensions of minor importance. The conditions surrounding the other franchises of the Company are satisfactory, since the Company is obliged three years prior to the expiration of the gas, electric light and heating franchises, in 1927, to either procure their renewal, or new franchises in place of same. Should the Company fail to do so, and fail to pay the mortgage trustee the ap-

praised value of the property and of the franchises not renewed, the trustee may then declare the principal of the bonds due and payable.

FUNDED DEBT.

Bonds: First mortgage sinking fund gold 5s, authorized, \$7,500,000; issued, \$1,719,000; dated March 1, 1912; due March 1, 1932. Interest payable March 1 and September 1. Coupon bonds; denomination, \$1,000; registerable as to principal. Callable at 105 and interest on any interest date on three months' prior notice. Trustee of bonds, the Equitable Trust Co. of New York.

SECURITY.—The first mortgage 5 per cent bonds, due 1932, are secured by a first lien on all the property and franchises of the company, now owned or hereafter acquired.

SINKING FUND.—The sinking fund, beginning July, 1914, provides for annual payments at the rate of 5 per cent of the gross earnings of the Company, and this will provide a fund which should retire a considerable number of the bonds at present outstanding.

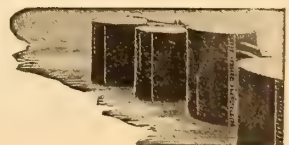
ADDITIONAL BONDS.—The remaining \$5,781,000 bonds can only be issued under carefully drawn restrictions for 80 per cent of the certified cost value of additions, betterments or extensions, and only when net earnings for the twelve months preceding have been at least double the interest charges on all of the bonds outstanding, as well as those proposed to be issued.

OFFICERS.—President, Geo. H. Higbee; Vice-Presidents, E. C. Walsh and M. A. Walsh; Secretary, C. H. Walsh; Treasurer, C. H. Walsh.

USE SPECIFICATION PAINTS

We manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



IOWA RAILWAY & LIGHT CO., CEDAR RAPIDS, IA.

The Iowa Railway & Light Co. (formerly the Cedar Rapids & Iowa City Railway & Light Co.) has recently acquired a number of successful public utility companies in Central Iowa, and now owns and operates the properties formerly owned by the Cedar Rapids & Iowa City Railway & Light Co., Marshalltown Light, Power & Railway Co., Boone Electric Co., Marion Light, Heat & Power Co., Perry Electric Light, Power & Heating Co., Tama & Toledo Railway Co., Tama & Toledo Electric Power Co., Nevada Electric Co., Belle Plaine Electric Co., Chelsea Electric Plant, Blainstown Electric Plant, Coon Rapids Electric Plant and Zearing Electric Plant.

The companies which comprise the present property of the Iowa Railway & Light Co. have been in successful operation for many years, some since the early eighties.

To provide for the rapid growth of business, the ever-increasing demand for current for lighting and power purposes, and for needed extensions and enlargements to its street and inter-urban railway system, the Company has executed a mortgage securing an authorized issue of \$10,000,000 first and refunding mortgage 20-year 5 per cent gold bonds.

CAPITALIZATION—DECEMBER 31, 1917.

Capital Stock.	Authorized	Outstanding
Preferred 7 per cent cumulative	\$5,000,000	\$3,434,595
Common	3,000,000	1,700,000
Bonded Debt.		
*First and refunding 5s. \$10,000,000		4,721,000
Reserved to retire a like amount of Cedar Rapids & Iowa City Railway & Light Co. 5s.		189,000
Total bonds outstanding.....		\$4,910,000

FUNDED DEBT.

*Bonds: First and refunding mortgage 5s, dated August 30, 1912; due September 1, 1932. Interest payable March 1 and September 1 in New York or Chicago. Coupon bonds; denominations, \$500 and \$1,000; registerable as to principal. Optional at 103 and interest on September 1, 1915, or any interest payment date thereafter. Trustee of bonds, Harris Trust & Savings Bank, Chicago.

Funds are reserved out of the present issue of bonds for the retirement forthwith of bonds secured upon its recently acquired properties. No additional bonds can be issued under

the mortgage of the Cedar Rapids & Iowa City Railway & Light Co. unless they are deposited with the Harris Trust & Savings Bank, trustee, as additional security to the first and refunding 5s.

Upon the retirement forthwith of the bonds for which cash has been reserved, the first and refunding 5s of the Iowa Railway & Light Co. are, in the opinion of counsel, secured by direct first mortgage on all property of the Company formerly owned by the Marshalltown Light, Power & Railway Co., Boone Electric Co., Marion Light, Heat & Power Co., Perry Electric Light, Power & Heating Co., Tama & Toledo Railway Co., Tama & Toledo Electric Power Co., to the extent of the purchase price paid out of the proceeds of these bonds, and by direct mortgage on all other property of the Company, subject only to the bonds of the Cedar Rapids & Iowa City Railway & Light Co., which are secured by a first lien on the electric light, power and heating property in Cedar Rapids and the interurban railway between Cedar Rapids and Iowa City.

EQUITY.—On the basis of the investment in the property of the Iowa Railway & Light Co. by the present owners, there is an equity over and above the first and refunding mortgage bonds of between \$2,000,000 and \$3,000,000.

SINKING FUND PROVISIONS.—The present large equity in the property over and above the bonds outstanding will be still further increased by the terms of the mortgage, which provides that the Company shall deposit annually with the trustee, in cash, in a special trust fund, on the first day of March, 1916 to 1921, 1 per cent; 1922 to 1926, 2 per cent, and 1927 to 1931, 3 per cent of the total amount of bonds outstanding, including those reserved to retire underlying bonds. This fund may be used as a sinking fund for the redemption of bonds of this issue or as a betterment fund to pay for permanent extensions and additions for which no bonds will be issued.

OFFICERS.—President, William G. Dows; Vice-presidents, Isaac B. Smith, John A. Reed; Secretary, C. S. Woodward; Treasurer, Isaac B. Smith; Auditor, C. S. Woodward; General Manager, William G. Dows; Asst. General Manager, R. S. Cook; Purchasing Agent, S. C. Dows.

DIRECTORS.—William G. Dows, Isaac B. Smith, John A. Reed, R. S. Cook, E. E. Pinney, R. I. Safely, M. W. Houser, W. F. Severa, Ed. H. Smith, W. J. Morrison, Sutherland C. Dows of Cedar Rapids, Ia.; Benjamin Thaw, Pittsburgh, Pa.

TRI-CITY RAILWAY & LIGHT CO., DAVENPORT, IA.

The Tri-City Railway & Light Co., a Connecticut corporation, by ownership of the entire capital stock and all but \$54,000 Tri-City Railway Co. bonds and \$238,500 6 per cent first mortgage gold bonds of the Iowa City Gas & Electric Co., controls all the street railway lines, and all of the electric light and gas properties in the contiguous cities of Davenport, Bettendorf,

Rockingham, Muscatine, Iowa City, Walcott, Blue Grass, Stockton, Durant and Buffalo, Ia.; Rock Island, Moline, East Moline, Silvis, Watertown, Campbell's Island, Sears, Milan, Carbon Cliff, Hampton, Rapid City and Port Byron, Ill.; these cities and towns forming virtually a single community, having a combined population of over 150,000.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

CAPITALIZATION.

	Authorized	Outstanding
Preferred, 6% cumulative.	\$3,000,000	\$3,000,000
Common	9,000,000	9,000,000
Total stocks.....	\$12,000,000	\$12,000,000

Dividends of 6 per cent have been paid on the preferred stock without interruption since organization of the Company, and an initial dividend of 2 per cent on the common stock was paid to stockholders of record of December 31, 1912; $4\frac{1}{2}$ per cent being paid in 1913, 4 per cent in 1914 and 5 per cent in 1915; 4 per cent in 1916 and 1917.

BONDED DEBT.

	Authorized	Outstanding
Prior lien bonds, due in 1922, secured on a part of the property of the Tri-City Railway Co....		\$54,000
Iowa City Gas & Electric Co. 1st mortgage gold 6s		238,500
Tri-City Railway & Light Co. collateral trust first lien 5s, 1923.....	\$9,000,000	7,627,000
Tri-City Railway & Light Co. first and refunding 5s of 1930.....	20,000,000	8,329,000
	\$29,000,000	\$16,248,500

SECURITY OF BONDS.—The first and refunding 5 per cent bonds are secured by an absolute first mortgage on approximately 30 miles of interurban track, including right of way between Davenport and Muscatine, and are a first lien on the electric light and power of Walcott, Blue Grass, Durant and Stockton, Ia. These bonds are also secured by a direct lien, subject to prior liens, on all other property of the Company in the State of Iowa. These bonds are further secured by a collateral lien, subject to prior liens, on all the property of the Company through the deposit of the entire capital stock and all but \$54,000 of the bonds of the controlled companies. No additional stocks or bonds can be secured by these controlled companies unless pledged as security

for the collateral trust first lien bonds or deposited with the trustee as security under this mortgage.

EQUITY AND IMPROVEMENT FUND.—The actual cost of the mortgaged property at the time of purchase (1906) was about \$2,500,000 in excess of the bonded debt. Since that time, to December 31, 1915, additions, extensions and improvements, exclusive of new properties purchased, have aggregated over \$10,063,215, keeping the property in excellent physical condition.

The sinking fund provisions of the collateral trust first lien mortgage obligates the retirement of \$2,250,000 of the prior lien bonds before maturity, which will greatly increase the equity of the first and refunding mortgage. Eleven sinking fund payments, aggregating \$1,250,000, have already been made.

In addition to the sinking fund reducing the underlying bonds, the first and refunding mortgage creates an additional improvement fund. This fund provides for payments annually, effective February 1, 1924, of a sum equal to $1\frac{1}{2}$ per cent of the aggregate par value of the bonds outstanding. The proceeds of this fund are to be used for extensions, improvements and betterments, and are calculated not only to prevent any deterioration, but to keep the property in excellent physical condition and modern in every respect.

OFFICERS.—President, B. J. Denman, Davenport, Iowa; Vice-Presidents, R. Schaddelee, Grand Rapids, Mich., and H. R. Tobey, New York; Secretary, H. E. Weeks, Davenport, Iowa; Assistant Secretaries, E. W. Niver, New York City, and L. H. Heinke, Grand Rapids, Mich.; Treasurer, Frank T. Hulswit, Grand Rapids, Mich.; Assistant Treasurer and Assistant Secretary, H. E. Littig, Davenport, Iowa.

DIRECTORS.—Wm. Butterworth, Moline, Ill.; H. E. Weeks, Davenport, Ia.; Joe R. Lane, Davenport, Iowa; Joseph F. Porter, Kansas City, Mo.; Richard Schaddelee, Grand Rapids, Mich.; B. J. Denman, Davenport, Ia.; H. R. Tobey, New York; H. E. Littig, J. G. Huntoon, Davenport, Iowa; Glenn M. Averill, Cedar Rapids, Iowa; F. T. Hulswit, Grand Rapids, Mich.

Annual meeting is held at Hartford, Conn., the third Thursday in September.

NORTHERN IOWA GAS AND ELECTRIC CO., HUMBOLDT, IOWA.

The Northern Iowa Gas and Electric Co. was incorporated in 1911 under the laws of West Virginia, and operates the gas plant at Eagle Grove, Iowa.

CAPITALIZATION.—Preferred stock, outstanding \$110,000; common stock, outstanding, \$425,000. Shares, \$100. Transfer agents, Guaranty Trust Co. of New York and Central Trust Co. of Illinois, Chicago. Dividend on preferred stock, annual rate 7 per cent, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage gold bonds, authorized \$5,000,000, issued \$720,000;

dated January 1, 1916; due January 1, 1934. Interest payable January and July at Central Trust Co. of Illinois. Denominations, \$100, \$500 and \$1,000. Principal may be registered.

OFFICERS.—President, I. C. Elston, Jr.; Vice-President, D. M. Sterns; Secretary, J. N. McCallum; Treasurer, J. N. McCallum.

DIRECTORS.—I. C. Elston, Jr., D. M. Sterns, J. N. McCallum, A. M. Hewes, C. G. Johnson.

Annual meeting of stockholders held first Monday in February.

HUNT INDUSTRIAL RAILWAYS are particularly adapted to handling quenched coke from the quenching bins to storage cars, tracks, curves, switches in standard designs and sizes can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

CENTRAL MISSISSIPPI VALLEY ELECTRIC PROPERTIES, KEOKUK, IOWA.

Central Mississippi Valley Electric Properties was formed in Illinois by a trust agreement, under which there is deposited the entire capital stock of Fort Madison Electric Co. and Dallas City Light Co., and all the capital stock of Keokuk Electric Co. except \$250,000 preferred stock. These companies do the entire gas, electric railway, lighting and power business of Keokuk, Iowa; the entire electric lighting and power business in Fort Madison, Iowa, and Dallas City, Illinois, and the entire electric railway and electric lighting business in Hamilton and Warsaw, Illinois, and operate an interurban electric railway between Keokuk, Hamilton and Warsaw.

Shares.—Preferred (\$100 par), authorized and outstanding, \$750,000; preferred as to dividends and in case of liquidation; redeemable at 110. Common (no par value), authorized and outstanding, 7,500 shares.

Dividends.—Preferred shares, 6% cumulative, payable March 1, June 1, September 1 and December 1.

Transfer agents, Stone & Webster, Boston. Registrar, Old Colony Trust Co., Boston.

No bonded indebtedness.

FRANCHISES (subsidiary companies).—In Keokuk railway and lighting franchises expire

in 1936; gas franchise in 1928. In Hamilton, lighting franchise expires in 1936; important railway franchise in 1931. In Fort Madison and Dallas City, lighting franchises expire in 1938. The interurban between Keokuk, Hamilton and Warsaw operates largely on leased lines.

EARNINGS AND EXPENSES (COMBINED COMPANIES),
FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$311,629.80
Operating expenses and taxes.....	220,958.41

Net earnings	\$90,671.39
Interest charges.....	22,522.70

Balance	\$68,148.69
Sinking fund requirements.....	5,000.00

Balance	\$63,148.69
Dividends—Preferred shares:	
Keokuk Electric Co. 6%...	\$15,000
Central Mississippi Valley	
electric properties 6%....	45,000
	60,000.00

Balances for reserves and replace-	
ments	\$3,148.69

Annual meeting, third Monday in December.

SIOUX CITY GAS AND ELECTRIC COMPANY, SIOUX CITY, IA.

Incorporated July 2, 1901, under the laws of Iowa, as successor to the Sioux City Gas Light Co. and Sioux City Electric Co.

CAPITAL STOCK.—Authorized and outstanding, first preferred \$300,000; second preferred \$135,500; common \$1,064,500; total \$1,500,000. Shares, \$100. Annual meeting, second Wednesday in February.

FUNDED DEBT.—Outstanding consists of \$1,000,000 first mortgage 5 per cent 20 year gold

bonds, dated July 2, 1901, due July 1, 1921; interest July 1 and January 1, at office of the trustee, Girard Trust Co., Philadelphia, Pa. Bonds not redeemable before maturity. Denomination, \$1,000.

OFFICERS.—President, L. L. Kellogg; Vice-Presidents, Walton Clark, Lewis Lillie, W. F. Douthirt; Treasurer, James Ball; Secretary, Henry A. Hoskins.

DIRECTORS.—W. F. Douthirt, Walton Clark, W. G. Gibbons, Henry A. Hoskins, L. L. Kellogg.

CITIZENS GAS AND ELECTRIC CO., WATERLOO, IOWA.

The Citizens Gas and Electric Co. was incorporated December 30, 1905, under the laws of Delaware.

CAPITALIZATION.—No preferred stock. Common stock, authorized and outstanding, \$800,000. Shares, \$100. Transfer agents, Corporation Trust Co. of America, Wilmington, Dela.

FUNDED DEBT.—Bonds: Twenty year 5 per cent sinking fund gold bonds, authorized \$1,200,000; issued, \$109,100. Dated Jan. 2, 1906; due Jan. 1, 1926. Interest payable January 1, April 1 and July 1 and October 1 at Central Trust Co. of Illinois, Chicago. Denomination, \$500. Coupon. Redeemable at 105 and interest after Oct. 1, 1910. Trustee of bonds, Central Trust Co. of Illinois, Chicago, Ill.

SINKING FUND.—One per cent of outstanding bonds, payable yearly on November 15.

Consolidated mtge. 6% gold bonds, authorized \$4,000,000; issued \$2,909,000. Dated February 1, 1911; due February 1, 1931. Interest payable February 1 and August 1 at office of trustee, Central Trust Co. of Ill., Chicago. Denomination, \$500 and \$1,000. Coupon form and can be registered. No sinking fund. Bonds can be redeemed on any interest date at 101 and interest.

OFFICERS.—President, M. W. Stroud; Vice-Presidents, S. P. Curtis, J. C. Lowry; Secretary, K. B. Maynard; Assistant Secretary, W. L. Fox; Treasurer, J. B. Townsend, 3rd; Manager, Austin Burt.

DIRECTORS.—M. W. Stroud, S. P. Curtis, W. L. Fox, J. B. Townsend, 3rd, and T. A. Fox.

Annual meeting of stockholders held Wednesday after first Tuesday in April at Philadelphia. Company's fiscal year ends December 31.



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



LEAVENWORTH LIGHT, HEAT & POWER COMPANY, LEAVENWORTH, KAN.

The Leavenworth Light, Heat & Power Co. was incorporated in July, 1908, under the laws of Kansas, and purchased property formerly known as Leavenworth Light & Heating Co.

FRANCHISES.—Expire in 1927.

CAPITALIZATION.—Capital stock authorized, \$1,000,000; outstanding, \$600,000. Shares, \$100. Transfer agents, Bertron, Griscom & Co., New York.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$1,000,000; issued, \$675,000; dated September 1, 1908; due September 1, 1923; interest payable September 1 and March 1 at the New York Trust Co. Denominations, \$1,000, \$500 and \$100; coupon form, registerable as to principal. Redeemable at 105 and interest. Trustee of bonds, the New York Trust Co.

SECURITY.—First mortgage on entire property.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR
ENDING DECEMBER 31, 1917.

Gross earnings	\$246,437.40
Operating expenses, renewals and re- placements	204,225.89

Net earnings	\$42,211.51
Fixed charges	34,608.84

Surplus	\$7,602.67
---------------	------------

OFFICERS.—President, E. G. Connette, New York City; Vice-President, F. E. Harper; Secretary and Treasurer, J. A. McKenna; Assistant Secretary and Assistant Treasurer, Lloyd S. Purcell; General Manager, C. G. Emmert.

DIRECTORS.—E. G. Connette, J. F. Wessel, E. W. Snyder, L. S. Purcell, F. E. Harper.

Annual meeting of stockholders held first Tuesday in July at Leavenworth.

Company's fiscal year ends December 31.

KANSAS GAS AND ELECTRIC COMPANY, WICHITA, KAN.

The Kansas Gas and Electric Company was incorporated December 11, 1909, under the laws of West Virginia. On March 1, 1910, it acquired all the real and personal property of The United Gas Company, The Edison Light and Power Company and The Gas and Electrical Appliance Company, of Wichita, Kansas, and all of the stock, bonds and notes of The Home Light, Heat and Power Co., of Pittsburg and Frontenac, Kansas. In May, 1911, the entire property of The Independence Electric Co., of Independence, Kansas, was acquired. In May, 1911, the Kansas Gas and Electric Company leased the property of The Home Light, Heat and Power Co. As of October 1, 1911, the entire property of The Electric Light and Power Co. of Newton, Newton, Kansas, was acquired. In June, 1912, the entire property of The Cherokee Light and Power Company, of Cherokee, Kansas, and in September, 1912, the entire property of The Cherryvale Electric Light and Power Company, of Cherryvale, Kansas, was acquired. Kansas Gas and Electric Co. supplies electric light and power and natural gas service to Wichita and Pittsburg, and electric light and power service to Independence, Newton, Arkansas City and other cities in Kansas. The gas distributed is supplied, under contract, by pipe line companies. The total population served is estimated at 135,300.

FRANCHISES.—The electric franchises in Wichita and Pittsburg extend to 1937; the gas franchises in Wichita and Pittsburg and the electric franchises in Frontenac and Cherryvale extend to 1925; the electric franchise in Independence extends to 1926; the electric franchises in Sedgwick and Valley Center extend to 1931; the electric franchise in Newton extends to 1927, and the electric franchises in Cherokee and Halstead to 1932.

CAPITAL STOCK AND DIVIDENDS.

The authorized and outstanding capital stock of the Kansas Gas and Electric Company as of December 31, 1917, was as follows:

	Authorized	Outstanding
Preferred	\$2,500,000	\$1,900,000
Common	4,000,000	3,000,000

The preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum, and dividends at this rate have been paid regularly since date of issue. Dividend payments are made quarterly, on January 1, April 1, July 1 and October 1. The preferred stock also has preference as to assets in case of liquidation. It is subject to redemption at 115 and accrued dividends on any dividend date.

The Guaranty Trust Company of New York and the Fidelity Trust Company, of Kansas City, Mo., are transfer agents for the stock. The Columbia-Knickerbocker Trust Company, of New York, and the Pioneer Trust Company, of Kansas City, Mo., are registrars.

All of the common stock is owned by the American Power and Light Company.

BONDS.

The authorized and outstanding bonds of the Kansas Gas and Electric Company as of December 31, 1917, were as follows:

First mortgage 5 per cent bonds, authorized, \$6,000,000; outstanding, \$4,702,000.

The first mortgage 5 per cent gold bonds are dated March 1, 1910, due March 1, 1922; interest payable in New York on March 1 and September 1. Bonds are in coupon form, but may be registered as to principal. The denomination of the bonds is \$1,000. The Guaranty Trust Company of New York is the trustee.


The bonds are secured by a first lien on all property now owned, or hereafter acquired, and by deposit with the trustee of all the outstanding stock, except directors' shares, and bonds of The Home Light, Heat and Power Co.

The bonds are subject to redemption as a whole or in part on any interest day on four weeks' notice at 105 and interest up to December 31, 1917; at 104 and interest in 1918; at 103 and interest in 1919; at 102 and interest in 1920, and at 101 and interest in 1921.



HOLDERS, PLATE WORK, PIPE

R. D. Wood & Co., Phila., Pa.



An improvement fund is established by the mortgage requiring payment to the trustee on March 1 of each year as follows: One per cent annually of the bonds outstanding from 1913 to 1915, inclusive; two per cent from 1916 to 1918, inclusive; three per cent from 1919 to 1921, inclusive. The maximum payment remains at two per cent, however, in any twelve months in which the net earnings of the Kansas Gas and Electric Company and the Home Light, Heat and Power Company equal or exceed an amount three times the interest charges on all outstanding bonds. Money in the improvement fund may be used to reimburse the company for the cost of permanent additions, improvements, etc., which might otherwise have been made the basis for the issuance of bonds, or it may be used as a sinking fund for the redemption of bonds at the same rates as provided for the redemption of the entire issue of bonds. If bonds for redemption, as stipulated in the improvement fund provision, are not obtainable in the market at the prices named, or at lower prices, they may be called by lot at such prices and accrued interest.

Additional bonds may be issued for not exceeding eighty per cent of the actual cost of betterments, improvements, etc., provided that for twelve consecutive months within the thirteen months immediately preceding any proposed issue the total net earnings of the company and of The Home Light, Heat and Power Company shall be an amount equal to not less than twice the annual interest charge upon all bonds then outstanding and then sought to be issued, and provided, also, that the net earnings exclusive of the earnings of the natural gas business of both companies shall be not less than an amount equal to one and one-half times such interest charge.

OFFICERS.—President, H. P. Wright; Vice-Presidents, F. G. Sykes, L. O. Ripley, M. C. Kelley, G. E. Claffin and A. S. Grenier; Secretary, H. L. McCune; Treasurer and Assistant Secretary, M. H. Arning; Assistant Secretaries, Chas. H. Smyth, H. S. Sladen, E. P. Summerson, W. C. Lang; Assistant Treasurers, H. S. Sladen, H. S. Murrell, E. P. Summerson and Walter C. Lang.

DIRECTORS.—R. E. Breed, E. L. Copeland, F. G. Crowell, A. H. Denton, J. F. Downing, E. W. Hill, A. C. Jobs, M. C. Kelley, S. Z. Mitchell, John A. Prescott, L. O. Ripley, H. E. Case, F. G. Sykes, H. P. Wright, H. L. McCune.

EARNINGS.

A statement of earnings for the twelve months ended December 31, 1917, with a comparison for the previous twelve months' period, follows:

	1917	1916
Gross earnings	\$1,767,642	\$1,597,882
Operating expenses and taxes	1,280,282	999,097
Net earnings	487,360	598,785
Interest charges	275,321	218,012
Net income after charges	212,039	380,773
Preferred dividend	133,000	133,000
Balance	\$79,039	\$247,773

The gross earnings as shown above were derived from electric light and power and natural gas business as follows:

	1917	1916
Electric light and power	\$1,073,891	\$913,199
Natural gas	693,751	684,683
Total	\$1,767,642	\$1,597,882

BALANCE SHEET.

A copy of the balance sheet of the Kansas Gas and Electric Company as of December 31, 1917, follows:

CONSOLIDATED BALANCE SHEET.

(Accounts between companies eliminated.)

<i>Assets.</i>	
Plants	\$9,943,337.96
Securities of other companies	310,000.00
Current assets	1,079,661.85
Bond discount and expense	202,742.41
Suspense	4,041.42
Total	\$11,539,783.64
<i>Liabilities.</i>	
Capital stock:	
Preferred 7 per cent	\$1,900,000.00
Common	3,000,000.00
The Home Light, Heat & Pr. Co. ..	500.00
Bonds, First mortgage, 5 per cent. ..	4,702,000.00
Current liabilities	1,796,073.09
Reserves	42,576.04
Surplus	98,634.51
Total	\$11,539,783.64

*Of this amount \$1,279,934.53 is due American Power & Light Co.

KENTUCKY PUBLIC SERVICE CO., INC., BOWLING GREEN, KY.

Principal Office, 43 Exchange Place, New York City.

(Controlled by Associated Gas & Electric Co.)

The Kentucky Public Service Co., Inc., was incorporated January 29, 1912, under the laws of Kentucky and is a consolidation of City Light Co., Hopkinsville; Bowling Green Gas Light Co., Bowling Green; Owensboro Gas Co., Owensboro; Capital Gas & Electric Co., Frankfort.

January 29, 1912, the four properties mentioned were consolidated and merged, becoming

the Kentucky Public Service Co., Inc. In October, 1912, the Kentucky Public Service Co. purchased the property of the Clarksville Gas Co. and the Clarksville Electric Co., which acquired the electrical property of the former Clarksville Railway & Light Co.

FRANCHISES.—Frankfort, gas, 1922; electric, perpetual; Hopkinsville, gas and electric, 1926;

Williams' "AGRIPPA" Cutting-Off and Side-Tool Holder



a tool that performs both cutting off and side-work by the mere substitution of suitable cutters tells its own story of economy.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

Bowling Green, gas, 1932; electric, perpetual; Owensboro, gas, 1931; Clarksville, gas and electric, 1960.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$500,000	\$425,000
Common stock.....	1,000,000	856,250

Shares, \$100. Transfer agents, Company's office. New York. Registrars, Continental-Equitable Title & Trust Co., Philadelphia.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$2,000,000; issued, \$1,123,000; dated February 1, 1916; due February 1, 1941. Interest payable February 1 and August 1 at Fidelity Trust Co. Philadelphia. Denominations, \$100, \$500 and \$1,000; coupon, with privilege of registration of principal. Redeemable at office

of trustee on any interest date at 102½. Trustee of bonds, Fidelity Trust Co., Philadelphia.

SECURITY.—First mortgage on all property now or hereafter acquired. The Company has leased its gas distribution system in Frankfort, Ky., to Frankfort Natural Gas Co., Inc., and has deposited the lease, to the terms of which this mortgage is subject, with the trustees as additional security for these bonds.

SINKING FUND.—The mortgage provides for semi-annual payments, February and August, to maturity, ½ per cent to purchase or redeem bonds at not exceeding 102½ per cent and interest.

The company is controlled by Associated Gas and Electric Co. of New York and is under the management of the J. G. White Management Corporation.

KENTUCKY UTILITIES CO., LOUISVILLE, KY.

The Kentucky Utilities Company was incorporated in Kentucky under the laws of Kentucky, and now serves 18 cities and towns in central and southeastern Kentucky, having a combined population estimated at 56,650, all with electric light and power, five with ice, three with water, 1 with gas and 1 with street railway service. In addition it serves with electric light and power a large agricultural section and supplies power to an important and growing group of coal mines.

FRANCHISES.—Two, perpetual; one expires 1919, and the remainder expire at various dates from 1920 to 1934.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,000,000	\$500,000
Common stock	1,000,000	1,000,000

All stock owned or controlled by the Middle West Utilities Company. Dividend on preferred stock, annual rate, 6 per cent, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage, 6 per cent gold, authorized, \$3,000,000; issued, \$2,168,000; dated October 15, 1914; due October 15, 1919; interest payable October 15 and April 15 at Illinois Trust and Savings Bank, Chicago, Ill. Denominations, \$100, \$500 and \$1,000; coupon form; registerable as to principal. Redeemable at 100 and interest at any time upon thirty days' notice.

Ten-year 6% gold debentures, authorized, \$1,000,000; outstanding, \$380,000; dated March 15, 1913; due March 15, 1923; interest payable March 1 and September 1 in Chicago, Ill. Out-

standing debentures all owned by Middle West Utilities Co.

Bonds: General mortgage 6 per cent; issued \$976,000; dated July 1, 1917; due July 1, 1947; interest payable July 1 and January 1 at Central Trust Co. of Illinois, Chicago; denominations \$1,000; coupon form.

EARNINGS AND EXPENSES, 12 MONTHS ENDED
DECEMBER 31, 1917.

Gross earnings, including merchandise sales and job work.....	\$663,403.34
Operating expenses and taxes.....	447,847.01
	<hr/>
	\$215,556.33
Other income	15,379.27

Net earnings	\$230,935.60
Deduct—Annual interest on	
6% bonds	\$150,680.17
6% gold debentures.....	25,067.33
Notes	19,956.15
	<hr/>
	195,703.65

Net income for year..... \$35,231.95

OFFICERS.—President, Harry Reid; Vice-President, L. B. Herrington; Secretary, A. A. Tuttle; Treasurer, A. A. Tuttle.

DIRECTORS.—Samuel Insull, Martin J. Insull, R. W. Waite, Harry Reid, A. A. Tuttle, T. J. Spragle, L. B. Herrington.

Annual meeting of stockholders held last Tuesday in February.

Company's fiscal year ends December 31.

LOUISVILLE GAS AND ELECTRIC COMPANY OF DELAWARE.

Principal Address, 311 West Chestnut Street, Louisville, Ky.

The Louisville Gas and Electric Company was incorporated on February 17, 1913, under the laws of Delaware, as a holding company, and controls, through stock ownership, the following operating companies, which were acquired in July, 1913:

The Louisville Gas and Electric Company (incorporated in Kentucky) engaged in distribu-

tion of electricity, artificial and natural gas, steam heat, and the manufacture of ice, supplies Louisville, Ky., and suburbs.

The Kentucky Pipe Line Company engaged in the transportation of natural gas—from the West Virginia fields to Louisville, Ky.

The Kentucky Coke Company engaged in the manufacture of gas and electricity in Louisville, Ky.

RELIABLE

"ANGLIRON"

RANGES

The heavy, unbreakable angle iron cooking top, main front and base, and improved construction involving elimination of parts liable to breakage or disarrangement insure **self-maintaining durability.** Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

APPENDIX

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$15,000,000	\$10,907,000
Common stock	8,000,000	6,448,900

Shares \$100 each. Transfer agents at office of company. Registrars, company.

Consolidated statement of earnings and expenses for year ended December 31, 1917:

Gross earnings\$2,838,589.46
Operating expenses, including taxes 1,313,505.90

Net earnings from operations.....\$1,525,083.56

MANAGEMENT.—Chairman of Board, H. M. Byllesby; President, Geo. H. Harries; Vice-Presidents, Donald McDonald, James B. Brown,

F. C. Gordon and M. A. Morrison; Secretary, T. B. Wilson; Treasurer, T. B. Wilson; Assistant Secretaries and Assistant Treasurers, F. A. Nobbe, M. A. Morrison, H. List; Assistant Secretary, W. F. Moss.

DIRECTORS.—H. M. Byllesby, J. H. Roemer, Arthur S. Huey, J. J. O'Brien, Geo. H. Harries, James B. Brown, John W. Barr, Jr., Donald McDonald, Charles J. Doherty, H. D. Rodman, R. M. Trimble, Matt O'Doherty, Otto E. Osthoff, R. J. Graf, W. H. Clarke.

Annual meeting of stockholders held on the third Wednesday in April of each year at 10 o'clock a. m., at Wilmington, Del., or may be held elsewhere on twenty days' notice.

Fiscal year ends December 31.

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1917.

Assets.

Plant, property, rights, leases, franchises, etc.....	\$32,146,910.75
Deposit to retire Louisville Gas Co. bonds (see Contra)	20,200.00
Special construction fund, Kentucky Pipe Line Co.	16,122.26
Deposit with trustee on account sale of equipment	8,687.13
Investments in other companies, associations, etc.	48,176.50
Cash on hand and in banks.....	35,885.34
Cash deposit for payment of bond interest.....	270,000.00
Cash deposit for income tax on bond interest.....	5,532.42
Accounts and notes receivable.....	\$369,686.20
Unbilled gas and electricity.....	115,000.00
	<u>\$484,686.20</u>
Less—Reserve for bad debts.....	45,761.12
	438,925.08
Interest and dividends receivable.....	3,044.17
Merchandise and supplies.....	235,241.23
Special advertising and soliciting charges carried forward	19,089.94
Unexpired insurance	4,275.24
Prepaid interest	3,800.00
Deferred charges, including unadjusted debits.....	19,270.63
Bond and coupon note discount.....	124,633.75
Total.....	<u>\$33,399,794.44</u>

Liabilities.

6% cumulative preferred stock.....	\$10,907,000.00
Common stock	6,448,900.00
Louisville Gas & Electric Co. of Kentucky common stock—Outstanding in hands of public	120,200.00
Louisville Gas & Electric Co. of Kentucky first and refunding 6% bonds \$10,413,000	
Less bonds in treasury.....	1,413,000
	<u>9,000,000.00</u>
Underlying bonds:	
Louisville Lighting Co. first mortgage 5s.....	3,119,000.00
Louisville Gas Co. (see Contra):	
First mortgage 5% bonds.....	\$20,000
Add—Premium to be retired at 101.....	200
	<u>20,200.00</u>
6% coupon notes of Louisville Gas & Electric Co. of Kentucky.....	1,500,000.00
Notes payable	1,389,005.00
Accounts payable	200,666.68
Accrued bond and coupon note interest.....	334,012.50
Accrued general interest.....	8,449.80
Accrued taxes	137,670.20
Consumers' and other deposits.....	57,031.27
Unclaimed checks and dividends.....	797.14
Surplus	156,861.85
Total.....	<u>\$33,399,794.44</u>

The GOODMAN STOPPER made its first friend in 1897 and has been gaining friends ever since.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

LOUISVILLE GAS AND ELECTRIC COMPANY OF KENTUCKY.

Principal Address, 311 West Chestnut Street, Louisville, Ky.

The Louisville Gas and Electric Company of Kentucky was incorporated on July 2, 1913, under the laws of Kentucky, and is a consolidation of the following companies

Louisville Lighting Company,
Louisville Gas Company,
Kentucky Heating Company,
Kentucky Fuel Gas Company,
Kentucky Electric Company,
Geo. G. Fetter Lighting and Heating Company,
Calor Oil and Gas Company,
Campbell Electric Company,

all of which were located in or near Louisville, Ky.

FRANCHISES.

Artificial gas franchise expires June 14, 1933.
Natural gas franchise expires June 14, 1933.
Electric franchise is perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	None	None
Common stock	\$11,000,000	\$120,200

Shares \$100 each. Transfer agents at office of company. Registrars, company. Dividends on common stock, 6% per annum since September 1, 1913, payable quarterly. The Louisville Gas and Electric Company of Delaware owns the majority of above stock.

FUNDED DEBT.—Bonds: Louisville Gas and Electric Company first and refunding gold 6s. Authorized, \$15,000,000; outstanding, \$10,413,000. Dated, July 1, 1913; due, July 1, 1918. Interest payable January 1 and July 1, at Harris Trust and Savings Bank, Chicago, or Harris, Forbes & Company, New York. Denomination, \$500 and \$1,000 coupon bonds; principal may be registered. Callable at 101 and accrued interest on any interest payment date upon four weeks' published notice.

SECURITY.—First lien on all property except that covered by the mortgage of the Louisville Lighting Company to the Fidelity and Columbia Trust Company, Louisville, Trustee, of which there are \$3,119,000 bonds outstanding.

SINKING FUND.—No provisions. Interest on these bonds is payable without deduction for Federal income tax. Trustee: Harris Trust and Savings Bank, Chicago.

BONDS.—Louisville Lighting Company first mortgage gold 5s. Authorized (closed issue): Outstanding, \$3,119,000, of which the Louisville Gas and Electric Company owns \$2,000. Dated April 1, 1903; due April 1, 1953. Interest payable April 1 and October 1, at Fidelity and Columbia Trust Company, Louisville, Ky. Denomination, \$1,000 coupon bonds; principal may be registered. Not callable. Sinking Fund: No provisions. Interest on these bonds is payable without deduction for Federal income tax. Trustee: Fidelity and Columbia Trust Company, Louisville, Ky.

NOTES.—7 per cent gold; authorized, \$3,750,000; outstanding, \$2,500,000; dated March 1, 1918; due September 1, 1920. Redeemable as a whole or in part, at the option of the company,

on any interest payment date, on September 1, 1918, at 101 and accrued interest, and on or before September 1, 1919, at 100½ and interest, and thereafter at 100 and interest, upon 30 days' published notice. Interest payable March 1 and September 1. Principal and interest payable in New York. Coupon notes in denominations of \$1,000, \$500 and \$100 each; principal may be registered.

SECURITY.—The bond secured 7 per cent gold notes will be the direct obligation of the company and will be secured by a trust agreement under which the general mortgage 6 per cent bonds due September 1, 1920, will be pledged with the trustee in a principal amount of 133 1/3 per cent of the par value of notes issued thereunder.

RESTRICTIONS OF ISSUE.—Notes may be issued only for additions and extensions to the property and then when general mortgage 6 per cent bonds of the company are deposited in the same ratio as upon this issue and provided that net earnings for the twelve consecutive months within the preceding fourteen months, after deducting all prior interest charges, shall have been equal to at least three times the annual interest charge on the notes outstanding.

Louisville Gas and Electric Co. of Kentucky covenants to refund all first and refunding mortgage 6 per cent bonds due July 1, 1918, now issued and any other obligations secured by prior liens which fall due before the maturity of these notes. The general mortgage under which the bonds securing the notes will be issued will contain provisions permitting the company to create prior liens for the purpose of providing for the paying or refunding of obligations and for extensions and additions to the property of the company.

EARNINGS.—Twelve months ended January 31, 1918:

Gross earnings	\$2,866,675
Operating expenses, maintenance and taxes	1,321,642
Net earnings	\$1,545,033
Annual interest charge on	
First and refunding 6% bonds	\$573,780
Louisville Lighting Co. 5% bonds	155,950
	<hr/> 729,730

Balance available for interest on notes	\$815,303
Annual interest on \$2,500,000 notes at 7%	175,000

Balance	\$640,303
---------------	-----------

Net earnings after deducting annual interest charges on all bonds outstanding exceed 4½ times the annual interest requirements on these notes.

Net earnings exceed 1.7 times the total interest charges including interest on these notes.

OFFICERS.—Chairman of Board, H. M. Byllesby; President, Geo. H. Harries; Vice-Presidents,

Precision CO₂ Recorders automatically record the percentage of carbon-dioxide in flue gases, and are a real practical means of reducing coal bills and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

Donald McDonald, James B. Brown, F. C. Gordon and M. A. Morrison; Secretary, T. B. Wilson; Treasurer, T. B. Wilson; Assistant Secretaries and Assistant Treasurers, F. A. Noppe, R. J. Graf, H. List; Assistant Secretary, W. F. Moss; General Manager, Donald McDonald.

DIRECTORS.—H. M. Byllesby, Arthur S. Huey, J. J. O'Brien, Geo. H. Harries, James B. Brown,

John W. Barr, Jr., Donald McDonald, Charles J. Doherty, H. D. Rodman, R. M. Trimble, Matt O'Doherty, Otto E. Osthoff, R. J. Graf, J. H. Roemer.

Annual meeting of stockholders held on the second Monday in September of each year at 3 o'clock p. m., at Louisville, Ky.

Fiscal year ends December 31.

KENTUCKY PIPE LINE COMPANY.

Principal Address, Jeffersontown, Ky.

The Kentucky Pipe Line Company was incorporated on July 1, 1913, under the laws of Kentucky, and is engaged in the transportation of natural gas from the West Virginia fields to Louisville, Ky.

CAPITALIZATION.—Preferred stock, none; common stock, authorized, \$2,000,000; outstanding, \$2,000,000. Shares, \$100 each.

NOTE.—The Louisville Gas and Electric Company of Delaware owns all but qualifying directors' shares.

FUNDED DEBT.—Bonds: Kentucky Pipe Line Company first mortgage gold 6s., authorized, \$3,000,000. All owned by Louisville Gas and Electric Company of Kentucky. Dated July 1, 1913; due on demand. Interest payable January 1 and July 1 at Harris Trust and Savings Bank, Chicago. Denomination, \$1,000, or multiples thereof. Callable at par on demand.

SECURITY.—First lien on all property of company.

SINKING FUND.—No provisions.

Interest on these bonds is payable without deductions for Federal income tax. Trustee, Harris Trust and Savings Bank, Chicago.

MANAGEMENT.—President, Geo. H. Harries; Vice-Presidents, Donald McDonald, James B. Brown, F. C. Gordon, M. A. Morrison; Secretary and Treasurer, T. B. Wilson; Assistant Secretaries and Assistant Treasurers, F. A. Nobbe, R. J. Graf, Herbert List.

DIRECTORS.—James B. Brown, Matt O. Doherty, Arthur S. Huey, Donald McDonald, Geo. H. Harries.

Annual meeting of stockholders held second Monday in September of each year at Jeffersontown, Ky.

Fiscal year ends December 31.

KENTUCKY COKE COMPANY.

Principal Address, 311 West Chestnut Street, Louisville, Ky.

The Kentucky Coke Company was incorporated on November 13, 1908, under the laws of Kentucky, and is now engaged in the manufacture of gas in Louisville, Ky.

CAPITALIZATION.

	Authorized	Outstanding
Capital stock	\$50,000	\$50,000
Shares \$100 each.		

The Louisville Gas and Electric Company of Delaware owns all but qualifying directors' shares.

FUNDED DEBT.—None.

MANAGEMENT.—President, Matt O'Doherty; Vice-Presidents, Geo. H. Harries and Donald McDonald; Secretary and Treasurer, T. B. Wilson; Assistant Secretary, F. A. Nobbe.

DIRECTORS.—Matt O'Doherty, R. M. Trimble, Geo. H. Harries, Donald McDonald, H. D. Rodman.

Annual meeting of the stockholders held second Monday in January of each year.

Fiscal year ends December 31.

AMERICAN CITIES COMPANY, NEW ORLEANS, LA.

The American Cities Co. is a holding company, organized on June 19, 1911, under the laws of New Jersey, and now owns in the aggregate 85.79 per cent of the preferred, and 94.54 per cent of the common stock of the following companies: New Orleans Railway & Light Co., Birmingham Railway, Light & Power Co., the Memphis Street Railway Co., Little Rock Railway & Electric Co., Knoxville Railway & Light Co., Houston Lighting & Power Co., 1905.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$35,000,000	\$20,553,500
Common stock.....	25,000,000	16,264,700

Shares, \$100. Transfer agents, Whitney-Central Trust & Savings Bank, New Orleans; Guaranty Trust Co., New York; Girard Trust Co., Philadelphia. Registrars, Hibernia Bank & Trust Co., New Orleans; Central Trust Co., New York; Fidelity Trust Co., Philadelphia.

Annual dividend on preferred stock, 6 per cent, payable June and December.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Investments—Securities at cost...	\$47,630,722.00
Cash on current deposit and in hand	39,860.99
Int. on bonds held as collateral....	6,450.00
Collateral loan	308,875.00
Cash on deposit for interest and dividends	410,605.50
Due from subsidiary companies...	189,038.58
Notes receivable	150,000.00
Accounts receivable	1,619.88
Furniture and fixtures.....	1,799.78
Cost of company's preferred stock acquired for subscription by employees and subscribed for (18 shares)	1,142.01
Cost of company's preferred stock acquired for subscription by employees and not subscribed for (1.757 shares)	111,473.22
Deferred debit items.....	53,291.68
	<hr/>
	\$48,904,899.64

Liabilities.

Preferred capital stock, 6% cumulative	\$20,553,500.00
Common capital stock.....	16,264,700.00
Eight-year 5/6% collateral trust gold bonds:	
Issued and outstanding	\$7,709,000
Treasury bonds.....	209,000
	<hr/>
In hands of public.....	7,500,000.00
One year 6% debenture gold notes	3,000,000.00
Notes payable	338,153.72
Matured interest and dividends...	500,605.50
Due to associated company.....	23,205.20
Reserve for taxes.....	9,832.37
Accounts payable	50,647.60
Profit and loss—surplus.....	*664,255.25
	<hr/>
	\$48,904,899.64

* Dividends on the preferred stock of the company from July 1, 1916, have accrued but have not been declared.

OFFICERS.—President, Francis T. Homer; Vice-Presidents, E. G. Connette and Lee Benoist; Secretary and Treasurer, Arthur L. Linn, Jr.; Assistant Treasurers and Assistant Secretaries, Chas. B. Murphy and M. D. Evans.

DIRECTORS.—C. E. Allgeyer, Lee Benoist, S. R. Bertron, E. H. Bright, George Bullock, D. H.

Cantrell, D. D. Curran, E. G. Connette, Marshall J. Dodge, C. P. Ellis, H. H. Flaspoller, Oscar L. Gubelman, C. H. Harvey, F. T. Homer, Charles Janvier, Robert Jemison, Emil Loeb, J. K. Newman, Edwin B. Parker, J. S. Pevear, T. H. Tutwiler, R. M. Walmsley, Walter G. Weiss, Geo. G. Westfeldt, F. B. Williams, Frank B. Hayne, Arsene Perrilliat, F. B. Wheeler.

SUMMARY OF INCOME AND PROFIT AND LOSS FOR THE YEAR ENDED DECEMBER 31, 1917.

Income:

Dividends on stocks owned.....	\$897,031.50
Interest on securities owned.....	8,699.67
Interest on bank balances.....	3,058.56
Interest on notes receivable.....	16,224.88
Service contract with subsidiary companies	266,889.21

Total income\$1,191,903.82

Less:

Operating expenses and taxes	\$222,752.80
Interest on advances from subsidiary companies	4,950.96
Interest on notes and accounts payable....	6,311.77
Interest on employees' stock subscriptions..	44.07
Amortization of funded debt discount.....	67,500.00
	<hr/>
	296,608.64

Net income before deducting interest on bonds and debenture notes	\$895,295.18
Interest on funded debt.....	592,500.00

Net income	\$302,795.18
Surplus at the beginning of the year	*361,460.07

Surplus at end of the year.....	\$664,255.25
---------------------------------	--------------

* After deducting \$12,821.78 for taxes applicable to year 1916.

INCOME STATEMENT COMBINED CONSTITUENT COMPANIES TWELVE MONTHS TO DECEMBER 31, 1917.

Gross earnings all sources.....	\$16,670,530
Operating expenses and taxes.....	11,146,084

Net earnings	\$5,524,446
Interest, bond discount, amortization and miscellaneous	3,895,499

Amounts applicable to dividends on stocks	\$1,628,947
---	-------------

NEW ORLEANS RAILWAY AND LIGHT CO., NEW ORLEANS, LA.

The New Orleans Railway & Light Co. was incorporated June 12, 1905, under the laws of Louisiana as a reorganization of the New Orleans Railways Co., sold under foreclosure. It operates the entire street railway business of New Orleans, the entire gas business of the city, and also the entire electric light and power business with one exception.

FRANCHISES.—All perpetual or extending for a long period of years, with the exception of one unimportant one which expires in 1918. Gas franchises not only perpetual, but also exclusive until 1925; its exclusive feature having been affirmed by a decision of the Supreme Court of the United States.

COST METERS

American Meter Company

561 W. 47th St., New York, N. Y.

AND LARGE DIAL DEMONSTRATION DRY METERS

Both these meters should be in the gas sales and demonstration rooms of every gas company in the country. The Cost Meter shows the hourly cost in cents and tenths of a cent to operate gas appliances. The Large Dial Demonstration Dry Meter is used to show the comparative consumption between flat flame and mantle burners.

CAPITALIZATION.

Capital stock:

New Orleans Railway & Light Co.—Preferred	\$10,000,000.00
New Orleans Railway & Light Co.—Common	20,000,000.00
Leased and affiliated companies—Preferred, held by others....	26,600.00
Leased and affiliated companies—Common, held by others....	178,950.00
Dividend on preferred stock declared and paid, 3¾ per cent.	

TRANSFER AGENTS FOR STOCK.—Whitney Central Trust & Savings Bank, New Orleans, and New York Trust Company, New York.

REGISTRARS.—Hibernia Bank & Trust Company, New Orleans, and Guaranty Trust Company, New York.

Funded debt:

New Orleans Railway & Light Company	\$27,711.700
Leased and affiliated companies—held by others.....	11,520.500

(1)—New Orleans Railway & Light Company two-year gold debentures 6 per cent, dated June 1, 1916; due June 1, 1918; interest payable June and December 1, at Central Trust Company, New York. Coupon, \$1,000; principal may be registered. Central Trust Company, New York, Trustee. Subject to call at 101 and interest on any interest date on five weeks' notice. Authorized, \$4,000,000, of which \$3,250,000 were issued June 1, 1916, to refund three-year gold debentures 6 per cent notes that matured June 1, 1916. The remaining \$750,000 were issued during 1917 for construction.

The Company covenants that it will not execute any new mortgage (other than purchase money mortgages) unless such new mortgage shall provide that all debentures issued and to be issued under this indenture shall be included in the debt secured by such new mortgage and shall have the benefits of the security thereof, as fully as any bonds or obligations issued thereunder, and that it will insert such provision in any such new mortgage by it so executed.

(2)—New Orleans Railway & Light Company, refunding and general lien bonds, 5 per cent; dated November 1, 1909; due November 1, 1949; interest payable May and November 1 at Company's office. Coupon, \$100 and \$1,000; \$1,000 may be registered. Hibernia Bank & Trust Co., New Orleans, Trustee. Subject to call at 105 and interest on any interest date on six weeks' notice. Authorized \$50,000,000, of which \$30,000,000 are reserved to retire the general mortgage 4½s, remainder to be issued only for following purposes; (a) for improvements and betterments to the properties at 75 per cent of cost; (b) for the acquisition, dollar for dollar, of additional securities and obligations of subsidiary companies now owned or controlled, or hereafter acquired or controlled, and which shall have been issued by such companies for betterments and improvements not in excess of 75 per cent of the cost; (c) for the acquisition of additional stocks, bonds, and ob-

ligations of subsidiary companies now owned or controlled, or hereafter acquired or controlled at 75 per cent of the par value. A first lien on entire property now owned or hereafter acquired, subject to general mortgage 4½s, and affiliated companies bonds.

(3)—New Orleans Railway & Light Company, general mortgage bonds, 4½ per cent.; dated July 1, 1905; due July 1, 1935; interest payable January and July 1 at New York Trust Company, New York, and at company's office. Coupon, \$1,000; principal may be registered. New York Trust Company, New York, Trustee. Subject to call at 105 and interest on any interest date on 60 days' notice. Authorized \$30,000,000, of which \$11,580,000 are reserved for prior liens, and \$935,000 pledged under refunding and general lien 5s. Listed on New York, New Orleans and Louisville Stock Exchanges.

CONSOLIDATED GENERAL BALANCE SHEET.
DECEMBER 31, 1917.

Assets.	
Property investments	\$70,360.399
Equipment held under lease.....	254.276
Materials and supplies.....	680.286
Cash	110.388
Coupon and dividend deposits.....	488.803
Bills receivable	74.250
Accounts receivable	762.656
Accrued assets—not due.....	13.143
Cash and securities in sinking funds	363.704
Special deposits	114.884
Temp. advances to affiliated companies not in system.....	358.422
Insurance and other prepayments...	88
Unamortized funded debt, discount and expense	462.764
Other deferred debit items.....	36.008
Total.....	\$74,080.071

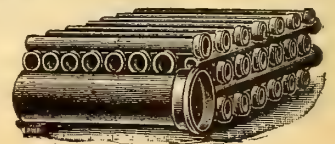
Liabilities.

Capital stock:	
New Orleans Railway & Light Co.	\$30,000,000
Sub-companies	205.550
Funded debt:	
New Orleans Railway & Light Co.	27,711.700
Sub-companies	11,520.500
Equipment lease obligations.....	141.000
Interest and dividends:	
Due and unpaid.....	437.013
Due January 1, 1917.....	604.900
Cons. and employers' deposits.....	306.118
Audited vouchers and wages unpaid	292.399
Other accounts payable.....	168.277
Interest, taxes and misc. accruals...	157.817
Reserves	1,361.811
Deferred credit items.....	95.193
Profit and loss—surplus.....	1,077.793
Total.....	\$74,080.071

OFFICERS.—D. D. Curran, President; Joseph H. De Grange, Secretary; Henry A. Ferrandon, Treasurer; C. B. Murphy, Auditor.

DIRECTORS.—Charles E. Allgeyer, Lee Benoist, Joseph H. DeGrange, Lynn H. Dinkins, C. P.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
R. D. WOOD & CO. : PHILADELPHIA, PA.



Ellis, Arsene Perilliat, Charles Godechaux, Frank B. Hayne, Frank B. Williams, D. D. Curran, R. M. Walmsley, Robert W. Wilmot, E. L. Jahncke, of New Orleans; S. Reading Bertron, F. T. Homer, of New York.

Annual meeting of stockholders held second Monday in April.

Company's fiscal year ends December 31.

INCOME ACCOUNT, YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$7,792,955
Operating expenses and taxes.....	5,215,220
Net earnings	\$2,577,735
Interest and other deductions.....	1,926,656
Surplus	\$651,079

SOUTHWESTERN GAS & ELECTRIC COMPANY, SHREVEPORT, LA.

Principal Office, 1615 Harris Trust Building, Chicago, Ill.

Incorporated in July, 1912, under the laws of Delaware and in October, 1912, acquired the Texarkana Gas and Electric Co., the Shreveport Gas, Electric Light and Power Co. and the Caddo Gas and Oil Co.

FRANCHISES.—The Company operates under favorable franchises, the natural gas franchises running beyond the life of all bonds, the artificial gas and electric franchises in Shreveport running until 1987, and the artificial gas, electric and street railway franchises in Texarkana running until 1952.

CAPITALIZATION.

Capital Stock:	Authorized	Outstanding
Common	\$3,000,000	\$2,242,000
Preferred	2,500,000	1,174,000
Bonded Debt:		
Shreveport Gas, Electric Light & Power Co. 5s, due October 1, 1922 (closed mortgage)		\$397,500
Texarkana Gas & Electric Co. 5s, due July 1, 1930 (closed mortgage)....		443,500
First and refunding mortgage sinking fund 5s, (this issue), authorized, \$7,500,000		2,930,500
Mortgage debentures 6%		1,695,000

FUNDED DEBT.—Bonds: First and refunding mortgage sinking fund 5s, dated October 1, 1912; due October 1, 1932. Interest payable February 1 and August 1 at the Central Trust Co. of Illinois, Chicago. Coupon bonds; denominations, \$500 and \$1,000, registerable as to principal. Redeemable at 102½ and interest on any interest date. Trustee of bonds, Central Trust Co. of Illinois, Chicago.

SECURITY.—These bonds are, in the opinion of counsel, secured by a direct first mortgage on property, representing an investment of approximately \$1,500,000, and by a direct mortgage on all other property of the Company, subject only to the bonds of the Shreveport and Texarkana companies mentioned above. The existing properties of the Company represent a cost to the present owners of more than \$1,000,000 in excess of all outstanding bonds, and the mortgage also covers all property which may hereafter be acquired. The mortgage provides that no bonds shall be issued on account of expenditures for additional natural gas or oil wells or leases, and also provides that no bonds shall be issued on account of expenditures chargeable to replace-

ments and renewals. These bonds are well secured, both as to actual values and earnings, independently of the continuance of natural gas.

SINKING FUND.—Under the terms of the trust deed, the Company must, each year, beginning October 1, 1913, deposit with the trustee in a sinking fund \$75,000 per annum for the first ten years, and \$50,000 per annum thereafter, which must be used in retiring bonds, or for extensions, enlargements and additions, on account of which no new bonds may be issued. In other words, the Company must, during the life of the bonds, expend \$1,200,000 either in retiring outstanding bonds or in increasing the security behind these bonds.

ESCROW BONDS.—Of the bonds authorized to be issued under the terms of the trust deed, \$841,000 are reserved with the trustee for the purpose of retiring \$397,500 Shreveport Gas, Electric Light & Power Co. 5s, due October 1, 1922, and \$443,500 Texarkana Gas & Electric Co. 5s, due July 1, 1930.

The remaining \$4,500,000 are reserved in escrow with the trustee to be issued from time to time under conservative provisions of the trust deed for not exceeding 80 per cent of the actual and reasonable cost of permanent extensions, enlargements and additions of and to the Company's property, with the provision that, except for bonds issued on account of expenditures for additional artificial gas manufacturing plants, or for extensions of the present artificial gas manufacturing plants of the Company, no bonds shall be issued unless and until the earnings for the preceding twelve months shall have been at least equal to one and three-quarter times the annual interest charge on all bonds outstanding, including the underlying bonds and the new bonds applied for.

MORTGAGE DEBENTURES.—Six per cent 10-year. Dated Dec. 2-12; due Dec. 1-22. Denominations \$500 and \$1,000. Interest payable June 1 and December 1. Authorized, \$2,000,000; issued, \$1,695,000. Trustee, Central Trust Co. of Illinois. Redeemable at 101 and accrued interest at any interest day.

OFFICERS.—President, Henry M. Dawes; Vice-President, Rufus C. Dawes; Treasurer, Joseph C. Markley; Secretary, John W. Lansley.

DIRECTORS.—Henry M. Dawes, Rufus C. Dawes, John W. Lansley, H. B. Hurd, Joseph C. Markley.

HOLDER PAINTS:—

Our line includes No. 31 Williamsport Red.

The standard holder paint of many of the largest companies. No. 1908 Green on holder frames makes a pleasing contrast.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York



BATH & BRUNSWICK LIGHT & POWER COMPANY, BATH, ME.

The Bath & Brunswick Light & Power Co. is a consolidation of the Brunswick Electric Light & Power Co. and the Sagadahock Light & Power Co., and furnishes electric light, power and gas to the City of Bath, and electric light and power to the towns of Brunswick and Topsham.

CAPITALIZATION.—Capital stock authorized, \$750,000; outstanding, \$570,000.

Dividend on common stock, annual rate 5%, payable quarterly, January, April, July and October.

FUNDED DEBT.

	Authorized	Issued
*Bonds: First mortgage and refunding 5%.....	\$750,000	\$325,000
Reserved to retire Sagadahock Light & Power 4½s, due 1922	200,000	200,000
Reserved for extensions and improvements at not over 75% actual cost....	225,000	
Total bonds outstanding.....		\$525,000

*Dated July 1, 1910; due July 1, 1930. Interest payable January 1 and July 1 at Fidelity

Trust Co., Portland, Me. Coupon bonds; denominations, \$500 and \$1,000. Redeemable at 102 on any interest date. Trustee of bonds, Fidelity Trust Co., Portland, Me.

Bonds of this issue are a first lien upon all the property of the Company at Brunswick and Topsham, now owned or hereafter acquired, and subject to \$200,000 Sagadahock Light & Power Co. 4½s of 1922, a lien upon all the property now owned or hereafter acquired by the Company at Bath.

OFFICERS.—President, Chas. S. Cook; Vice-President, George F. West; Treasurer, Walter S. Wyman.

CUMBERLAND COUNTY POWER & LIGHT COMPANY, PORTLAND, ME.

ORGANIZATION.—Incorporated in Maine on March 14th, 1907, and in 1912 acquired the rights, properties and franchises of the Consolidated Electric Light Company of Maine, Portland Lighting and Power Company, Portland Electric Company, which companies it had previously controlled through stock ownership. The company operates the Portland Railroad Company under a 99-year lease from February 1st, 1912, and controls through stock ownership the Lewiston, Augusta & Waterville Street Railway and York County Power Company.

BUSINESS.—The company does the entire electric lighting and power business in the city of Portland, Maine, and the communities adjacent thereto. Through its subsidiaries the company operates the street railway systems of Portland and South Portland with suburban lines to Westbrook, Gorham, Windham, Cape Elizabeth, Old Orchard, Saco and Yarmouth where connection is made with the lines of the Lewiston, Augusta & Waterville Street Railway extending to Brunswick, Bath, Lewiston, Gardiner, Augusta and Waterville, the electric light and power business of Biddeford, Saco, Kennebunk, York, Alfred, Stanford and Freeport, and gas business in Biddeford and Saco.

FRANCHISES.—The franchises under which the company and controlled companies operate are exceedingly liberal and contain no burdensome restrictions.

POPULATION SERVED.—The estimated population served by the company and controlled companies is 280,000.

DIVIDEND RECORD.—On the preferred stock 6 per cent per annum has been paid February quarterly from February 1, 1912, to date. On the common stock 3 per cent was paid during 1917.

FUNDED DEBT.

Outstanding

Consolidated Electric Light Company of Maine first mortgage 4½ per cent gold bonds	\$500,000
Portland Electric Company first mortgage 5 per cent sinking fund gold bonds	1,279,000
Portland Electric Company 6 per cent cumulative preferred stock.....	500,000
Portland Light and Power Company first mortgage 4½ per cent gold bonds	500,000
Consolidated Electric Light Company of Maine 6% gold bonds.....	10,000
Cumberland County Power and Light Company first and refunding mortgage 5% gold bonds.....	2,918,000

Cumberland County Power & Light Company first and refunding mortgage 5 per cent gold bonds: Dated August 1, 1912; mature, September 1, 1942; interest payable, March 1 and September 1; interest payable at office of A. B. Leach & Co., New York; Trustee, Empire Trust Co., New York, successor Trustee. Denomination of \$1,000; coupon, registerable as to principal 105 and accrued interest on any interest date upon 60 days' notice; callable as a whole only. Income tax payable by Company. Sinking fund provisions: Beginning with July 1, 1915, and thereafter on July 1, the Company agrees to deposit an amount equal to 1 per cent of the bonds then outstanding with the Trustee, to be known as its "Depreciation and Trust Fund." From this fund the Company may be reimbursed for the full cost of extensions, enlargements, etc., or for renewals and replacements or for the purchase of bonds for redemption at not over 105 and accrued interest. Authorized, \$10,000,000; outstanding, \$2,918,000; reserved for prior liens,



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

\$3,000,000; reserved for improvements, extensions, etc., at 85% of actual cost of same, \$4,072,000; reserved for Cons. El. Lt. Co., 6% bonds, \$10,000. Secured by a first lien on the hydro-electric plant on the Saco River at Bonny

Bagle. Further secured by a direct mortgage on the entire property of the Company subject only to \$3,000,000 underlying bond previously mentioned. Additionally secured by the leasehold rights of the Portland Railroad Company.

BALANCE SHEET—DECEMBER 31, 1917.
(Cumberland County Power & Light Co. only.)

<i>Assets.</i>		<i>Liabilities.</i>	
Plant, property and franchise.....	\$8,310,054.63	Capital stock preferred.....	\$2,300,000.00
Securities owned	2,754,985.27	Capital stock common.....	2,696,800.00
Securities guaranteed.....	1,525,000.00	Funded debt	5,707,000.00
Discount on securities sold.....	220,978.15	Bonds guaranteed	1,525,000.00
Sinking funds	682.78	Accounts payable	103,129.59
Supplies	277,668.95	Accrued accounts	175,060.82
Prepaid accounts	6,743.90	Reserve for renewals, depreciation	
Bills and account receivable.....	263,344.13	and improvements	402,663.84
Open accounts	2,480.85	Profit and loss.....	623,488.38
Cash	171,203.97		
	<u>\$13,533,142.63</u>		<u>\$13,533,142.63</u>

EARNINGS FOR TWELVE MONTHS ENDED DECEMBER 31.
(All Companies)

	1917	1916	Amount	Increase Per cent
Gross earnings	\$3,081,927	\$2,866,997	\$214,930	7.5
Operating expenses (including taxes).....	2,054,046	1,775,487	278,559	15.7
	<u>\$1,027,881</u>	<u>\$1,091,510</u>	<u>*\$63,629</u>	<u>*5.8</u>
Interest	820,400	809,342	11,058	1.4
	<u>\$207,481</u>	<u>\$282,168</u>	<u>*\$74,687</u>	<u>*26.5</u>
Surplus	\$207,481	\$282,168	\$74,687	26.5
Preferred stock, dividend.....	\$138,000			
Common stock, dividend	81,000			
	<u>219,000</u>	<u>165,000</u>	<u>54,000</u>	<u>32.7</u>
Balance	*\$11,519	\$117,168	*\$128,687	*109.8

* Decrease.

Transfer agent, Old Colony Trust Company, Boston, Mass.

OFFICERS.—President, Wm. M. Bradley, Portland, Maine; Vice-President, Philip G. Gossler, New York, N. Y.; Vice-President, Frank Silliman, Jr., Philadelphia, Pa.; Vice-President and General Manager, A. H. Ford, Portland, Maine; Treasurer and Clerk, C. F. Berry, Portland, Maine.

DIRECTORS.—Chas. O. Bancroft, Ammi Whitney and Harry Butler, Portland, Maine; Charles S. Erswell, Brunswick, Maine; William M. Bradley, Ludwell L. Howison, Frank D. True

and Walter G. Davis, Portland, Maine; Albert H. Ford, Portland, Maine; Philip G. Gossler, New York, N. Y.; Herbert L. Clark and Frank Silliman, Jr., Philadelphia, Pa.; Albert Strauss, New York, N. Y.; Clinton L. Baxter, Portland, Maine; Robert Braunn, Portland, Me.

MANAGEMENT.—E. W. Clark & Co., Philadelphia, Pa.

Annual meeting first Tuesday in August or within 60 days thereafter at the office of the company, Portland, Maine.

Fiscal year ends December 31.

CONSOLIDATED GAS ELECTRIC LIGHT & POWER COMPANY OF BALTIMORE,
BALTIMORE, MD.

General Office, Lexington and Liberty Streets.

Incorporated February 14, 1905, under the laws of Maryland, as the Consolidated Gas Electric Light & Power Co., as a consolidation of the Westrom Electric Co. and the United Electric Light & Power Co.; also acquired a majority of the stock of the Consolidated Gas Co. of Baltimore City. On June 20, 1906, the new company was consolidated with the Consolidated Gas Co. of Baltimore City, a majority of whose stock it had previously owned, forming the Consolidated Gas Electric Light & Power Co. of Baltimore. Owns the entire capital stock of the following

companies: Northern Electric Co., Mt. Washington Electric Light & Power Co., Roland Park Electric & Water Co., Patapsco Electric & Mfg. Co. of Maryland, Patapsco Electric & Mfg. Co. of Dela., The Baltimore County Elec. Co., and Maryland Securities Co. The last named company owns all of the common stock of the Baltimore Electric Co. of Baltimore City. All of the above companies, with the exception of the Maryland Securities Co., are operated under lease by the Consolidated Gas Electric Light & Power Co. of Baltimore. Also owns the entire

MacDONALD-MANN COKE QUENCHING CHUTES quench the coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

APPENDIX

common capital stock of The Public Service Building Co., which company erected a 20-story office building for the use of the executive, commercial, engineering and merchandizing departments of the Consolidated Company, and for retail shops and general office purposes. The Consolidated Gas Electric Light & Power Co. of Baltimore has leased this building for a period of 25 years. The present company is the only company engaged in the gas, electric light and power business in Baltimore and surrounding territory. Its operations extend into Baltimore, Howard and Anne Arundel counties, the company serving a population of approximately 725,000.

FRANCHISES.—Original gas franchises were granted in 1816, and original electric franchises were granted in 1881. The franchises for both gas and electricity are unlimited as to time. No further franchises can be granted to any other company without the consent of the Public Service Commission of Maryland.

ELECTRIC PROPERTIES.—The company has available for immediate operation two modern steam generating plants—one, the large power station of the Consolidated Co. at Westport, and the

other the Gould street station of the Baltimore Electric Co. of Baltimore City—and the water-power development at Ilchester, Maryland. The present equipment of these stations has an aggregate capacity of 90,000 horsepower. In addition to these generating stations, the Consolidated Co., through a contract with the Pennsylvania Water & Power Co., controls the entire power supply of that company in Baltimore and vicinity, excepting an amount reserved for the local traction company. This development is located at Holtwood, Pa., on the Susquehanna River, and has a rated machine capacity of 112,000 horsepower. This supply of hydro-electric power has resulted in economies in operation and practically insures uninterrupted service throughout the entire system.

GAS PROPERTIES.—The manufacturing of gas is concentrated at the company's Spring Gardens plant, which occupies a tract of 57 acres of land advantageously located for a gas plant, and provided with both railroad and deep water facilities. It is equipped with Lowe water gas apparatus of modern design, having a daily capacity of 20,000,000 cubic feet, in addition to which the company has also a contract under which it may purchase 7,000,000 cubic feet of coke-oven gas from the Bethlehem Steel Co.

COMPARATIVE STATEMENT OF INCOME AND EXPENSES, 1917-1916.

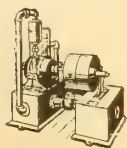
	June 30, 1917	June 30, 1916	Increase
Gross income	\$8,498,809.36	\$7,431,768.81	\$1,067,040.55
Operating expenses and taxes.....	4,480,164.85	3,848,076.37	632,088.48
Net earnings	\$4,018,644.51	\$3,583,692.44	\$434,952.07
Fixed charges	1,672,222.95	1,580,057.77	92,165.18
Net income	\$2,346,421.56	\$2,003,634.67	\$342,786.89
Dividends paid and payable.....	1,305,746.77	1,131,803.49	173,943.28
Surplus	\$1,040,674.79	\$871,831.18	\$168,843.61
Reserve for depreciation, amorti- zation, etc.	1917 \$600,000.00	1916 \$550,000.00	
Reserve for contingencies.....	300,000.00	134,541.82	
Charged off to bond discount..	90,000.00		
	900,000.00	774,541.82	125,458.18
Net surplus	\$140,674.99	\$97,289.36	\$43,385.43

CAPITAL STOCK.—Authorized, \$30,000,000. Capital stock outstanding June 30, 1917, \$14,385,800. Shares, \$100.

The first dividend on the common shares was 2 per cent, paid in April, 1910; 2 per cent was also paid in November, 1910; 1 per cent in February, 1911; 1¼ per cent in April, July and October, 1911, January, April, July and October, 1912, and January, 1913; 1½ per cent in April, July and October, 1913, January, April and July, 1914; 1¾ per cent in October, 1914, January, April, July and October 1915, January, April, July and October 1916, and January 1917. The April 1917 was, and all subsequent quarterly payments have been at the rate of 2 per cent (8 per cent per annum). The stock of the company is widely distributed

in small amounts and is listed on the Baltimore, New York, London and Bristol (England) and Glasgow (Scotland) stock exchanges.

Of the outstanding capital stock, \$2,174,000 was issued in conversion or retirement of its issue of \$2,500,000 two-year 5% notes, the value of the common stock for this purpose being \$115 per share. Also, \$739,400 common stock has been issued through the conversion of debenture stock, which privilege expired July 1, 1916. These conversions were made at the rate of £25 (\$121.66¼) debenture stock for \$100 common stock. The Public Service Commission of Maryland has authorized the company to issue \$7,727,300 common stock when and as needed for the conversion of its issue of \$8,500,000 5% five-year convertible gold notes, the value of common stock for the purpose of conversion being established



THE NEEDHAM HIGH PRESSURE GAS SYSTEM is the ideal system to accomplish fuel conservation. It satisfies the customer's requirements.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

at \$110 per share. The company has also from time to time offered shareholders the privilege of subscribing for common stock at par, \$2,916,000 thereof having been issued on various occasions in this manner. Under a privilege which expired December 19, 1914, \$2,256,300 common stock was issued in exchange, par for par, for preferred stock, which latter was thereupon permanently cancelled and retired.

Transfer agents. The New York Trust Co., New York, and The Continental Trust Co., Baltimore, Md. Registrar, Guaranty Trust Co., New York, and Union Trust Co. of Maryland, Baltimore, Md. Dividend checks mailed.

FUNDED DEBT.—Outstanding, June 30, 1917, consists of the following issues:

\$15,000,000 Consolidated Gas Electric Light & Power Co., general mortgage, gold, $4\frac{1}{2}$ per cent coupon bonds (including \$1,155,000 deposited as security under the first mortgage 5 per cent bonds of The Baltimore Electric Co. of Baltimore City. The bonds held by the public therefore amount to \$13,845,000. Bonds are of \$1,000 denomination, dated February 14, 1905; due February 14, 1935; interest payable January 1 and July 1 at the Continental Trust Co., Baltimore, Md., and in New York and London. Principal may be registered. Authorized issue, \$15,000,000. Secured by trust deeds dated February 14, 1905, and May 15, 1905, as a first mortgage upon the Westport Power Plant, the main generating station of the company, and all other electric property, subject to the underlying lien of the mortgage of the United Electric Light & Power Co. It is also a general mortgage on all gas property of the company, subject to the liens of the two gas mortgages. Principal payable in Baltimore and London. Bonds are to bearer, but principal can be registered in Baltimore and London. Trustee, The Continental Trust Co., Baltimore, Md.

\$4,428,000 United Electric Light & Power Co. first consolidated mortgage gold $4\frac{1}{2}$ per cent coupon bonds, denomination \$1,000, dated May 8, 1899; due May 1, 1929; interest payable May 1 and November 1 at the office of Alexander Brown & Sons, Baltimore, Md. Maryland Trust Co., Baltimore, Md., trustee. Principal may be registered. Authorized, \$4,500,000. This is a closed mortgage. Free of United States normal income tax.

\$3,400,000 Consolidated Gas Co. of Baltimore City, consolidated mortgage first 5 per cent gold bonds; denomination, \$1,000; dated July 1, 1889; due July 1, 1939; interest payable January 1 and July 1 at Farmers' and Merchants' National Bank, Baltimore, Md. Mercantile Trust & Deposit Co., Baltimore, Md., trustee. Principal may be registered. Authorized issue, \$7,000,000. This is a closed mortgage. United States normal income tax not assumed by company.

\$6,100,000 Consolidated Gas Co. of Baltimore City, general mortgage gold $4\frac{1}{2}$ per cent coupon bonds; denomination, \$1,000; dated April 1,

1904; due April 1, 1954; interest payable April 1 and October 1 at The Fidelity Trust Co., Baltimore, Md. Principal may be registered. Total issuable, \$9,500,000 of which \$3,400,000 are reserved to retire \$3,400,000 Consolidated Gas Co. of Baltimore City 5 per cent consolidated mortgage bonds, due July 1, 1935.

This is a closed mortgage. Free of United States normal income tax.

\$399,515.32 (£82,095) consolidated mortgage 5% debenture stock, Series "A," outstanding. The stock may bear varying rates of interest, as determined by the directors prior to issuance, such rate not to exceed 5% per annum. Interest is payable May 1 and November 1 each year by warrants, sent by post. There is no fixed date for the payment of the principal, but the company has reserved the right to redeem the whole or any part of the stock at any time on three months' notice, at 10% premium. \$899,572.52 (£184,850) of the original issue has been converted into common shares of the company by the holders of such stock, through a conversion privilege which expired July 1, 1916, which established \$121.66 $\frac{1}{4}$ as the conversion value of the common stock. The stock registers are kept at the head office of the London Joint Stock Bank, Ltd., 5, Princes Street, London, E. C., England, and transfers are effected in sums of £1 and multiples on common forms; fee, 2s. 6d. Free of United States normal income tax.

\$8,500,000 Consolidated Gas Electric Light & Power Co. of Baltimore 5% five-year convertible gold notes; dated November 15, 1916; due November 15, 1921; interest payable May 15 and November 15 of each year at The New York Trust Co., New York, or at the banking house of Alexander Brown & Sons, Baltimore, Md. The Fidelity Trust Co., Baltimore, Md., trustee. Coupon, \$100, \$500 and \$1,000. \$100 and \$500 notes, exchangeable for larger denominations at The New York Trust Co., New York, and at the banking house of Alexander Brown & Sons, Baltimore. Principal may be registered at The New York Trust Co., New York, and at the banking house of Alexander Brown & Sons, Baltimore. Authorized and outstanding, \$8,500,000. Convertible at the option of the holders after November 15, 1918, into capital stock of the company, at \$110 per share, with an adjustment of accrued interest and current dividends. Callable in whole or in part at any time on or after May 15, 1919, at 101 $\frac{1}{2}$ and interest, on 60 days' notice, but if so called for redemption the notes may be converted into capital stock up to 30 days prior to the date of redemption. Issued to finance redemption of \$4,103,754 preferred stock on April 2, 1917, and to cover the acquisition of additional property in the construction, completion, extension and improvement of the company's plants and distribution systems, required by the normal increase in the company's gas and electric output. Free of United States normal income tax.

REEVES GAS ENGINES are the highest type machines on the market and their installation insures fuel economy and continuity of operation.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

APPENDIX

CONDENSED BALANCE SHEET, JUNE 30, 1917.

Assets.

Invested assets:

Plant and equipment, including real estate, franchises, etc.....	\$48,532,622.73
Investments in stocks, bonds, etc.....	2,482,966.17
Unfinished plant investment.....	625,611.30
Total invested assets.....	\$51,641,200.20

Current assets:

Cash on hand, in banks and with fiscal agents.....	\$2,053,068.63
Accounts and notes receivable.....	1,434,962.21
Material and supplies.....	1,316,974.52
Work in progress, account of consumers.....	129,298.07
Total current assets.....	\$4,934,303.43
Advances—re: Consumers stock subscriptions.....	1,617,162.22
Sinking funds—Invested.....	50,179.05
Sundry deferred charges.....	25,352.78

\$58,599,926.96

Liabilities.

Capital stock—Common\$14,385,800.00

Bonds and term notes:

Consolidated mortgage, 5% gas bonds, due July 1, 1939.....	\$3,400,000.00
General mortgage 4½% gas bonds, due April 1, 1954.....	6,100,000.00
General mortgage 4½% gas and elec. bonds, due February 14, 1935	15,000,000.00
United E. L. & P. Co. 4½% bonds, due May 1, 1929.....	4,428,000.00
Consolidated mortgage 5% debenture stock, Series "A".....	399,515.32
5% 5-year convertible gold notes, due November 15, 1921.....	8,500,000.00
	37,827,515.32

Total capital liabilities.....\$52,213,315.32

Current liabilities:

Notes payable	\$1,400,000.00
Accounts payable	240,309.20
Unpaid wages (not due).....	40,911.16
Accrued interest on bonds, etc.....	682,005.05
Dividends payable July 12, 1917.....	287,716.00
*Preferred stock	113,775.00

Total current liabilities.....2,764,716.41

Sundry deferred liabilities—re. subsidiary companies	187,874.99
Sundry reserves, accruals, etc.....	194,482.11
Reserve for depreciation, amortization, etc.....	1,187,647.39
Reserve for contingencies.....	489,645.99
Surplus	1,562,244.75

\$58,599,926.96

* Amount of preferred stock outstanding called for redemption April 2, 1917, including premium and accrued dividend.

OFFICERS.—Chairman of Board, J. E. Aldred; President, Herbert A. Wagner; Vice-President, Chas. M. Cohn; Vice-President, Chas. E. F. Clarke; Treasurer, John L. Bailey; Secretary and Assistant Treasurer, William Schmidt, Jr.; Assistant Treasurer and Assistant Secretary, Robt. F. Bonsall.

DIRECTORS.—J. E. Aldred (Chairman), John L. Bailey, Thos. Aitken, Howard Bruce, C. E. F. Clarke, Charles M. Cohn, Charles T. Crane,

Charles H. Dickey, Sir H. S. Holt, Norman James, Morton Otis, Wm. Schmidt, Jr., Henry J. Fuller, S. B. Sonneborn, F. M. Tait, Herbert A. Wagner, S. Davies Warfield, Frederick W. Wood.

ANNUAL MEETING OF STOCKHOLDERS.—First Wednesday in October, at Company's offices, Baltimore, Md., U. S. A. Fiscal year ends June 30.

GENERAL UTILITIES AND OPERATING COMPANY, BALTIMORE, MD.

Principal Address: Munsey Building, Baltimore, Md.

The General Utilities & Operating Company was incorporated in May, 1914, under the laws of Delaware, and is a holding company. Controls, through ownership of stock, the following companies, viz.: Logan County Light &

Power Co., Logan, W. Va.; St. Petersburg Lighting Co., St. Petersburg, Fla.; Clearwater Lighting Co., Clearwater, Fla.; Lykens Valley Light & Power Co., Williamstown, Pa.; Maryville Lighting Co., Maryville, Tenn.; Americus Public Service Corporation, Americus, Ga.



Tycos Temperature Instruments
 INDICATING—CONTROLLING—RECORDING
 Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester, N. Y.



CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$ 500,000	\$ 250,000
Common stock	1,000,000	1,000,000

Only 4% has been called on preferred stock.

Shares, \$100. Transfer agents and registrars, General Utilities & Operating Co.

OFFICERS.—J. C. M. Lucas, President; Vice-Presidents, F. R. Weller, T. C. Coleman, H. T.

Hartman; Secretary, H. P. Lucas; Treasurer, H. P. Lucas; Manager, F. R. Weller.

DIRECTORS.—J. C. M. Lucas, T. C. Coleman, F. R. Weller, Samuel P. Morton, H. P. Lucas, E. McFisher and H. T. Hartman.

Annual meeting of stockholders held first Wednesday in May. Company's fiscal year ends December 31.

SOUTHERN GAS & ELECTRIC CORPORATION, BALTIMORE, MD.

New York Office, 61 Broadway.

The Southern Gas and Electric Corporation was incorporated in June, 1913, in Virginia (Richmond), under the laws of Virginia, and is a reorganization of The Baltimore Utilities Company.

CAPITALIZATION.—Preferred stock, authorized, \$1,000,000; outstanding, \$455,000. Common stock, authorized, \$2,000,000; outstanding, \$501,000. Shares, \$100. Dividend on preferred stock, annual rate 6 per cent and 7 per cent, payable annually.

OFFICERS.—President, Francis T. Homer; Vice-

Presidents, A. C. Howard and L. I. Pollitt; Secretary and Assistant Treasurer, J. A. McKenna; Treasurer and Assistant Secretary, Morgan D. Evans; Assistant Secretary and Assistant Treasurer, M. G. Banigan; Manager, L. I. Pollitt.

DIRECTORS.—Francis T. Homer, A. C. Howard, Geo. Bullock, Morgan D. Evans, E. G. Connette, Alexander H. Sands, L. I. Pollitt.

Annual meeting of stockholders held fourth Tuesday in January at Richmond, Va.

Company's fiscal year ends December 31.

CRISFIELD LIGHT & POWER COMPANY, CRISFIELD, MD.

The Crisfield Light and Power Company was incorporated in October, 1910, under the laws of Delaware.

FRANCHISES.—Run for 25 years.

CAPITALIZATION.—Preferred stock, authorized, \$30,000; outstanding, \$30,000. Shares, \$50.

Transfer agents, Layton & Owens, Bridgeville, Del. Registrars, Equitable Guar. and Trust Co., Wilmington, Del.

FUNDED DEBT.—Bonds, 1st mortgage 6 per cent gold bonds, authorized, \$30,000; issued, \$30,000; dated July 1, 1911; due July 1, 1931; interest payable annually at Equitable Guar. and Trust Co., Wilmington, Del. Denomination, \$250. Cou-

pon or may be registered. Redeemable at July 1, 1921, on any interest date at par and interest.

SECURITY.—First and closed mortgage.

SINKING FUND.—80 per cent before maturity.

OFFICERS.—President, Chas. Owens; Vice-President, Robert R. Layton; Secretary, Robert R. Layton; Treasurer, Robert R. Layton; Manager, R. G. Anklam.

DIRECTORS.—Chas. Owens, R. R. Layton, L. Owens, R. S. Layton.

Annual meeting of stockholders held January, at Bridgeville, Del.

Company's fiscal year ends June 30.

EASTERN SHORE GAS & ELECTRIC COMPANY, SALISBURY, MD.

The Eastern Shore Gas and Electric Co. was incorporated in 1915 under the laws of Delaware, and is a consolidation of Milton Electric Co. and Georgetown Light and Power Co. (it was formerly the Sussex Light and Power Co., name being changed to Eastern Shore Gas and Electric Co.) Controls the gas company at Cambridge, Md.

FRANCHISES.—Principal ones are perpetual or expire after expiration of mortgage.

CAPITALIZATION.—Preferred stock, 6 per cent cumulative; authorized, \$350,000; outstanding, \$90,000. Common stock, authorized, \$400,000; outstanding, \$373,500. Shares, \$100. Transfer agents, Day & Zimmermann, Inc. Registrars, Philadelphia Trust Co.

FUNDED DEBT.—Bonds: First mortgage and collateral trust, authorized \$1,250,000, issued \$565,000; dated June 1, 1915; due June 1, 1955. Interest payable June 1 and December 1 at Phil-

adelphia Trust Co., trustee. Denominations, \$500 and \$1,000. Redeemable at 105 per cent and interest on any interest day at Philadelphia Trust Co.

SECURITY.—First lien on its entire property and further secured by deposit of securities of subsidiaries.

SINKING FUND.—1 per cent of bonds issued and outstanding on first of June, 1920, and annually thereafter to purchase bonds.

OFFICERS.—President, M. V. Brewington; Vice-President, H. F. Hansell, Jr.; Secretary, John E. Zimmermann; Treasurer, John E. Zimmermann; Assistant Secretary, Robert C. Shields; Assistant Treasurer, C. R. Bitting; Superintendent, F. W. Woodcock.

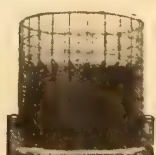
DIRECTORS.—Charles Day, J. R. McAllister, Geo. H. Frazier, B. W. Frazier, H. F. Hansell, Jr., John E. Zimmermann, M. V. Brewington, Jesse D. Price, C. Herman Krumbhaar, Jr.



1803

R. D. WOOD & CO., PHILA., PA.

1918



APPENDIX

ATHOL GAS & ELECTRIC COMPANY, ATHOL, MASS.
Boston Office, 78 Devonshire Street.

The Athol Gas and Electric Company was incorporated in February, 1891, under the laws of Massachusetts. On August 24, 1909, acquired property of the Orange Electric Light Co. Serves Athol, Orange, Wendell and Erving. Furnishes electric power to the Northern Massachusetts Street Railway Co. Owns a concrete water power plant on the Millers river, which has a capacity of over 2,000 h. p., also has steam auxiliary at the water power plant and an additional steam plant and gas plant at Athol. Population served over 16,700.

CAPITALIZATION.—Common stock, authorized, \$655,000; outstanding, \$655,000. Shares, \$100. All owned by Commonwealth Gas and Electric Companies. Dividends at rate of 8½ per cent now being paid annually, January, April, July and October 15.

FUNDED DEBT.—Bonds, first gold 5s, \$15,000. Dated April 1, 1901; due April 1, 1921; interest payable April 1 and October 1 at International Trust Co., Boston. Coupon bonds, \$1,000 denomination. Authorized issue \$50,000. A first lien on the plant. Interest paid without deduction for normal income tax.

OFFICERS.—Vice-President, Bowen Tufts; Vice-President, E. G. Loomis; Secretary, E. C. Mason; Treasurer, Paul B. Webber; Manager, Paul B. Webber.

DIRECTORS.—E. G. Loomis, M. B. Webber, E. C. Mason, P. B. Webber, Bowen Tufts and A. P. Weeks.

GENERAL BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Real estate, plant and equipment.....	\$963,169
Materials and supplies, cash and accounts receivable, interest and insurance prepaid	165,928
	<hr/> \$1,129,097
<i>Liabilities.</i>	
Capital stock	\$655,000
Premium on capital stock.....	84,000
Bonded debt	15,000
Notes and accounts payable.....	313,550
Interest, taxes, dividends, etc.....	9,177
Dividend reserve	19,650
Surplus	32,720
	<hr/> \$1,129,097

INCOME ACCOUNT YEAR ENDED JUNE 30, 1917.

Gross earnings	\$180,110
Operating expenses and taxes.....	85,978
	<hr/>
Net earnings	\$94,132
Non-operating income	7,194
	<hr/>
Total net income.....	\$101,326
Annual meeting of stockholders held in July.	
Company's fiscal year ends June 30.	

COMMONWEALTH GAS & ELECTRIC COMPANIES, BOSTON, MASS.
Treasurer's office, 78 Devonshire, Street.

A voluntary organization formed in Massachusetts September, 1910. Owns the entire capital stocks of the Athol Gas and Electric Company and the Marlboro-Hudson Gas Company.

CAPITAL STOCK.—Authorized preferred, 18,005 shares, 15.704¼ outstanding as of July 2, 1917; 15,005 shares common (no par value), 5,962 being held in trust. Transfer agent, Old Colony Trust Co. Dividends of 1¼ per cent quarterly have been paid on the preferred since January 16, 1911; \$1.37½ per share is paid quarterly. Dividends of 50c. per share were paid on the common July 15, 1912, and January 15, 1913, and have been paid semi-annually since. Transfer agent, Old Colony Trust Co., Boston.

OFFICERS.—Alonzo P. Weeks, President; Paul B. Webber, Treasurer; Elihu G. Loomis, Secretary.

TRUSTEES.—Alonzo P. Weeks, Elihu G. Loomis, Paul B. Webber and Bowen Tufts.

CONSOLIDATED OPERATING ACCOUNT OF THE COMPANIES WHOSE SHARES ARE OWNED BY THE COMMONWEALTH GAS AND ELECTRIC COMPANIES FOR THE YEAR ENDING JUNE 30, 1917.

Gross earnings	\$268,738.72
Operating expenses	136,662.85
	<hr/>
Net earnings	\$132,075.87
Non-operating income	10,361.48
	<hr/>
Total net income.....	\$142,437.35
Interest paid and accrued.....	26,567.00
	<hr/>
Balance available for dividends, depreciation and reserve.....	\$115,870.35
Dividends paid and accrued.....	74,240.00
	<hr/>
Balance	\$41,630.35

MASSACHUSETTS GAS COMPANIES.
General offices: Minot Building, Boston.

The 1906 edition of Brown's Directory of American Gas Companies gives the historical summary of this company's organization.

Extract from Semi-Annual Report to Shareholders.

The shareholders at the meeting held December 18, 1917, having voted that the fiscal year

should end December 31 instead of June 30 and that the annual meeting of shareholders should be held the first Tuesday in April instead of the first Tuesday after the first Monday in October as heretofore. the trustees do therefore submit herewith statement of the earnings and expenses for the six months' period ending December 31, 1917, and condensed balance sheet as



WILLIAMS' "Agrippa" THREADING-TOOL HOLDER

The Threading Tool with lockable-spring head will do roughing, finishing and threading at one setting in the tool post.

J. H. WILLIAMS & CO., 74 Richard St., Brooklyn, N. Y.

of December 31, 1917. Statements showing the operations for the same period of the Boston Consolidated Gas Company, East Boston Gas Company, Newton and Watertown Gas Light Company, Citizens' Gas Light Company of Quincy, New England Fuel and Transportation Company, New England Coal and Coke Company, and J. B. B. Coal Company are also submitted.

The property account on December 31, 1917, included the following securities: 151,126 shares Boston Consolidated Gas Co.; 23,000 shares East Boston Gas Co.; 5,600 shares Newton & Watertown Gas Light Co.; 7,430 shares Citizens' Gas Light Co.; 250,000 shares New England Fuel and Transportation Co.; 1,187½ shares New England Manufacturing Co.; \$119,000 bonds J. B. B. Coal Co.

The 1,187½ shares par value \$118,750 New England Manufacturing Co. stock representing a 47½% ownership in the outstanding capital of the New England Manufacturing Co., returned dividends amounting to \$60,800 in the six months ending December 31, 1917.

The marked increases in costs of manufacture and distribution of gas has obliged all four of our gas companies to seek relief through an increase in the price of gas to consumers.

On January 1, 1918, the Boston Consolidated Gas Company increased its price of gas to consumers from 80 cents to 90 cents per thousand cubic feet. The company was entitled to make this increase of 10 cents per thousand cubic feet in accordance with the provisions of the sliding scale act, it having reduced its dividend from 9 per cent to 7 per cent in the preceding year.

The Citizens' Gas Light Company has increased its price of gas to consumers 10 cents per thousand cubic feet, effective February 1, 1918.

The East Boston Gas Company and the Newton and Watertown Gas Light Company now have petitions before the Board of Gas and Electric Light Commissioners for an increase respectively of 15 cents and 10 cents per thousand cubic feet.

BOSTON CONSOLIDATED GAS CO.—The Boston Consolidated Gas Co.'s net addition in street mains for the six months ending December 31, 1917, was 1 mile, 3,330 feet. The total output of gas to consumers for the same period was 3,035,283,000 cu. ft., an increase of 8.52 per cent compared with the output of the corresponding period of the previous year. The net gain in meters set during the six months was 2,951 as against a gain of 4,134 during the same period of the previous year.

EAST BOSTON GAS CO.—The East Boston Gas Co.'s net addition in street mains for the six months ending December 31, 1917, was 552 feet. The total output of gas to consumers for the same period was 313,640,000 cu. ft., an increase of 9.41 per cent over the corresponding period of the previous year. The net gain in meters set during the six-month period was 499.

NEWTON AND WATERTOWN GAS LIGHT CO.—The Newton and Watertown Gas Light

Co.'s net addition in street mains for the six months' period ending December 31, 1917, was 2 miles, 1,618 feet. The total output of gas to consumers for the same period was 380,394,000 cu. ft., an increase of 12.03 per cent over the same period of the previous year. The net gain in meters set during the six months' period was 748 as against a gain of 731 during the same period of the previous year.

CITIZEN'S GAS LIGHT CO. of QUINCY.—The Citizens' Gas Light Co.'s net addition in street mains for the six-month period ending December 31, 1917, was 3,236 feet. The total output of gas to consumers for the same period was 111,736,000 cu. ft., an increase of 16.97 per cent over the same period of the previous year. The net gain in meters set during the six months was 359.

Considering the adverse conditions, the net results of the Everett plant of the New England Fuel and Transportation Company for the six months ending December 31, 1917, were reasonably satisfactory.

Shortage of coal at the loading piers, labor conditions, and the unusually severe winter causing blocking ice all along the coast, frozen coal, and delays to vessels, seriously interfered with the movement of the New England Fuel and Transportation Company's fleet of steamers, tugs, and barges in the six months ending December 31, 1917.

Since July 1, 1917, the government, through the Shipping Board, has requisitioned all American-owned steamers of over 2,500 tons dead-weight. The six steamers of the New England Fuel and Transportation Company, up to March 1, 1918, had been left in the coal trade, being operated by this company under charter from the Shipping Board. On March 9, 1918, the Shipping Board took the steamer Newton for government use.

The output for the six months ending December 31, 1917, of the Federal mine was 272,540 tons as compared with 313,908 tons in the same period of the preceding year. Labor conditions and shortage of cars and motive power were the cause for this decrease.

In November, 1917, the New England Fuel and Transportation Company acquired, at what is believed will prove a satisfactory price, approximately 10,500 acres of Pittsburgh seam coal and approximately 3,500 acres of Sewickley seam coal, a total of approximately 14,000 acres, which was formerly the property of the Empire Coal and Coke Company. This acreage is estimated to contain at least 125,000,000 tons of high-grade coal.

In accordance with the intention at the time of purchase, a considerable acreage has been resold, and further acreage will undoubtedly be sold in time, but the company intends to develop and operate a substantial portion of this property.

The Pittsburgh seam on the property runs from seven feet to ten feet in thickness and the Sewickley seam from five feet to six feet in

RELIABLE

“**ANGLIRON**”

RANGES

The adoption, in their construction, of all of the specifications of the National Commercial Gas Association, contributes toward all around efficiency. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

thickness, thus ensuring the production of coal at a minimum cost. Furthermore, the property is very advantageously located, it having three trunk line connections, consisting of the Baltimore and Ohio Railroad, the New York Central Railroad and the Pennsylvania Railroad, as well as having a frontage of 15 miles on the Monongahela river, which will permit coal to be loaded in river boats for Pittsburgh and river points.

The serious coal situation in New England in the six months ending December 31, 1917, must be well known by the general public through the publicity given to it by the newspapers if not from actual experience. The New England Coal and Coke Company with other coal people realized the possibilities of a coming coal shortage in New England early in the spring of 1917. Every effort was made by it to secure for its customers the tonnage of coal which they required. Conditions beyond the company's control, however, made this impossible, and it was only with the greatest difficulty that contracts were furnished enough coal to keep plants running up to January 1, 1918.

For the six months ending December 31, 1917, the output of the J. B. B. Coal Company (60 per cent of the capital stock of which is owned by the New England Fuel and Transportation Company) was 121,316 gross tons as compared with 167,343 gross tons the same period of the previous year. The decrease in production is due primarily to the extreme shortage of cars on the Norfolk and Western Railway.

MASSACHUSETTS GAS COMPANIES.

Six Months Ending December 31, 1917.

Income.

Interest on bonds, notes, etc.....	\$47,370.82
Dividends received	1,654,371.00
Profit on sale of Securities.....	892.50

Total income\$1,702,634.32

General expenses	\$138,280.62
Interest on bonds and notes	206,085.21
Dividend on preferred shares	500,000.00
Reserved for depreciation of securities	892.50
	<u>845,258.33</u>

Surplus for six months ending December 31, 1917.....\$857,375.99

Undivided Earnings of Constituent Companies.

Boston Consolidated Gas Co.....	\$84,393.58
East Boston Gas Co.....	6,096.25
Newton & Watertown Gas Light Co.	7,077.76
Citizens' Gas Light Co. of Quincy...	8,332.56
*New England Fuel & Transportation Co.	69,116.79
*New England Coal & Coke Co.....	19,243.20

Total undivided earnings constituent Companies\$194,260.14

*After deductions for depreciation and reserves.

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

Dr.

Property account	\$60,604,557.00
Cash in banks.....	203,296.00
Notes receivable	1,200,926.20
Accounts receivable	9,130.35
Accounts receivable Liberty Bonds, employees' subscriptions	117,617.76
Bond discount suspense.....	338,834.67
Mass. Gas Cos.' bonds, issue of Jan. 1, 1909, in treasury.....	185,562.43
Notes, United Kingdom, Great Britain and Ireland.....	113,723.75

\$62,773,648.16

Cr.

Capital:	
Preferred shares...\$25,000,000.00	
Common shares... 25,000,000.00	
	<u>\$50,000,000.00</u>
Twenty-year bonds due 1929.....	4,854,000.00
Twenty-year bonds due 1931.....	4,000,000.00
Accrued bond interest	15,000.00
Accrued interest employees' Liberty Bonds	2,040.49
Accounts payable	22,805.68
Accrued taxes	71,755.85
Accrued dividends on preferred shares, 1 month, December, 1917	83,333.33
Reserved for dividends on common shares for six months ending June 30, 1918.....	875,000.00
Reserved for depreciation of securities	121,606.32
Surplus	2,728,106.49
	<u>\$62,773,648.16</u>

BOSTON CONSOLIDATED GAS COMPANY.

Six Months Ending December 31, 1917.

Gross earnings	\$2,766,489.26
Expenses	2,078,974.39

Net income from operations.....	\$687,514.87
Miscellaneous income	11,404.62

Net earnings	\$698,919.49
Interest	\$85,164.91
Dividends	529,361.00
	<u>614,525.91</u>

Undivided earnings\$84,393.58

EAST BOSTON GAS COMPANY.

Six Months Ending December 31, 1917.

Gross earnings	\$257,536.09
Expenses	226,391.60

Net income from operations.....	\$31,144.49
Miscellaneous income	663.81

Net earnings	\$31,808.30
Interest	\$11,337.05
Dividends	14,375.00
	<u>25,712.05</u>

Undivided earnings\$6,096.25



NEWTON AND WATERTOWN GAS LIGHT COMPANY.

Six Months Ending December 31, 1917.

Gross earnings	\$311,433.49
Expenses	265,467.51
Net income from operations.....	\$45,965.98
Miscellaneous income	3,064.13
Net earnings	\$49,030.11
Interest	\$13,952.35
Dividends	28,000.00
	<u>41,952.35</u>
Undivided earnings	\$7,077.76

CITIZENS' GAS LIGHT COMPANY OF QUINCY.

Six Months Ending December 31, 1917.

Gross earnings	\$123,339.30
Expenses	88,387.85
Net income from operations.....	\$34,951.45
Miscellaneous income	303.05
Net earnings	\$35,254.50
Interest	\$4,631.94
Dividends	22,290.00
	<u>26,921.94</u>
Undivided earnings	\$8,332.56

NEW ENGLAND FUEL AND TRANSPORTATION COMPANY.

Six Months Ending December 31, 1917.

Gross earnings	\$6,412,132.19
Expenses (including depreciation)	5,329,286.55
Net earnings	\$1,082,845.64
Interest	\$13,728.85
Dividends	1,000,000.00
	<u>1,013,728.85</u>
Undivided earnings	\$69,116.79

NEW ENGLAND COAL AND COKE COMPANY.

Six Months Ending December 31, 1917.

Gross earnings	\$392,790.23
Expenses (including depreciation)	299,776.19
Net earnings	\$93,014.04
Interest	\$13,770.84
Dividends	60,000.00
	<u>73,770.84</u>
Undivided earnings	\$19,243.20

J. B. B. COAL COMPANY.

Six Months Ending December 31, 1917.

Gross earnings	\$279,672.87
Expenses	281,262.22
Net loss	\$1,589.35
Interest	15,575.32
Deficit	\$17,164.67

OFFICERS.—James L. Richards, President; E. M. Richards, Treasurer; A. S. Bull, Secretary.

BOARD OF TRUSTEES.—Robert Winsor, Walter C. Baylies, C. Minot Weld, Joseph B. Russell, Edwin S. Webster, Samuel Carr, Robert C. Pruyn, Charles F. Adams, 2nd, James L. Richards, Frederic E. Snow.

EXECUTIVE COMMITTEE.—Robert Winsor, Chairman; C. Minot Weld, Walter C. Baylies.

GENERAL OFFICES.—Minot Building, Boston.

MASSACHUSETTS LIGHTING COMPANIES, BOSTON, MASS.

Principal Office, 77 Franklin Street, Boston, Mass.

The Massachusetts Lighting Companies is a voluntary association, organized October 1, 1903. It is not an operating company, but owns a majority of the capital stocks of the following companies:

Adams Gas Light Co.,
Arlington Gas Light Co.,
Ayer Electric Light Co.,
Clinton Gas Light Co.,
Gas & Electric Improvement Co.,
Gloucester Gas Light Co.,
Harvard Gas & Electric Co.,
Leominster Electric Light & Power Co.,
Leominster Gas Light Co.,
Lexington Gas Co.,
Light, Heat & Power Corporation,
Milford Electric Light & Power Co.,
Milford Gas Light Co.,
Mill River Electric Light Co.,
North Adams Gas Light Co.,
Northampton Electric Lighting Co.,
Northampton Gas Light Co.,
Spencer Gas Co.,
Williamstown Gas Co.,
Worcester County Gas Co.

Cities and towns served by above companies: Adams, Arlington, Ayer, Belmont, Brookfield, Cheshire, Clarksburg, Clinton, Gloucester, Harvard, Hopedale, Lancaster, Leicester, Leominster, Lexington, Lunenburg, Milford, Monson, North Adams, Northampton, North Brookfield, Palmer, Spencer, Warren, West Brookfield, Williamsburg, Williamstown, Winchester.

Transfer agent, Old Colony Trust Co.

Registrar, American Trust Co.

No funded debt.

Extract from Annual Report to Shareholders.

Your trustees submit herewith their annual report for the fiscal year ending June 30, 1917:

The following tables show the growth of the companies during the past five years:

Year Ending June 30th	Electric Sales Excluding Sales Between Companies Kw. hr.	Electric Wire In Use Miles	Electric Customers Total	Connected Load Kw.
1913	8,084,805	1,265	6,359	9,854
1914	8,571,212	1,376	7,100	12,300
1915	8,701,232	1,467	8,165	14,768
1916	10,195,869	1,645	9,603	16,703
1917	12,615,560	1,783	10,965	18,984

Provide your men with the greatest insurance against disaster. Use the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Year Ending June 30th	Gas Sales Excluding Sales Between Companies Cu. Ft.	Gas Mains In Use Miles	Gas Customers Total	Gas Stoves In Use Total
1913	425,615,900	364	22,208	16,968
1914	456,010,800	377	23,466	19,206
1915	458,624,000	383	25,206	20,866
1916	491,853,000	391	27,136	23,949
1917	552,357,400	398	29,116	26,552

On account of the existing business conditions the operating companies have limited, as far as possible, expenditures for new construction. In order not to be embarrassed by delays in railroad transportation, it seemed desirable to provide additional coal and oil storage capacity at several of the plants and this has been done. As a result none of the companies have been handicapped by coal or oil shortage. A new gas holder with a capacity of 100,000 feet, which was contracted for by the Spencer Gas Company prior to the beginning of the present war, has been completed, providing that company with additional storage capacity. The Leominster Electric Light and Power Company has erected a 3,000 kilowatt transformer station, which enables it to purchase its electricity from the New England Power Company, with which it has a contract for the supply of its requirements at favorable rates. This arrangement puts the Leominster company in a position to supply a very large amount of additional power without further plant expenditures. The erection of the transmission lines and installation of equipment, referred to in our last annual report, to enable the Northampton Electric Lighting Company to purchase electricity generated by the Turners Falls Power and Electric Company and the Milford Electric Light and Power Company to purchase electricity from the New England Power Company have been completed and both systems are now in successful operation. This leaves only the North Adams Gas Light Company buying coal with which to generate electricity, but a connection is now being completed with the New England Power Company's system which will effect substantial economies at the North Adams plant.

The plants, transmission lines and distributing systems of the several operating companies are in good condition, \$145,022 having been charged to repairs, renewals and depreciation during the year.

Acting under authority given them by the shareholders, the trustees, on October 6, 1916, offered holders of preferred shares the right to subscribe for additional preferred shares at \$100

per share in the ratio of one new share for each ten preferred shares then held. Four thousand three hundred and twenty-eight shares were taken by the shareholders under said offer and have since been issued. With the proceeds the trustees have paid off a portion of their notes payable, made loans to the several operating companies to enable the latter to make necessary additions to plants, and purchased at par, \$100 per share, six hundred twenty-five shares of the capital stock of the Milford Electric Light and Power Company, the issue of which had been approved by the Board of Gas and Electric Light Commissioners. The trustees have continued the practice of loaning to the operating companies such funds as are necessary in the conduct of their business.

By reference to the financial statement hereto annexed, it will be noted that on June 30, 1917, all but thirty-two of the old common shares had been exchanged for new common and preferred shares and of this number twenty-one shares have since been exchanged. As under the shareholders' vote all voting and dividend rights on the old common shares have now expired, it is expected that the few now remaining outstanding will be exchanged in the very near future.

BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Stocks (at cost).....	\$4,777,368.53
Notes receivable	1,041,547.75
Cash	71,966.29
Interest and dividends accrued....	75,467.57
Miscellaneous accounts receivable..	240,851.28
	<u>\$6,207,201.42</u>
<i>Liabilities.</i>	
Share capital:	
32 old common shares (par value \$100).....	\$3,200.00
46,137 new common shares (no expressed value).	
54,615 preferred shares (at their expressed value as stated in the certificate).....	5,461,500.00
Notes payable	240,000.00
Accounts payable	632.50
Reserve for dividend (payable July 16, 1917)	93,456.75
Taxes accrued—not due.....	14,583.86
Surplus:	
Paid in surplus.....	\$328,114.35
Earned surplus	65,713.96
	<u>393,828.31</u>
	<u>\$6,207,201.42</u>

COMPARATIVE STATEMENTS—YEARS ENDING JUNE 30.

INCOME STATEMENT OF THE TRUSTEES.		
	1916	1917
Dividends on stocks owned.....	\$310,005.25	\$336,556.12
Interest received	58,906.23	66,255.79
Miscellaneous income	204.99	330.00
Total income of trustees.....	\$369,116.47	\$403,141.91
Trustees' expenses	\$9,519.02	\$9,422.43
Taxes	4,396.63	15,117.86
Interest paid by trustees.....	18,094.97	11,412.80
	<u>32,010.62</u>	<u>35,953.09</u>
Balance	\$337,105.85	\$367,188.82

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

CONSOLIDATED OPERATING ACCOUNTS OF THE COMPANIES WHOSE SHARES ARE OWNED BY THE MASSACHUSETTS LIGHTING COMPANIES.

	1916	1917
Gross earnings, gas and elec. depts.....	\$1,251,677.68	\$1,427,949.16
Operating expenses	\$777,895.62*	\$919,867.55*
Taxes	72,056.44	87,718.81
	849,952.06	1,007,586.36
Net earnings	\$401,725.62	\$420,362.80
Non-operating income—net.....	52,899.46	89,005.02
Total net income.....	\$454,625.08	\$509,367.82
Interest charges	89,769.33	108,385.38
Balance	\$364,855.75	\$400,982.44
Dividends paid	310,526.25	337,122.37
Balance	54,329.50	63,860.07
Total	\$391,435.35	\$431,048.89
Preferred share dividends (Mass. Ltg. Cos.)...	290,814.00	320,986.50
Balance	\$100,621.35	\$110,062.39
†Common share dividends (Mass. Ltg. Cos.)...	46,169.00	46,144.00
Balance	\$54,452.35	\$63,918.39

* Includes \$23,847.97 in 1916 and \$27,362.12 in 1917 spent for development of new business.

† Each old common share prior to November 16, 1916, received the same dividend as one preferred and one new common share.

NORTH BOSTON LIGHTING PROPERTIES.

Principal Office, 201 Devonshire St., Boston, Mass.

A voluntary association formed under Massachusetts laws, created by trust agreement dated February 1, 1911, for purpose of acquiring stocks, shares, bonds, notes, obligations and securities of electric companies of any kind, gas companies and corporations or associations that may be engaged whole or in part in manufacturing and supplying gas and electricity, or either of them whether for heat, light, power or other purposes, or of corporations or associations engaged in business of similar character.

Owms a majority of the stocks of the following companies: Malden and Melrose Gas Light Co., Malden Electric Co., Suburban Gas and Electric Co., and Salem Electric Lighting Co., Eastern Massachusetts Electric Co. The said companies serve Malden, Melrose, Medford, Everett, Stoneham, Revere, Winthrop, Reading, Peabody, and Salem, Mass. Total population served, 234,500. Number of customers, 68,472. Gas output, 1917, 998,921,943 cu. ft. Output, electric, 1917, 36,976,910 kilowatt hours.

SHARE CAPITAL.—\$6,944,312.50 6 per cent preferred shares (69,443½ shares at \$100) and 30,378 1/16 common shares (no par value). No bonded debt. Transfer agent, E. A. Bradley, treasurer, Boston. Registrar, American Trust Co., Boston. Regular quarterly preferred dividends at rate of 6 per cent are paid quarterly January 15.

Profit and loss account, year ended June 30, 1917; Surplus, June 30, 1917, \$365,245; net income, year ended June 30, 1917, \$416,757; adjustments, \$2,054; total, \$779,948. Less dividends, \$415,059. Surplus June 30, 1917, \$364,888.

OFFICERS.—President, Charles H. Tenney; First Vice-President, Albert B. Tenney; Second

Vice-President, D. Edgar Manson; Treasurer, Elihu A. Bradley; Assistant Treasurer, I. S. Hall; Auditor, Herbert A. Gidney; Secretary, Horace P. Wood; Assistant Secretary, Albert B. Tenney.

TRUSTEES.—Charles H. Tenney, Horace P. Wood, Herbert C. Warren, Edward M. Bradley, Allen Hollis, Robert P. Clapp, Samuel A. York, Bernon E. Helme, Frederick Harris.

GENERAL BALANCE SHEET, JUNE 30.

	Assets. 1917	1916
Stocks owned	\$7,299,090	\$7,299,090
Cash on hand, etc.....	36,444	6,688
Other assets	50	50
Subs. to pfd. shares.....	2,637	38,712
Totals.....	\$7,338,221	\$7,344,540
	Liabilities.	
Preferred shares	\$6,944,312	\$6,898,312
Notes payable		10,000
Preferred shares subscribed	20,200	66,200
Common shares (30,378— 1/16 shares, no par value)		
Current liabilities	349	383
Accrued liabilities.....	8,470	4,399
Profit and loss.....	364,888	365,245
Totals.....	\$7,338,221	\$7,344,540

STATEMENT OF INCOME FOR YEAR ENDING JUNE 30, 1917.

Dividends from stocks owned.....	\$432,262
Interest revenues	495
	\$432,757
Less expenses	16,000
Net income	\$416,757

WE BUY SPENT OXIDE FROM COAL GAS WORKS
SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

PUBLIC SERVICE INVESTMENT COMPANY.

Principal office: 147 Milk Street, Boston.

The Public Service Investment Co. was incorporated March 22, 1909, under the laws of Maine, and is organized with authority, among other things, to hold and to deal in stocks, bonds, notes, or other securities.

CAPITALIZATION.

Preferred stock, outstanding.....	\$2,500,000
Unissued	500,000
Authorized	\$3,000,000
Redeemable at \$115 per share and accumulated dividends. Preferred as to dividends and in case of liquidation.	
Common stock, outstanding.....	2,500,000
Unissued	500,000
Authorized	\$3,000,000

DIVIDENDS.—Preferred stock 6 per cent cumulative, payable quarterly, February 1, May 1, August 1 and November 1.

Transfer agents, Stone & Webster.

Stock registrar, Beacon Trust Co., Boston, Mass.

PROPERTY OF COMPANY.—Securities of twelve companies, managed by Stone & Webster.

Stocks, twelve companies (par value) \$5,905,600
Cash and notes receivable..... 86,264

Total.....\$5,991,864

INCOME FOR TWELVE MONTHS ENDING DEC. 31, 1917.

Income received from stocks.....	\$181,537.00
Income received from notes and cash	2,608.81
Total	\$184,145.81
Expenses and taxes.....	9,096.35
Balance	\$175,049.46
Dividends:	
Preferred stock, 6%.....	150,000.00
Balance	\$25,049.46

OFFICERS.—President, Eliot Wadsworth; Secretary, William T. Crawford; Treasurer, E. J. B. Huntton.

Annual meeting of stockholders held second Tuesday in May.

RAILWAY AND LIGHT SECURITIES COMPANY.

Principal office: 147 Milk Street, Boston.

This Company was organized in 1904, for the purpose of holding for income or for sale the securities of transportation, illuminating, power and other public service corporations. Under its charter it may issue its own collateral trust bonds, secured by bonds of other companies as collateral.

CAPITALIZATION.

Stocks: (Shares, \$100 par).

Preferred authorized	\$2,000,000
Preferred issued	1,500,000
of which \$500,000 par value is held in the Company's treasury.) Re- deemable at 125.	
Preferred as to dividends and in case of liquidation.	
Common authorized	1,200,000
Common issued	1,000,000

DIVIDENDS.—Preferred stock, 6 per cent cumulative, payable February 1 and August 1. Common stock paid February 1, 3 per cent; August 1, 3 per cent.

TRANSFER AGENTS.—Old Colony Trust Co., Boston. Agents to register transfers, American Trust Co., Boston.

FUNDED DEBT.

Bonds: Collateral Trust,

30 Year, 5% Gold:—	Authorized	Outstanding
1st series, due May 1, 1935, \$500,000...	\$284,000	
2d series, due May 1, 1939, \$500,000...	460,000	
3d series, due Nov. 1, 1939, \$500,000...	281,000	
4th series, due May 1, 1942, \$500,000...	251,000	
5th series, due May 1, 1944, \$500,000...	475,000	
6th series, due Nov. 1, 1946, \$500,000...	500,000	

Callable as a whole or in part at 103 and interest on any interest day. Each series secured by bonds of other companies with a face value at least 25 per cent greater than the face value of the bonds issued.

SINKING FUND.—Provides for gradual retirement of each series to maturity.

COUPONS.—May 1, and November 1, payable at office of Old Colony Trust Co., trustee, Boston.

TRUSTEE AND REGISTRAR OF BONDS.—Old Colony Trust Co., Boston.

PROPERTY OF COMPANY.—Bonds and stocks of forty-three independent companies, twenty-one of which are managed by Stone & Webster.

Bonds:—

Thirty-one companies (face value)...\$3,564,570

Stock:—

Eighteen companies 1,298,999 |

Cash, notes and accrued interest receivable 564,297 |

Total \$5,427,866 |

INCOME FOR TWELVE MONTHS ENDING DEC. 31, 1917.

Income received from bonds notes and cash.....	\$234,840.51
Income received from stock and profit on sales.....	88,412.58
	\$323,253.09
Expenses and taxes.....	18,997.95
Balance	\$304,255.14
Interest charges	114,068.70
Balance	\$190,186.44
Dividends:	
Preferred stock, paid and accrued	\$90,000.00
Common stock, paid and accrued	60,000.00
	150,000.00
Balance	\$40,186.44
Annual meeting: Second Tuesday in July.	

PROVERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our provers are the most modern and up-to-date now on the market. Our new type bottle, moving tank form has been approved of by the U. S. Bureau of Standards.

CUBIC FOOT BOTTLES

OLD COLONY GAS CO., BRAINTREE, MASS.

Boston office, 24 Milk Street.

The Old Colony Gas Co. was incorporated in October, 1908, under the laws of Massachusetts.

FRANCHISES.—The Company has franchises without time limit in Braintree, Weymouth, Rockland, Abington, Whitman and Hingham.

CAPITALIZATION DECEMBER 31, 1917.

	Issued.	Authorized.
Bonds	\$298,000	\$338,000
Preferred stock	354,500	354,500
Common stock	354,500	354,500

STOCK.—Shares, \$100. Transfer agents, E. M. Farnsworth & Co., Boston. Registrars, First National Bank, Boston.

Dividend on preferred stock, annual rate 5%, payable quarterly, January 1. No dividend paid January 1, 1918.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold; dated Dec. 1, 1911; due Dec. 1, 1931.

Interest payable June 1 and December 1 at the Commonwealth Trust Co., Boston. Coupon bonds: denomination, \$1,000; registerable as to principal, or exchanged for fully registered bonds. Coupon and registered bonds interchangeable.

SECURITY.—These bonds are secured by an absolute first mortgage on all property now owned or hereafter acquired by the Company.

OFFICERS.—President, E. M. Farnsworth; Vice-President, E. M. Farnsworth, Jr.; Secretary, J. A. Hall; Treasurer, J. A. Hall.

DIRECTORS.—E. M. Farnsworth, E. M. Farnsworth, Jr., J. A. Hall, C. C. Hoyt, S. G. King.

Annual meeting of stockholders held second Monday in September at Boston.

Company's fiscal year ends June 30.

CAMBRIDGE GAS-LIGHT COMPANY, CAMBRIDGE, MASS.

The Cambridge Gas-Light Company was incorporated in March, 1852, under the laws of Massachusetts.

CAPITALIZATION.—Capital stock authorized, \$1,680,000; outstanding, \$1,680,000; shares, 16,800; transfer agents, Company; no bonds.

Dividend on common stock, annual rate \$10, payable semi-annually.

OFFICERS.—President, Albert M. Barnes; Clerk, Karl S. Barnes; Treasurer, Vinton W. Mason; Manager, Albert M. Barnes.

DIRECTORS.—Daniel G. Tyler, Stanley B. Hildreth, George A. Sawyer, Arthur C. Whitney, Edward W. Hutchins, Albert M. Barnes, George S. Wright.

Annual meeting of stockholders held fourth Tuesday in October at Cambridge. Company's fiscal year ends June 30.

BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Real estate and plant	\$3,161,687.03
Materials and manufactured products	179,884.45
Cash and accounts receivable	140,038.39
Barge "Henry Endicott"	18,000.00
	\$3,499,609.87
<i>Liabilities.</i>	
Capital stock	\$1,680,000.00
Notes payable	175,300.00
Premium account	955,965.50
Accounts payable	67,074.64
Replacement fund	18,025.24
Profit sharing plan	11,249.18
Reserve	42,359.60
Profit and Loss	549,635.71
	\$3,499,609.87

CHARLESTOWN GAS AND ELECTRIC CO.

Principal office: 29 Main St., Charlestown, Mass.

This Company was incorporated in 1846 under the laws of Massachusetts and supplies gas and electric light in Charlestown and sections of Somerville, Medford and Everett, Mass.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Stock, \$600,000; shares, 12,000; transfer agents, Boston Safe Deposit and Trust Co.; no bonds.

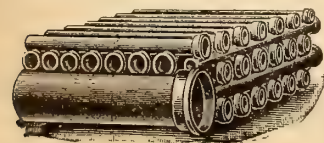
OFFICERS.—President, Frank J. Bartlett; Vice-President, James M. Hunnewell; Secretary, S. J. Fowler; Treasurer and Manager, S. J. Fowler.

DIRECTORS.—Geo. O. G. Coale, F. Foster Sherburne, Frank D. Brown, James M. Hunnewell, Frank J. Bartlett, Frank M. Sawtell, James W. Austin.

Annual meeting of stockholders held fourth Monday in January.

GENERAL BALANCE SHEET AS OF DECEMBER 31, 1917.

<i>Assets.</i>	
Real estate	\$204,179.50
Gas plant	619,474.51
Electric plant	143,101.63
Supplies, etc.	41,908.18
Accounts receivable	59,006.57
Cash	16,538.58
	\$1,084,218.97
<i>Liabilities.</i>	
Capital stock	\$600,000.00
Notes payable	130,000.00
Other indebtedness	43,618.70
Stock premium	91,901.12
Profit and loss	218,689.15
	\$1,084,218.97



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO. PHILADELPHIA, PA.

CLINTON GAS LIGHT COMPANY, CLINTON, MASS.

Principal Address, 77 Franklin Street, Boston, Mass.

The Clinton Gas Light Company was incorporated in 1854 under the laws of Massachusetts.

FRANCHISES.—Gas and electric franchises in towns of Clinton and Lancaster, not limited as to time.

CAPITALIZATION.—Capital stock, authorized and outstanding, \$183,000. Shares, par value \$500 each. Dividend 8%, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage gold 4½s, authorized \$250,000, issued \$110,000. Dated January 2, 1905; due January 1, 1925; interest

payable January 1 and July 1, at American Trust Company, Boston. Denomination, \$1,000 each. Coupon form may be registered. Security, first mortgage.

OFFICERS.—President, Arthur E. Childs; Secretary, George F. Howland; Treasurer, George F. Howland; General Manager, Guy K. Dustin.

DIRECTORS.—Arthur E. Childs, George F. Howland and James F. Bacon.

Annual meeting of stockholders held fourth Wednesday in September, at 77 Franklin Street, Boston, Mass.

Company's fiscal year ends June 30.

FALL RIVER GAS WORKS COMPANY, FALL RIVER, MASS.

This company does the entire gas business in Fall River and the adjoining town of Somerset.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock authorized, and outstanding, \$1,127,000. Shares, \$100. Transfer agents, Stone & Webster, Boston. Registrars, Old Colony Trust Co., Boston.

Dividends: Paid February 1, 3 per cent; May 1, 3 per cent; August 1, 3 per cent; November 1, 3 per cent.

No bonds.

Under management of Stone & Webster.

EARNINGS AND EXPENSES FOR TWELVE MONTHS
ENDING DEC. 31, 1917.

Gross earnings	\$582,753.00
Operating expenses and taxes	369,713.03
Net earnings	\$213,039.97
Interest charges	41.50
Balance	\$212,998.47
Dividends, capital stock, 12 per cent. 135,240.00	
Balance for reserves and replacements	\$77,758.47
Annual meeting of stockholders held last Wednesday in July.	

FITCHBURG GAS & ELECTRIC LIGHT CO., FITCHBURG, MASS.

Fitchburg Gas & Electric Light Co. was incorporated under the laws of Massachusetts in 1853.

FRANCHISE.—Perpetual in Fitchburg; limited in Ashby and Townsend, Mass.

CAPITALIZATION.—Capital stock, \$888,000, par value \$50. Transfer office, 201 Devonshire Street, Boston, Mass. Dividends have been paid as follows: 1897 to 1901 inclusive, 10 per cent; 1902 to 1905 inclusive, 8 per cent; 1906, 10 per cent; 1907, 12 per cent; 1908 to 1917, inclusive, 10 per cent per annum.

COUPON NOTES.—\$35,000 4¼% coupon notes dated December 1, 1908; due December 1, 1918; interest June and December 1, at Fitchburg Bank & Trust Co. Normal income tax deducted from interest.

INCOME ACCOUNT, YEAR ENDED JUNE 30.

Less—	1917
Gross earnings	\$474,272
Less operating expenses	357,831
Net earnings	\$116,441
Other income	2,224
Interest, etc.	17,212
Dividends	88,800
Surplus for year	*\$1,764
*Surplus adj. \$10,886.	

OFFICERS.—President, C. H. Tenney; Vice-President, D. E. Manson; Clerk, H. P. Wood; Treasurer, E. A. Bradley; Assistant Treasurer and Auditor, H. A. Gidney; General Managers, Charles H. Tenney & Co.; Purchasing Agent,

F. P. Mooney, Boston, Mass.; Superintendent, G. W. Stiles; Local Manager, C. R. Hayes, Fitchburg, Mass.

DIRECTORS.—C. H. Tenney, A. B. Tenney, D. E. Manson, H. P. Wood, M. C. Warren, F. S. Smith, E. M. Bradley, S. A. York, H. I. Wallace, C. E. Ware, B. E. Helme.

Annual meeting, fourth Wednesday in October.

Local office, 537 Main Street, Fitchburg, Mass. Executive office, 201 Devonshire Street, Boston, Mass.

CONDENSED BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Fixed capital	\$1,805,763
Investments	17,004
Materials and supplies	126,527
Cash	64,437
Current assets	41,085
Other assets	8,732
Total	\$2,063,548
<i>Liabilities.</i>	
Capital stock	\$888,000
Premium on capital stock	443,100
Coupon notes (4¼%)	35,000
Notes payable	390,000
Other current liabilities	38,960
Accrued liabilities	4,471
Reserves	74,906
Surplus	189,111
Total	\$2,063,548

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

LOWELL GAS LIGHT CO., LOWELL, MASS.

The Lowell Gas Light Co. was incorporated in May, 1849, under the laws of Massachusetts.

CAPITALIZATION.—Capital stock authorized, \$1,000,000; outstanding, \$1,000,000. Shares, \$100. No bonds.

Dividend on common stock, annual rate 12 per cent, payable quarterly.

OFFICERS.—President, George S. Motley; Secre-

tary, Everett F. Gray; Treasurer, Everett F. Gray; Manager, George S. Motley.

DIRECTORS.—Edward N. Burke, Alexander G. Cumnock, Frank E. Dunbar, A. K. Chadwick, George S. Motley, Clarence H. Nelson, Edward M. Tucke.

Annual meeting of stockholders held last Monday in October at Lowell, Mass. Company's fiscal year ends June 30.

MALDEN & MELROSE GAS LIGHT CO., MALDEN, MASS.

The Malden and Melrose Gas Light Company was incorporated under the laws of Massachusetts, 1854.

FRANCHISE.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$2,085,500; outstanding, \$2,085,500 at \$100 par. Transfer office, 201 Devonshire street, Boston, Mass.

Dividends paid in 1913, 1914, 1915, 1916 and 1917 at rate of 8 per cent. Previous five years 7 per cent.

INCOME ACCOUNT, YEAR ENDED JUNE 30, 1917.

Gross earnings	\$760.815
Less operating expenses.....	568.395
Net earnings	\$192.420
Other income	3.147

Total income	\$195.567
Interest, etc.	22.372
Dividends	166.840
Surplus for year.....	\$1.923

OFFICERS.—C. H. Tenney, President, Springfield, Mass.; A. B. Tenney, Vice-President; H. P. Wood, Clerk; E. A. Bradley, Treasurer; I. S. Hall, Assistant Treasurer; H. A. Gidney, Auditor; F. P. Mooney, Purchasing Agent, Boston; C. E. Paige, Manager, Malden, Mass.

DIRECTORS.—C. H. Tenney, Springfield, Mass.;

A. B. Tenney, Lexington, Mass.; H. P. Wood, Boston; H. C. Warren, E. M. Bradley, S. A. York, New Haven, Conn.; B. E. Helme, Kingston, R. I.; Benjamin Howe, Forrest Smith, Boston, Mass.

Annual meeting fourth Wednesday in October. Local office, 137 Pleasant street, Malden, Mass. Executive office, 201 Devonshire street, Boston,

GENERAL BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Plant and equipment	\$3,012.677
Other investments	8.800
Cash	93.341
Materials and supplies.....	88.221
Current accounts	92.337
Other assets	20.657
Total.....	\$3,316.033

<i>Liabilities.</i>		1917
Capital stock	\$2,085.500	
Capital stock premium.....	435.164	
Notes payable	575.000	
Other current liabilities.....	45.084	
Accrued liabilities	9.630	
Reserves	88.051	
Profit and loss.....	77.604	
Total.....	\$3,316.033	

MARLBORO-HUDSON GAS COMPANY, MARLBORO, MASS.

Boston Office, 78 Devonshire Street.

The Marlboro Gas Company was incorporated under the laws of Massachusetts.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$310,000	\$247,000
Shares, \$100. All owned by Commonwealth Gas and Electric Co.		

A dividend of 4½ per cent paid for year ended June 30, 1911; 7 per cent for year ended June 30, 1912, 1913, 1914, 1915, 1916 and 1917.

BONDED DEBT.—\$7,500 Marlborough Gas Light Co. first gold 5s; dated June 15, 1903; due June 15, 1933; interest June and December 15, at State Street Trust Co., Boston, Trustee. Coupon, \$500. Subject to call on any interest date on and after June 15, 1918, at par and interest.

SECURITY.—First lien.

GENERAL BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Cost of plant and equipment.....	\$480,725
Cash, cash assets, supplies, etc.....	64,225
Work in process	942
	\$545,892

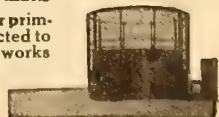
<i>Liabilities.</i>	
Capital stock	\$247,000
Bonded debt	7,500
Notes and accounts payable.....	248,536
Accrued interest, taxes and dividends..	5,281
Reserve for dividend and discount.....	7,075
Surplus	30,500
	\$545,892

PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



INCOME ACCOUNT YEAR ENDED JUNE 30, 1917.	
Gross earnings	\$88,628
Operating expenses and taxes.....	50,685
Net earnings	\$37,943
Non-operating income	3,168
Total net income.....	\$41,111
Dividends paid	\$17,290
Interest paid	11,624
Surplus for year.....	\$12,197

OFFICERS.—Vice-President, Bowen Tufts; Vice-President, E. G. Loomis; Clerk, E. C. Mason; Treasurer, P. B. Webber; Manager, Paul B. Webber.

DIRECTORS.—A. P. Weeks, E. G. Loomis, P. B. Webber, Bowen Tufts.

Annual meeting of stockholders held third Monday in July.

Company's fiscal year ends June 30.

SUBURBAN GAS & ELECTRIC CO., REVERE, MASS.

Boston Office, 201 Devonshire Street.

Suburban Gas and Electric Co., incorporated under the laws of Massachusetts. Franchise, perpetual.

CAPITAL STOCK.—Authorized and outstanding \$834,500; par value, \$100. Transfer office, 201 Devonshire street, Boston, Mass. Registrar, Old Colony Trust Co., Boston. The North Boston Lighting Properties own a majority of the stock.

Dividends have been paid as follows: 1902, 8 per cent; 1903 to 1906 inclusive, 7 per cent, and 1907, 8 per cent; 1908 to 1912 inclusive, 9 per cent; 1913, 1914, 1915, 1916 and 1917, 10 per cent.

COMPARATIVE STATEMENT OF OPERATIONS.

	1916	1917
Gross earnings	\$395,128	\$439,764
Less operating expenses.....	283,652	309,962
Net earnings	\$111,476	\$129,802
Other income	1,654	2,164
	\$113,130	\$131,966
Less—Depreciation, etc.....	20,518	44,694
Net income	\$87,155	\$87,272
Less dividends	83,450	83,430
Surplus for year.....	\$3,705	\$3,842

OFFICERS.—C. H. Tenney, President, Springfield, Mass.; A. B. Tenney, Vice-President; H. P. Wood, Clerk; E. A. Bradley, Treasurer; H. A.

Gidney, Auditor, Boston, Mass.; I. S. Hall, Assistant Treasurer; F. P. Mooney, Purchasing Agent, Boston; C. F. Chisholm, Manager, Revere, Mass.

DIRECTORS.—C. H. Tenney, Springfield, Mass.; A. B. Tenney, Lexington, Mass.; H. P. Wood, Boston, Mass.; E. M. Bradley, H. C. Warren, S. A. York, New Haven, Conn.; B. E. Helme, Kingston, R. I.; Benjamin Howe, Boston, Mass.; Forrest S. Smith, Boston, Mass.

GENERAL BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Fixed capital	\$1,193,116
Investments	34,291
Cash	65,368
Current assets	53,469
Materials and supplies.....	47,037
Other assets	5,758
Total.....	\$1,399,039
<i>Liabilities.</i>	
Capital stock	\$834,500
Premium on Capital stock.....	156,900
Notes payable	150,000
Current liabilities	42,830
Accrued liabilities	5,192
Reserves	98,789
Surplus	110,828
Total.....	\$1,399,039

DETROIT CITY GAS CO., DETROIT, MICH.

The Detroit City Gas Co. was incorporated in 1898 under the laws of Michigan.

CAPITALIZATION.—Capital stock authorized, \$15,000,000; outstanding, \$9,500,000. Shares, \$100. Transfer agents, Emerson McMillin & Co. Registrars, American Light & Traction Co.

FUNDED DEBT.—Bonds: Gold 5s, authorized \$6,000,000; issued \$5,995,000. Dated Jan. 1, 1898; due Jan. 1, 1923. Interest payable January 1 and July 1 at Emerson McMillin & Co. Denomination, \$1,000; registerable as to principal and interest. Redeemable at 110 and interest; trustee of bonds, New York Trust Co.

Bonds: General mortgage 5s, authorized \$10,000,000; issued, \$4,004,000. Dated July 1, 1903; due, serially. Interest payable January 1 and July 1 at Emerson McMillin & Co. Denomination, \$1,000; registerable as to principal.

Redeemable, first 1,000 bonds, at 100 and interest on any interest date; balance, 105 and interest. Trustee of bonds, Equitable Trust Co., New York.

BONDS.—General mortgage 5s, Detroit and Suburban Gas Co. Dated December, 1908; due 1928, \$930,000.

OFFICERS.—President, Emerson McMillin; Vice-Presidents, Alanson P. Lathrop, V. F. Dewey; Secretary-Treasurer, C. S. Ritter; Asst. Treasurer, Jno. M. Wright; General Manager, C. W. Bennett; Auditor, H. W. Sheriffs.

DIRECTORS.—H. E. Bodman, F. P. Byrne, Emerson McMillin, Homer Warren, A. P. Lathrop, V. F. Dewey, A. P. Ewing, C. W. Bennett, Detroit; J. T. Keena, Detroit.

Annual meeting of stockholders held in January. Company's fiscal year ends December 31.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

AMERICAN PUBLIC UTILITIES CO., GRAND RAPIDS, MICH.

The American Public Utilities Co. was incorporated in 1912, under the laws of Delaware and through stock ownership controls the following properties: Merchants Public Utilities Co., Indianapolis, Ind.; Elkhart Gas & Fuel Co., Elkhart, Ind.; Valparaiso Lighting Co., Valparaiso, Ind.; Utah Gas & Coke Co., Salt Lake City, Utah; Boise Gas Light & Coke Co., Boise, Idaho; Wisconsin-Minnesota Light & Power Co., at Eau Claire, LaCrosse, Chippewa Falls, Menomonie, Sparta, Tomah, Viroqua, Rice Lake, Ellsworth, Neillsville, Spring Valley and Elmwood, Wis., and Red Wing, Winona, Minn.; Albion Gas Light Co., Albion, Mich.; Holland City Gas Co., Holland, Mich.; Jackson Light & Tracton Co., Jackson, Miss.

FRANCHISES.—The franchises of the several companies are broad and satisfactory in their terms, and, with the exception of the Albion franchise (which expires in 1920), have unexpired terms ranging from 16 to 42 years. The Jackson franchises, in the opinion of counsel, are perpetual.

CAPITALIZATION.

Preferred stock, 6 per cent cumulative....	Authorized \$20,000,000	Outstanding \$4,465,900
Common stock	20,000,000	2,995,000
†Bonds — Collateral trust 5 per cent, due Aug. 31, 1942....	20,000,000	456,300
Central Trust Co. of Ill., trustee.		
Shares \$100. Transfer agents, Kelsey, Brewer & Co. Registrars, Old National Bank, Grand Rapids.		

DIVIDENDS.—The preferred stock (preferred as to dividends and assets) is dated July 1, 1912, and pays 6 per cent in quarterly installments of 1½ per cent. Stock may be redeemable by the company on any dividend date at 105 plus accrued dividends.

† Bonds: Collateral trust 5 per cent, authorized, \$20,000,000; issued, \$456,300; dated September 1, 1912; due September 1, 1942. Interest payable March 1 and September 1 at Central Trust Co. of Illinois, Chicago, Ill., or, if desired, at the First National Bank, Boston. Denominations, \$100, \$500 and \$1,000; coupon; principal may be registered. Redeemable by the Company on any interest date at 102 and accrued interest. Trustee of Bonds, the Central Trust Co. of Illinois, Chicago, Ill. Security, subsequent lien. Sinking fund, 1 per cent for 10 years, beginning January 1, 1916; 1½ per cent for 10 years, beginning January 1, 1926, and 2 per cent beginning January 1, 1936, until maturity of bonds.

BONDS.—6% secured gold bonds, authorized, \$3,500,000; outstanding, \$2,500,000. Reserved for future extensions and betterments under guarded restrictions, as set forth in the Deed of Trust, \$1,000,000. The bonds are dated April 1, 1916; due April 1, 1936. Coupon bonds, in denominations of \$500 and \$1,000. Redeemable at any interest period at 102½ and accrued interest. Logan Trust Co. of Philadelphia, trustee.

SECURITY.—These bonds in addition to being a direct obligation of the American Public Utilities Company are specially secured by deposit with the Trustee of the following securities: \$2,000,000 Merchants Public Utilities Co., Indianapolis common stock; \$348,000 Merchants Heat & Light Co., Indianapolis, common stock; \$500,000 Elkhart Gas & Fuel Co., Elkhart, Ind., common stock; \$150,000; Valparaiso Lighting Co. common stock; \$400,000 Valparaiso Lighting Co. and Elkhart Gas & Fuel Co. 1st con. 5s; and are further secured by a lien on \$2,500,000 Wisconsin-Minnesota Light & Power Co. common stock, and \$2,447,000 Utah Gas & Coke Co. common stock.

CONDENSED BALANCE SHEET, JUNE 30, 1917.

<i>Assets.</i>	
Stocks owned	\$9,430,642.39
Bonds owned	77,300.00
Bonds held by trust companies under collateral trust mortgages..	\$93,300.00
Preferred stock—5,000 shares.....	350,000.00
Discount on securities, refunding expenses and organization expenses	411,014.96
Furniture and fixtures.....	5,000.00
Miscellaneous assets	3,510.36
Insurance department—cash and accounts receivable	10,745.57
Accounts and notes receivable....	1,337,402.38
Cash	122,020.86
Undistributed surplus, subsidiary companies	204,788.48
Total.....	\$12,845,725.00
<i>Liabilities.</i>	
Capital stock:	
Common	\$2,995,000.00
Preferred, including 5,000 shares owned by company.....	4,965,900.00
Collateral trust bonds.....	2,956,300.00
Interest accrued on bonds.....	45,105.00
Insurance department—accounts payable and reserve.....	10,745.57
Notes and accounts payable.....	1,367,515.81
Surplus	505,158.62
Total.....	\$12,845,725.00

OFFICERS.—Chairman, C. B. Kelsey; President, J. H. Brewer; Vice-President, A. H. Brandt; Secretary, Blaine Gavett; Treasurer, Willis J. Ripley; General Manager, Joseph H. Brewer.

DIRECTORS.—Charles B. Kelsey, J. H. Brewer, Blaine Gavett, Chas. McPherson, A. H. Brandt, G. G. Whitworth, Willis J. Ripley, Grand Rapids, Mich.; W. B. Parsons, Winona, Minn.; C. A. Boalt, St. Paul, Minn.; J. H. Blodgett, Boston; Walter H. Lippincott and E. Clarence Miller, Philadelphia; H. H. Harrison, Indianapolis, Ind.; Hugh E. Wilson, Grand Rapids, Mich.

Annual meeting of stockholders held third Monday in August at Grand Rapids, Mich.

Company's fiscal year ends June 30.

HUNT PIVOTED BUCKET CONVEYORS have been designed for handling coal, coke, etc., with minimum attendance and at minimum expense. Our engineers have made a special study of gas works problems, and will help you select equipment for your individual requirements. Write for Catalogue N15-4.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

GRAND RAPIDS GAS LIGHT CO., GRAND RAPIDS, MICH.

The Grand Rapids Gas Light Co. was incorporated in 1895, under the laws of Michigan.

FRANCHISES.—Expire 1920.

CAPITALIZATION.—Capital stock authorized, \$3,000,000; outstanding, \$2,400,000. Shares, \$100. Transfer agents, Emerson McMillin & Co., New York. Registrars, American Light and Traction Co.

BONDS.—First mortgage 5s, authorized \$7,500,000, issued \$1,575,000; dated February 1, 1915; due August 1, 1939; interest payable semi-annually on first days of February and August, at the Michigan Trust Co. and Emerson McMillin & Co., New York; denominations, \$100, \$500 and \$1,000; coupon, registerable as to principal; redeemable on six weeks' notice on any interest

date at 105 and interest. Michigan Trust Co., trustee.

OFFICERS.—Chairman of Board, J. B. Pantlind; President, Emerson McMillin; First Vice-President, J. T. Young; Second Vice-President, Alanson P. Lathrop; Secretary, G. R. Chamberlain; Treasurer, John A. Hulswit; Manager, J. T. Young.

DIRECTORS.—W. H. Anderson, Alanson P. Lathrop, Thos. J. O'Brien, Lewis H. Withey, Henry Idema, J. B. Pantlind, Emerson McMillin, J. T. Young, Henry Sullivan.

Annual meeting of stockholders held in January at Grand Rapids. Company's fiscal year ends December 31.

UNITED LIGHT AND RAILWAYS COMPANY, GRAND RAPIDS, MICH.

The United Light and Railways Co. was organized in July, 1910, for the purpose of acquiring, financing, and operating public utility properties and has acquired and now owns directly or through ownership of all or a very large majority of the stock, the following properties: Chattanooga Gas Co., Chattanooga, Tenn.; Cedar Rapids Gas Co., Cedar Rapids, Iowa; Cedar Rapids and Marion City Railway Co., Cedar Rapids and Marion, Iowa; Ottumwa Gas Co., Ottumwa, Iowa; Fort Dodge Gas and Electric Co., Fort Dodge, Iowa; Peoples Gas and Electric Co., Mason City, Iowa; Mason City and Clear Lake Railroad Co., Mason City, Iowa; Laporte Gas and Electric Co., Laporte, Ind.; Cadillac Gas Light Co., Cadillac, Mich.; Grand Rapids, Grand Haven and Muskegon Railway Co. of Michigan; Tri-City Railway and Light Co.

(The Tri-City Railway and Light Co. serves Davenport, Iowa City and Muscatine, Ia.; Rock Island, Moline, East Moline, Ill., and adjoining towns, including high grade Interurban Railway between Clinton, Davenport and Muscatine, Ia.)

FRANCHISES.—The franchise situation as a whole is excellent, the majority of the rights extending beyond the life of the first and refunding bonds. Properties providing less than one-fourth of the net earnings of the company have franchises maturing prior to 1932, extensions for a period of twenty-five years on the gas, electric and heat franchises in Mason City, Iowa, were voted by a large majority of the people in 1914. Although the franchises in the Tri-Cities had a number of years to run, they were extended in 1909 and 1910 for the maximum period permitted under the laws of the states under which these properties are operated, without burdensome restrictions. A new gas franchise for 25 years was granted by Cedar Rapids, Iowa, citizens, and the franchise of the Chattanooga Gas Co. was extended forty years in 1913.

CAPITALIZATION—DECEMBER 31, 1917.

Stock:	Authorized	Outstanding
First pref. 6% cumulative	\$12,500,000	\$10,131,500
Common stock	12,500,000	6,878,000

The first preferred stock pays quarterly dividends, January, April, July and October. Common stock paid a dividend of 4 per cent cash in 1913, beginning 1 per cent April 1, and 1 per cent quarterly after, continuing until July, 1914. An extra dividend of 1 per cent, payable in common stock, was paid April 1, 1914. Cash dividends on the common were deferred in the quarter beginning October 1, 1914, the surplus earnings being conserved for improvements and extensions and were resumed October 1, 1916, with the payment of 1 per cent cash, and continued through 1917 at the same rate, to and including April 1, 1918.

The annual rate of dividend on preferred stock is 6 per cent.

FUNDED DEBT.—Bonds: First and refunding mortgage 5 per cent gold, \$8,677,400. Dated June 1, 1912; due June 1, 1932. Interest payable June 1 and December 1 at the Company's agencies in Chicago or in New York. Coupon bonds: Denomination, \$100, \$500 and \$1,000, registerable as to principal or exchangeable for fully registered bonds in denominations of \$1,000 and multiples. Redeemable, whole, or in part, on any interest date at 102½ and interest, upon 60 days' notice. Trustee of bonds: The New York Trust Co. and Mortimer N. Buckner.

SECURITY OF THE BONDS.—The bonds are secured by a first mortgage on the property formerly owned by the La Porte Electric Co., La Porte Gas Light Co., Fort Dodge Light and Power Co., Cedar Rapids Gas Light Co., Ottumwa Gas Light, Heat and Power Co. and the Cadillac Gas Light Co. There are no underlying liens upon the properties mentioned, save \$100,000 of Cadillac Gas Light Co. bonds, of which all are owned by the operating company and are deposited under the lien of the first and refunding mortgage. There has also been deposited with the trustee as further security under the mortgage all of the stock of the companies above mentioned, and a large majority and in most cases all of the stock of the Tri-City Ry. and Light Co., the G. R., G. H. and M. Ry., Chattanooga Gas Co., Cedar Rapids and Marion City Ry., Mason City & Clear Lake R. R.



Tycos Temperature Instruments for Gas Works

H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.

Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Co., and Peoples Gas & Electric Co. A large amount of Tri-City Ry. and Light Co. 1st and ref. 5s and of the preferred stocks of that company and of the Chattanooga Gas Co. are also deposited as further security.

DEBENTURES.—Six per cent ten-year convertible gold debentures, authorized, not to exceed 75 per cent of the first preferred stock outstanding at the time of issue; \$2,000,000 issued. Dated November 1, 1916; due November 1, 1926; interest, May 1 and November 1 at New York Trust Co., trustee. Convertible after November 1, 1918, and prior to November 1, 1923, into first preferred 6 per cent stock at rate of $1\frac{1}{4}$ shares for each \$1,000 par value of debentures. Callable in whole or in part at par and accrued interest on four weeks' published notice.

NOTES.—Two and one-half-year bond-secured

6 per cent gold coupon notes; dated November 1, 1917; due May 1, 1920. Issued, \$1,179,500. Interest May 1 and December 1 at New York Trust Company, trustee. Secured by deposit of first and refunding bonds. Notes outstanding 75 per cent of face value of bonds deposited as collateral.

NOTES.—Six per cent gold coupon, authorized \$3,000,000, issued \$2,250,000; dated January 1, 1915; due \$750,000 January 1, 1918, and \$1,500,000 January 1, 1920; interest payable January 1 and July 1 in New York. Denominations, \$1,000 (three-year notes), \$1,000, \$500 and \$100 (five-year notes). Registerable as to principal. Callable as a whole or in part upon four weeks' published notice at 100 and interest and 101 and interest, respectively, New York Trust Co., trustee. The \$750,000 due January 1, 1918, was paid at maturity.

COMPARATIVE CONSOLIDATED EARNINGS STATEMENT, FOR TWELVE MONTHS ENDED DECEMBER 31.

<i>Subsidiary Companies.</i>		1917	1916
Gross earnings of subsidiary companies.....		\$7,705,269	\$6,885,779
Operating expense (including maintenance and Federal and general taxes)		5,046,908	4,219,386
Net earnings, subsidiary companies.....		\$2,658,361	\$2,666,393
Interest, etc., subsidiary companies.....		1,494,688	1,390,513
Net profit, subsidiary companies.....		\$1,163,673	\$1,275,880
<i>United Light and Railways Company.</i>			
Earnings available on stocks of sub. companies.....		\$1,150,369	\$1,257,490
Dividends and interest receivable on investments		608,612	477,642
Miscellaneous earnings		295,913	183,689
Total gross earnings.....		\$2,054,894	\$1,918,821
Less expense and taxes.....		147,273	146,908
Interest on bonds and notes.....		703,050	578,640
Bond discount amortized.....		.....	.....
Net earnings		\$1,204,571	\$1,193,273
Pro rata dividends on:			
First preferred		605,557	595,793
Second preferred .....		.....	.....
Balance for depreciation and dividends.....		\$599,014	\$597,480

CONDENSED CONSOLIDATED BALANCE SHEET AS OF DECEMBER 31, 1917.

<i>Assets.</i>	<i>Liabilities.</i>
Plant, construction and investment..\$49,221,951	Capital stock:
Unamortized debt discount..... 447,469	First preferred .....\$10,131,500
Cash 1,226,578	Common 6,878,000
Accounts and bills receivable..... 520,975	Bonds, notes and stocks (including
Stocks and bonds of other companies 53,151	subsidiary companies) 30,816,327
Supplies 900,782	Notes and accounts payable..... 1,523,174
Other assets 49,755	Accrued liabilities 912,969
Liberty Bonds 122,350	Deferred liabilities 267,512
	Surplus of subsidiary companies..... 13,511
	Reserves for depreciation, etc..... 1,354,866
	Surplus 645,152
\$52,543,011	\$52,543,011

OFFICERS.—President, Frank T. Hulswit; Vice-Presidents, Richard Schaddelee, J. F. Porter; Assistant General Manager, B. J. Denman; Secretary, L. H. Heinke; Treasurer, C. M. Hurd.

DIRECTORS.—Glenn M. Averill, William But-

terworth, Geo. B. Caldwell, E. Golden Filer, Frank T. Hulswit, J. F. Porter, B. J. Denman, Richard Schaddelee, Francis E. Smith, J. G. White, T. J. Weber, L. H. Heinke, C. H. McNider, L. P. Hammond and C. M. Hurd.

RELIABLE

“ANGLIRON”

RANGES

Set your expectations just as high as you like, order a sample line of “RELIABLE ‘ANGLIRON’” ranges, examine and test them and you will find your ideal of what a gas range really should be. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

LANSING FUEL AND GAS CO., LANSING, MICH.

Principal office: 1127 Land Title Building, Philadelphia.

The Lansing Fuel and Gas Co. was incorporated in June, 1906, under the laws of Michigan and is successor to Lansing Gas Light Co.

FRANCHISES.—The Lansing Fuel and Gas Co. has a franchise in the city of Lansing, granted in June, 1908, for a period of 25 years, with no burdensome restrictions. It also has a franchise from the township of Lansing for a period of 30 years from September 1, 1907.

CAPITALIZATION.—Capital stock authorized, \$700,000; outstanding, \$700,000. Shares, \$100.

FUNDED DEBT.—First refunding and extension mortgage 5 per cent gold bonds, authorized, \$3,000,000; issued, \$1,617,000. Dated October 1, 1912; due Oct. 1, 1927. Interest payable April 1 and October 1 at The Penna. Co. for Insurances on Lives and Granting Annuities. Denom-

ination, \$1,000. Coupon may be registered as to principal. Redeemable at 102 and interest on any interest due date. Trustee of bonds: The Penna. Co. for Insurances on Lives and Granting Annuities.

SECURITY.—Subsequent lien.

OFFICERS.—President, C. H. Geist; Vice-President, C. H. Weak; Secretary, Clara R. Graves; Treasurer, B. F. Davis; Manager, Clark R. Graves.

DIRECTORS.—C. H. Geist, C. H. Weak, H. A. Lang, Geo. H. Eyre, Clark R. Graves, B. F. Davis and Lee Chamberlain.

Annual meeting of stockholders held third Monday of July at Lansing, Mich. Company's fiscal year ends May 31.

MENOMINEE AND MARINETTE LIGHT & TRACTION COMPANY, MENOMINEE, MICHIGAN.

The Menominee and Marinette Light and Traction Company was incorporated on July 6, 1903, under the laws of Michigan and Wisconsin and is a consolidation of Menominee Electric Light, Railway and Power Company, Menominee River Gas Company and Marinette Gas, Electric Light and Street Railway Company.

CAPITALIZATION.—Capital stock, authorized and outstanding, \$1,150,000. Shares, \$100. Transfer agents and registrars, Edward Daniell, Secretary. Dividend stock, annual rate, 6 per cent; payable semi-annually.

FUNDED DEBT.—Bonds, 5 per cent mortgage; authorized, \$355,000; issued, \$340,000. Dated 1903 to 1910. Due, 1913-1925. Interest payable, March-July 15, Sept.-January 15, at general office, Menominee, Mich. Denomination, \$500, \$1,000; coupon. Redeemable at general office, Menominee, Mich.

SECURITY.—First mortgage.

OFFICERS.—President, F. A. Spies; Vice-President, G. A. Blesch; Secretary, Edward Daniell; Treasurer, H. J. Brown; Manager, Edward Daniell.

DIRECTORS.—F. A. Spies, G. A. Blesch, Edward Daniell, H. J. Brown, John Henes, H. T. Emerson, R. F. Goodman, C. A. Spies, C. A. Goodman.

GENERAL BALANCE SHEET AS OF JUNE 30, 1917.

<i>Assets.</i>	
Cost of property, plant and equipment	\$183,920.51
Hydro-electric div.—Electric light and power and street railway....	1,527,396.09
Cash—Gas department	3,139.25
Accounts receivable—Gas dept....	8,146.38
Material sup.—Gas. dept.....	6,649.65
Current accounts	1,809.84
Other assets—Electric, gas and hydro divisions	72,271.53
	<hr/>
	\$1,803,333.25
<i>Liabilities.</i>	
Common stock—Gas department...	\$126,725.00
Common stock—All other departments	1,023,275.00
Bonds—Gas department	34,551.00
Bonds—Other departments	305,449.00
Taxes and interest accrued—Gas department	1,495.93
Depreciation reserve	33,251.54
Profit and loss.....	7,642.16
Other liabilities—Hydro elec. div., electric light and power and street railway	270,943.62
	<hr/>
	\$1,803,333.25

MARQUETTE GAS LIGHT CO., MARQUETTE, MICH.

The Marquette Gas Light Co. was incorporated in July 20, 1869, under the laws of Michigan.

CAPITALIZATION.—Capital stock, authorized, \$100,000; outstanding, \$100,000. Shares, \$50. Transfer agents, Wm. and S. Mainland, Oshkosh, Wis.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold bonds, authorized, \$125,000; issued, \$125,000; retired \$22,000; outstanding, \$106,000. Dated Nov. 1, 1901; due Nov. 1, 1926. Interest payable May 1 and Nov. 1 at Continental and Commercial Trust and Savings Bank, Chi-

cago. Denomination, \$1,000; coupon form; can be registered. Redeemable at a premium of 5 per cent on any interest date on and after Nov. 1, 1906. Trustee of bonds: American Trust and Savings Bank, Chicago, and Frank H. Jones.

SECURITY.—First mortgage.

SINKING FUND.—\$2,000 per year, beginning Sept. 15, 1906.

Bonds: Consolidated mortgage bonds, authorized, \$200,000; outstanding, \$74,000. Dated Jan. 1, 1904; due Jan. 1, 1929. Interest payable January 1 and July 1 at Continental and Com-



Williams' "Agrippa" Boring-Tool Holder

The Boring Tool takes any size or shape of bar and requires no bushings. Its sleeve bar permits either straight or angular adjustment of cutter without resetting.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

mercial Trust and Savings Bank, Chicago, Ill. Denomination, \$1,000; coupon form; can be registered. Redeemable at par and 5 per cent premium on any interest date after July 1, 1909. Trustee of bonds: American Trust and Savings Bank, Chicago, and Frank H. Jones.

SECURITY.—Subsequent to first mortgage bonds: \$125,000 of these set aside to retire first mortgage bonds.

SINKING FUND.—\$2,000 each year, after Sept 15, 1906.

MINNEAPOLIS GAS LIGHT COMPANY, MINNEAPOLIS, MINN.

The Minneapolis Gas Light Co. was incorporated in 1869 under the laws of Minnesota.

FRANCHISE.—Expires in 1930.

CAPITALIZATION.—Capital stock issued, \$800,000. Shares, \$50.

FUNDED DEBT.—Bonds: First general gold 5s authorized, \$10,000,000; issued, \$8,000,000; dated September 1, 1903; due February 1, 1930. Interest payable March 1 and September 1 at Trust Co. of America, New York. Denomination, \$1,000; coupon bonds, registerable as to principal. Trustee of bonds, Equitable Trust Co., New York. Security, first lien.

\$8,000,000 bonds have been issued, of which \$1,003,000 have been retired by sinking fund and \$630,000 are held in treasury; \$6,367,000 outstanding.

SINKING FUND.—A supplemental indenture provides for the payment of \$147,000 on February 15 of each year, 1911 to 1929 inclusive, and January 15, 1930, to the American Trust & Savings Bank, Chicago, as a sinking fund, to be devoted

OFFICERS.—President, Wm. Mainland; Secretary and Treasurer, Sinclair Mainland; Manager, O. L. Marr.

DIRECTORS.—Wm. Mainland, Sinclair Mainland, R. E. Chase, A. B. Eldridge, Morgan W. Jopling.

Annual meeting of stockholders held third Monday in May each year at Marquette, Mich.

Company's fiscal year ends April 30.

to the retirement of bonds numbered 1001 to 3868, in numerical order, at 102.50 and accrued interest.

EARNINGS, YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$2,197,973
Operating expenses, including taxes...	2,064,428
Net earnings	\$133,545
Interest on first mortgage bonds.....	319,542
Deficit	\$185,997

OFFICERS.—President, A. T. Rand; Vice-President, R. R. Rand; Secretary, W. H. Levings; Treasurer, R. R. Rand.

DIRECTORS.—A. T. Rand, R. R. Rand, W. H. Levings, A. H. Rand, W. F. Douthirt.

Annual meeting of stockholders held first Monday in March, at Minneapolis, Minn.

Company's fiscal year ends December 31.

NORTHERN STATES POWER CO. (FORMERLY CONSUMERS POWER CO.) MINNEAPOLIS, MINN.

The Northern States Power Co. (formerly Consumers Power Co.) was incorporated June 16, 1909, under the laws of Minnesota, and controls and operates public utility properties serving at retail or wholesale 203 municipalities in Illinois, Iowa, Minnesota (including St. Paul and Minneapolis), North Dakota, South Dakota and Wisconsin.

FRANCHISES.—The franchises under which the Company operates in the various cities, towns and other municipal divisions are free from objectionable features and afford satisfactory working conditions. The Minneapolis franchise is, in the opinion of counsel, unlimited as to time. The Company has contracts for street illumination in practically all of the important cities and towns in which it operates.

CAPITALIZATION (Dec. 31, 1917).

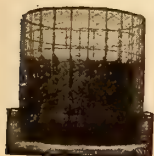
Preferred stock, 7 per cent cumulative	\$16,000,000	\$13,922,600
Common stock	14,000,000	6,170,000
Shares, \$100; transfer agents, Company.		

All of the issued and outstanding capital stock of the Northern States Power Co. of Minnesota, except qualifying directors' shares, is held by Northern States Power Co. (of Delaware).

FUNDED DEBT.

First and refunding mortgage 5 per cent gold bonds, outstanding, \$21,568,500; dated April 1, 1916; due April 1, 1941. Redeemable on any interest payment date prior to and including April 1, 1936, at 105 and interest and thereafter at 102½ and interest. Interest payable April 1 and October 1 in New York or Chicago. Coupon bonds of \$500 and \$1,000 denomination, with privilege of registration as to principal only, or exchangeable for fully registered bonds of \$1,000, \$5,000 and \$10,000 denominations. Guaranty Trust Company of New York, Trustee. These bonds are listed on New York Stock Exchange.

The first and refunding mortgage gold bonds are secured, in the opinion of counsel, by a first lien (either by direct mortgage or by the deposit of entire outstanding issues of bonds and stocks), on the entire system of the Company, subject only to the lien of \$7,556,000 bonds (closed mortgage) on the property of The Minneapolis General Electric Company. The balance of the bonds may be issued for only 75 per cent of the actual and reasonable expenditures for permanent extensions and additions to the properties, provided net earnings have been



1803

1918

R. D. WOOD & CO., PHILA., PA.

HOLDERS, CAST IRON PIPE,
SCRUBBERS, CONDENSERS, ETC.

1803

1918



at least twice the annual bond interest charge, including interest on those bonds for which application is made, or may be issued for the retirement of an equal amount of The Minneapolis General Electric Company bonds due December 1, 1934.

Under the terms of the first and refunding mortgage the Company covenants that an amount in cash equivalent to 12½ per cent of its gross earnings shall be expended or set aside annually for maintenance and repairs or for renewals and replacements of its property. Any part of this fund not used for such purposes may be expended for extensions and additions to the properties, such expenditures, however, not to be used as the basis for issuing first and refunding mortgage bonds. The Company may also utilize any balance of this fund in the hands of the trustee for the purchase, redemption or payment of any of its outstanding bonds.

Northern States Power Co. 6 per cent gold notes, authorized, \$12,000,000; outstanding (Dec. 31, 1917), \$7,805,000; dated April 1, 1916; due April 1, 1926; interest payable April 1 and October 1. Coupon, \$500 and \$1,000 denomination, registerable as to principal. Registered notes in denominations of \$1,000 and multiples. Coupon and registered notes interchangeable in multiples of \$1,000. Redeemable as a whole, or in part, at 102 per cent and interest at any time prior to April 1, 1921; at 101 per cent and interest thereafter and prior to April 1, 1925; and thereafter at 101 per cent and interest. Continental and Commercial Trust and Savings Bank, Chicago, trustee.

On April 1, 1916, the company issued 80,000 option warrants, which entitle the holder at any time between April 1, 1918 (*) and April 1, 1922,

(*) This date was subsequently changed to January 1, 1917.

to exchange each warrant for either one share of common stock or one share of preferred stock, at a price of par, plus accrued dividend, on the stock so purchased, and the holder is entitled to make the payment for the stock so purchased either by delivering a like par value of the ten-year 6 per cent notes of Northern States Power Company due 1926 at par, plus accrued interest, or the holder may receive such stock by paying par, plus accrued dividends, and in addition the premium required to be paid by the company for the redemption of the equivalent note or notes at the time of presentation of warrants. The premium for redemption of the ten-year notes being 2 per cent before April 1, 1921, and 1 per cent on and after that date.

Since December 31, 1916, there have been 1,950 of these option warrants cancelled against the redemption of \$195,000 ten-year 6 per cent notes and the issuance of \$195,000 common stock. This makes the outstanding common stock \$6,170,000 on March 15, 1918. Option warrants outstanding on March 15, 1918, are reduced from 80,000 to 78,050.

For earnings see Northern States Power Co. of Delaware.

OFFICERS.—President, H. M. Byllesby; Vice-Presidents, Arthur S. Huey, J. J. O'Brien, R. F. Pack, P. T. Glidden, F. C. Gordon, Otto E. Osthoff, R. G. Hunt, Geo. H. Harries, Isaac Milkewitch; Secretary, R. J. Graf; Treasurer, J. J. Molyneaux.

DIRECTORS.—H. M. Byllesby, Otto E. Osthoff, R. J. Graf, Arthur S. Huey, J. J. O'Brien, John H. Roemer, F. W. Stehr, Geo. H. Harries, S. W. Childs, D. T. Flynn, W. H. Clarke, H. C. Cummins, R. F. Pack, B. E. Sunny, Lewis B. Franklin, M. A. Morrison and B. W. Lynch.

Under the management of H. M. Byllesby & Co., Chicago, Ill.

NORTHERN STATES POWER COMPANY (OF DELAWARE), 208 SOUTH LA SALLE ST., CHICAGO, ILL.

Minneapolis office, 15 South Fifth Street.

New York office, Trinity Building.

The Northern States Power Co. was incorporated December 23, 1909, under the laws of Delaware, and is a holding company for the properties of the Northern States Power Co. of Minnesota.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$50,000,000	\$13,922,600
Common stock	50,000,000	6,170,000

Shares, \$100. Transfer agents and registrars, Continental and Commercial Trust and Savings Bank, Chicago, and Guaranty Trust Co., New York.

The income is received only from the Northern States Power Co. of Minnesota.

Dividends on the preferred stock have been continuously paid at their regular rate of 7 per cent per annum since the organization of the company. An initial dividend of 1½ per cent

was paid for the quarter ended July 20, 1916, raised to 1¾ per cent for the quarter ended January 20, 1917, which rate was paid up to and including quarter ended January 20, 1918. No dividends are now paid on common stock.

CONSOLIDATED EARNINGS STATEMENT OF THE COMPANIES EMBRACED IN THE NORTHERN STATES POWER COMPANY FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1917.

Gross earnings	\$7,154,508.89
Net earnings	3,389,780.50
Fixed charges	1,709,837.74
Balance	1,679,942.76
Preferred dividends	916,011.05
Balance available for amortizations, depreciation and common dividends	763,931.71

Twenty years ago some of the largest gas companies experimented with the GOODMAN STOPPER. Today these same companies think it a necessity. SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

APPENDIX

621

NORTHERN STATES POWER CO. AND SUBSIDIARIES.

COMBINED INCOME ACCOUNT FOR YEAR ENDING DECEMBER 31, 1917.

Gross Earnings:

Electric department	\$6,243,551.26
Gas department	339,710.68
Street railway department	89,976.29
Steam department	418,920.12
Telephone department	62,350.54

Total gross earnings..... \$7,154,508.89

Operating Expenses:

Operating expenses	\$2,921,417.89
Maintenance charges	411,786.26
Taxes	431,524.24

Total operating expenses 3,764,728.39

Net earnings \$3,389,780.50

Interest charges (net)..... 1,709,837.74

Balance for amortization of debt discount and expense, depreciation and dividends.. \$1,679,942.76

Preferred dividends 916,011.05

Balance \$763,931.71

Appropriation for depreciation..... \$435,000.00

Debt discount and expense amortized..... 140,000.00 575,000.00

Balance \$188,931.71

Common stock dividends 429,902.08

Deficit for year 1917..... \$240,970.37

Surplus December 31, 1916..... \$992,428.30

Deficit for year 1917..... 240,970.37

Surplus December 31, 1917..... \$751,457.93

NORTHERN STATES POWER CO. AND SUBSIDIARY COMPANIES.

CONSOLIDATED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Capital Assets:

Plant, property rights and franchises, etc..... \$53,780,370.86

Sinking Fund and Other Deposits:

Collateral cash deposited for first and refunding bonds \$684,800.00

Sinking fund cash..... 4,392.72 689,192.72

Investments in other companies, associations, etc..... 143,693.25

Debt discount and expense in process of amortization 4,465,270.41

Deferred Operating Charges, etc.:

Miscellaneous prepaid expenses, etc..... \$9,331.20

Preliminary expenses toward purchase of properties 8,579.42

Unexpired insurance 31,495.14

Unadjusted debits 52,850.20

Extraordinary operating expenses..... 164,185.88 266,441.84

Current Assets:

Cash on hand and in bank..... \$449,411.86

Cash deposited for bond interest..... 10,680.00

Accounts and notes receivable..... \$929,530.49

Less: Reserve for bad debts..... 36,725.56 892,804.93

Merchandise and supplies..... 1,170,671.28 2,523,568.07

Total \$61,868,537.15

"U" Tube Gauges of all sizes and ranges of pressure for every gas works service. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

APPENDIX

Liabilities.

Capital Stock of Northern States Power Company:

Authorized:

7% preferred 500,000 shares, \$100 each.....	\$50,000,000.00
Common 500,000 shares, \$100 each.....	50,000,000.00

\$100,000,000.00

Issued and Outstanding:

7% preferred—139,349 shares, \$100 each.....	\$13,934,900.00
Less: In treasury.....	81,500.00
	\$21,568,500.00

Common—61,700 shares, \$100 each.....	6,170,000.00	\$20,092,600.00
---------------------------------------	--------------	-----------------

Funded Debt:

Northern States Power Co. 25 year 5% firstand refunding mortgage bonds, due April, 1, 1941	\$21,650,000.00
Less: In treasury.....	81,500.00
	\$21,568,500.00

Northern States Power Co. 10 year 6% notes, due April 1, 1926	7,805,000.00	
Minneapolis General Electric Co. 30 year 5% gold first mortgage bonds, due December 1, 1934.....	7,556,000.00	36,929,500.00

Southwestern Minnesota Division:

Bonds outstanding	\$569,000.00	
Preferred stock outstanding.....	109,500.00	678,500.00

Current Liabilities:

Notes payable	\$871,450.00	
Accounts payable.....	539,708.89	
Accrued bond interest.....	434,169.59	
Accrued general interest.....	3,682.43	
Accrued taxes	408,383.97	
Accrued dividends on preferred and common stocks	351,620.50	
Consumers' deposits	52,938.86	2,661,954.24

Reserves:

Depreciation and replacements.....	\$709,997.84	
Special maintenance	44,527.14	754,524.98

Surplus	751,457.93
---------------	------------

Total	\$61,868,537.15
-------------	-----------------

OFFICERS.—President, H. M. Byllesby; Vice-Presidents, Arthur S. Huey, J. J. O'Brien, Otto E. Osthoff, Geo. H. Harries, Isaac Milkewitch, H. W. Fuller, F. C. Gordon, R. F. Pack; Secretary, R. J. Graf; Treasurer, H. R. Frost.

DIRECTORS.—H. M. Byllesby, J. J. O'Brien, R. J. Graf, O. E. Osthoff, F. W. Stehr, A. S. Huey, W. H. Clarke, John H. Roemer, R. F. Pack, Geo.

H. Harries, B. E. Sunny, S. W. Childs, Lewis B. Franklin, D. T. Flynn, H. C. Cummins, B. W. Lynch, M. A. Morrison.

Under the management of H. M. Byllesby & Co., Chicago, Ill.

Annual meeting of stockholders held February 15 at Wilmington, Del.

Company's fiscal year ends December 31.

ST. PAUL GAS LIGHT COMPANY, ST. PAUL, MINN.

Office, Sixth and Jackson Streets.

The St. Paul Gas Light Co. was incorporated in 1857 under the laws of Minnesota and is a consolidation of Edison Electric Light & Power Co., Economy Steam Heat Co., St. Paul Light, Heat & Power Co. and East Side Electric Co.

FRANCHISES.—Expire in 1932.

CAPITALIZATION.—Capital stock outstanding, \$4,350,000. Shares, \$100. Transfer agents, Emerson McMillin & Co.

FUNDED DEBT.

Bonds: General gold 5s, authorized, \$5,000,000; issued, \$4,400,000; dated March 1, 1894; due March 1, 1944. Interest payable March 1 and September 1 at Emerson McMillin & Co. Denomination, \$1,000. Trustee of bonds, New York Trust Co., New York.

Bonds: Consolidated extension 6s, authorized, and issued, \$600,000; dated July 1, 1888; due

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

July 1, 1918. Interest payable January 1 and July 1 at Emerson McMillin & Co. Trustee of bonds, Bankers' Trust Co., New York, N. Y.

OFFICERS.—President, Alanson P. Lathrop; Secretary, J. P. Crowley; Treasurer, J. P. Crowley; Manager, Paul Doty.

DIRECTORS.—C. L. Kluckhohn, J. P. Crowley, Frank L. Cross, James D. Armstrong, W. Magiving, G. H. Prince, E. A. Young, A. P. Lathrop. Annual meeting of stockholders held in January at St. Paul.

Company's fiscal year ends December 31.

HATTIESBURG TRACTION COMPANY, HATTIESBURG, MISS.

The Hattiesburg Traction Co. was incorporated in 1906 under the laws of Mississippi. On September 2, 1907, purchased the property of the Hattiesburg Gas Co. and of the Hattiesburg Light & Power Co.

FRANCHISES.—Electric and traction franchise runs to 1931; gas franchise to 1930.

CAPITALIZATION.—Capital stock, authorized, \$500,000; outstanding, \$500,000.

BONDS.

	Authorized	Outstanding
Hattiesburg Traction Co. Gen. Lien S. F. 6% Gold bonds	\$2,500,000	318,000
Hattiesbg. Traction Co. 1st Mtg. sinking fund 6% 20-year gold bonds.....	300,000	255,000

BOND DATA.—Hattiesburg Traction Company General Lien Sinking Fund 6 per cent gold bonds, dated July 1, 1912; due July 1, 1952; interest 6 per cent, payable January 1 and July 1, at City Bank and Trust Co., Mobile, Ala. Coupon bond may be registered as to principal. Denomination, \$1,000. May be redeemed on any interest date at \$105 and accrued interest. Sinking Fund 1 per cent of outstanding bonds, commencing July 1, 1916. In lieu of cash payment, bonds secured hereby, with unmatured coupons attached, will be equivalent to a cash payment of 105 per cent and accrued interest. Or sinking

fund may be satisfied by investing 1 per cent in construction, additions or betterments. Bonds to be kept alive in sinking fund. Additional bonds may be drawn for 85 per cent of improvements. City Bank and Trust Company, Mobile, Ala., trustee.

\$300,000 of this issue set aside to retire Hattiesburg Traction Co. first mortgage, sinking fund, 6 per cent, twenty-year gold bonds, dated March 14, 1908.

Hattiesburg Traction Company first mortgage sinking fund 6 per cent twenty-year gold bonds, dated March 14, 1908, due January 1, 1928, interest 6 per cent, payable January 1 and July 1, at Standard Trust Company, New York. Coupon bond may be registered as to principal. Denomination, \$1,000. Commencing January 1, 1909, \$5,000 a year are to be paid into sinking fund. Standard Trust Company, New York, trustee.

OFFICERS.—President, F. W. Frueauff; First Vice-President, H. F. Wheeler; Second Vice-President, H. H. Scott; General Manager, H. F. Wheeler; Secretary, Howard McDavid; Treasurer, Howard McDavid; Assistant Secretary, E. E. McWhiney; Assistant Treasurer, T. A. Wallace.

DIRECTORS.—Henry L. Doherty, H. F. Wheeler, R. F. Carbutt, H. E. Brandli, R. G. Griswold, R. L. Baker, H. H. Scott, F. W. Frueauff.

JACKSON LIGHT & TRACTION COMPANY, JACKSON, MISS.

The Jackson Light & Traction Co. was formed to acquire and combine the local gas, electric light and power and street railway properties, the first of which began business in 1860. The original railway commenced operations in 1872, and the electric light business now controlled by the Company was first started in 1888.

FRANCHISES.—The contract between the Company and the City of Jackson for lighting the public streets continues until April, 1923, and is satisfactory in its terms.

The Company's franchises are satisfactory and extend beyond the maturity of its bonds.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 6% cum.	\$600,000	\$600,000
Common stock	1,000,000	1,000,000

All stock owned by American Public Utilities Co.

Dividend on preferred stock payable quarterly.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$2,500,000; issued, \$930,000; dated April 1, 1912; due April 1, 1922. Interest payable April 1 and October 1 at the office of P. W. Brooks & Co., New York City. Denominations, \$100, \$500 and \$1,000; registerable as to prin-

cipal. Callable as a whole or in part, by lot, for the sinking fund, on any interest date from April 1, 1914, to maturity, at 105 and accrued interest. Trustee of bonds, Chicago Savings Bank & Trust Company.

SECURITY.—Secured by an absolute first mortgage on the Company's entire gas, electric and traction properties.

SINKING FUND.—It is also provided that the Company shall annually deposit with the trustee, beginning February 1, 1914, a sum equal to 2 per cent of the par value of the total amount of bonds then outstanding, such funds to be applied to the purchase or redemption of these bonds as they may be purchased or called by lot at not to exceed 105 per cent of their face value and accrued interest. The bonds so purchased are to be canceled and any unused balance in the sinking fund to be added to and applied with such next year fund.

OFFICERS.—President, J. H. Brewer; Vice-President, C. B. Kelsey; Secretary, Blaine Gavett; Treasurer, W. J. Ripley; Manager, L. O. Gordon.

DIRECTORS.—C. B. Kelsey, J. H. Brewer, Blaine Gavett, Chas. McPherson, W. J. Ripley.

MONEL METAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. These are high grade experimental meters for use with corrosive gases, such as oxygen gas.

THE EMPIRE DISTRICT ELECTRIC COMPANY, JOPLIN, MO.

Incorporated in October, 1909, under the laws of Kansas. Acquired the Consolidated Light, Power & Ice Co. and the Joplin Light, Power & Water Co., both of Joplin, Mo.; the Galena Light & Power Co. of Galena, Kan., and 99.6 per cent of the Spring River Power Co. of Galena, Kan. The company owns the entire capital stock of the Webb City & Carterville Gas Co., and the Carthage Gas Co. The Company has also acquired the entire stock of the Empire Electric Power & Supply Co. of Carthage, Mo.

Supplies all the electric current for light and power in Joplin, Webb City, Carterville and Carthage, Mo.; Galena, Kan., and in the mining, quarrying and manufacturing territory adjacent to these cities, comprising what is known as the Joplin or Empire District. Also controls the natural gas business of Webb City, Carterville and Carthage, Mo. The Company has a new modern steam turbine plant, increasing the aggregate capacity of the combined plants to 33,000 horsepower. The franchises, except in three small towns, are unlimited as to time. Population served, 100,000. Operated by Doherty organization, New York. Controlled by Cities Service Co., general office, 60 Wall Street, New York, N. Y.

FRANCHISES.—In the City of Joplin, Mo., franchises are unlimited as to time, while in other cities they run twenty years from 1906. Rights to erect poles for transmission of current to mines surrounding the cities is unlimited under grant from County Commissioner.

CAPITAL STOCK.—Authorized, 6 per cent non-voting cumulative preferred, \$3,000,000. Outstanding: Preferred, \$3,000,000, of which \$1,003,900 is in hands of public and \$1,996,100 in treasury; common, \$3,000,000; total, \$6,000,000. Shares, \$100. Cities Service Co. on January 1, 1912, acquired all of company's common stock. Transfer agents, Capital Trust Co., Columbus, O. Registrars, Guarantee Title & Trust Co., Columbus, O.

Preferred stock is cumulative from November 1, 1909. Preferred stock is redeemable at any time at \$120 and accrued dividends. Dividends on preferred stock were resumed on Oct. 1, 1915, at the rate of 9 per cent per annum, and a dividend at the rate of 6 per cent per annum has been paid on the common stock from May 1, 1912, to Dec. 1, 1913. Dividends paid monthly.

FUNDED DEBT.—Outstanding December 31, 1917, consisting of the following issues (total \$4,679,000):

\$3,498,000 first mortgage 5s, dated November 1909; due November 1, 1949; interest payable May 1 and November 1 at office of Henry L. Doherty & Co., New York. Coupon bonds, \$1,000. Trustees, Central Trust Co., New York, and Conqueror Trust Co., Joplin, Mo. Subject to call on any interest date at 105 and interest. Sinking fund, beginning 1915, on October 1, each year 1 per cent outstanding bonds. Authorized, \$6,000,000. Of this amount \$275,000 are reserved to retire prior liens described below.

\$26,000 Missouri Ice & Cold Storage 5s, dated April 1, 1903; due April 1, 1923; interest payable April 1 and October 1 at office of United

States & Mexican Trust Co., Kansas City, Mo., trustees. Authorized, \$100,000.

\$39,000 Southwest Missouri Light Co. 6s, dated February 1, 1896. \$39,000, extended to February 1, 1921; interest payable February 1 and August 1 at office of trustee, Guardian Trust Co., Kansas City. Authorized, \$150,000.

\$58,000 Southwest Missouri Light Co. 5s, dated January, 1901; due January, 1926; interest payable January 1 and July 1 at office of the trustee, St. Louis Union Trust Co., St. Louis, Mo.

Authorized, \$300,000. Subject to call on any interest date after January 1, 1906, at 102 and interest.

\$720,000 Spring River Power Co. first mortgage 5 per cent gold bonds, dated November 1, 1905, due serially as follows: November 1, 1911-1914, \$20,000; November 1, 1915-1918, \$35,000; November 1, 1919-1922, \$45,000; November 1, 1923-1928, \$50,000; November 1, 1929, \$72,000; November 1, 1930, \$125,000. Interest payable May 1 and November 1 at office of trustee. Coupon bond. Denomination, \$1,000. All or any part of issue may be redeemed prior to 1915 at a premium of 10 per cent or thereafter at 5 per cent premium. Additional bonds may be drawn for 80 per cent of improvements. The Merchants Loan and Trust Company, trustee.

\$18,000 Empire Electric Power and Supply Co. 5 per cent bonds, dated May 1, 1911, due serially, \$4,500 each year for ten years. Interest payable May 1 and November 1, at Central National Bank, Carthage, Missouri. Coupon bond, denomination, \$4,500. Allen and Samuel McReynolds, trustees.

\$50,000 Webb City and Carterville Gas Co. first mortgage 6 per cent gold bonds, dated February 1, 1906, due serially \$5,000 per year up to and including 1920. 1921-1925, both inclusive, \$7,000 per year. Interest payable February 1 and August 1, at office of trustee. Coupon bond, denomination \$1,000. Chicago Title and Trust Company, trustee.

\$145,000 Webb City and Carterville Gas Co. general lien thirty year 6 per cent gold bonds, dated January 3, 1911, due November 1, 1940. Interest dates February 1 and August 1. Coupon bonds. Denomination, \$1,000. May be registered as to principal. May be redeemed on any interest date at par and interest. Conqueror Trust Company, Joplin, Missouri, trustee.

\$50,000 Carthage Gas Co. twenty-year mortgage 6 per cent gold bonds, dated May 1, 1906, due May 1, 1926; interest payable May 1 and November 1, at the office of trustee. Coupon bonds. Denomination, \$500. Conqueror Trust Company, Joplin, Missouri, trustee.

\$75,000 Carthage Gas Co. general lien 6 per cent gold bond, dated January 1, 1911, due November 1, 1940. Interest payable May 1 and November 1, at Henry L. Doherty & Co., New York. Coupon bond. Denomination, \$1,000. May be registered as to principal. May be redeemed on any interest date at par and accrued interest. Conqueror Trust Company, Joplin, Missouri, trustee.

OFFICERS.—President, Henry L. Doherty; First Vice-President, F. W. Frueauff; Second Vice-

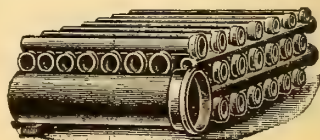
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



President, A. S. Wilson; 3rd Vice-President, B. C. Adams; General Manager, B. C. Adams; Secretary, David D. Hoag; Treasurer, B. C. Adams; Assistant Secretary, Louis F. Musil; Assistant Treasurer, C. B. Wedum.

DIRECTORS.—Henry L. Doherty, Frank W. Frueauff, Leslie M. Shaw, George Moore, A. E.

Spencer, M. R. Bamp, David D. Hoag, B. C. Adams, Geo. McCullagh, A. S. Wilson, Wm. F. Sapp, C. G. Worthington, R. H. Barratt, G. E. Hayler, Jr., C. L. Proctor, W. A. Jones, F. M. Richards.

Annual meeting, second Tuesday in November, in Galena, Kan.

KANSAS CITY, MISSOURI, GAS COMPANY, KANSAS CITY, MO.

Incorporated April 3, 1897, under the laws of Missouri as a consolidation of Kansas City Gas Co. and Missouri Gas Co.

CAPITAL STOCK.—Authorized and issued, \$5,000,000. Shares, \$100. Stock transferred at Company's office, Kansas City, Mo.

BONDS IN SINKING FUND.—\$1,899,000.

FUNDED DEBT.—Consists of \$4,967,000 first mortgage 5 per cent 25-year sinking fund gold bonds, dated April 1, 1897; due April 1, 1922; interest April 1 and October 1, at Guaranty Trust Co., New York, or May 1 and November 1 in London, England. Bonds are in coupon form, \$1,000 each, registerable as to principal. Supplemental mortgage, dated February 14, 1898, provides for sinking fund of \$75,000 annually for ten years from January 1, 1898, then \$25,000 an-

nually thereafter until maturity. Funds to be invested in these bonds at not over 105 and interest, or with the company's approval either in these bonds at a higher rate or in other securities selected by the Guaranty Trust Co., and approved by the Kansas City, Missouri, Gas Co. The authorized amount of bonds is \$5,000,000. Listed on New York Stock Exchange.

OFFICERS.—President, J. Crawford James; Vice-Presidents, A. Hurlburt and Walton Clark; Treasurer, E. L. Brundrett; Secretary, A. Hurlburt.

DIRECTORS.—E. L. Brundrett, A. Hurlburt, J. Crawford James, T. M. James, Jr., D. L. James, J. M. Lowe, (vacancy), W. H. McKenzie, Walton Clark.

Annual meeting, fourth Thursday in January.

MISSOURI GAS AND ELECTRIC SERVICE CO., LEXINGTON, MO.

The Company was incorporated in 1912 under the laws of the State of Missouri and on January 1, 1913, acquired the utilities operating in Marshall and Lexington, Mo. Since that date the Company has acquired utilities operating at the following cities: Marshall, Lexington, Richmond, Henrietta, Hardin, Liberty, Orrick, Camden and Myrick, Mo. The 1910 population of the above towns was given as 18,820, and it is estimated that the present population is over 23,000.

CAPITAL STOCK.—Authorized, \$300,000 common and \$200,000 preferred; outstanding, \$130,000 common and \$125,000 preferred. Controlled by Middle West Utilities Company and National Light, Heat & Power Company through stock ownership.

BONDED DEBT.—\$134,000 Marshall Light, Heat & Power Company first sinking fund gold 5s; dated December 1, 1905; due December 1, 1935; interest payable January and December 1 at Columbia Trust Co., New York, Trustee.

\$150,000 Lexington Gas & Electric Company first gold 5s; dated October 1, 1905; due October 1, 1935; interest payable April and October 1, at Columbia Trust Co., New York, Trustee.

\$13,000 Missouri Valley Light & Power Company first mortgage 6 per cent notes; dated May 1, 1912; due serially May 1 of each year up to 1918; interest payable May 1 and November 1, at Commonwealth Trust Co., St. Louis, Mo., Trustee.

\$110,000 Missouri Gas & Electric Service Company ten-year gold debenture 6s; dated April 1, 1913; due April 1, 1932; interest payable April and October 1, at Illinois Trust & Savings Bank, Chicago, Trustee.

\$201,000 Missouri Gas & Electric Service Co. 1st. and refunding mortgage gold bonds at 6 per cent, dated March 15, 1916; due March 15, 1946. Interest payable March 15 and September 15 at Central Trust Co. of Illinois, Chicago, Ill.

The interest coupons on all of these securities are payable without deduction for normal income tax, which is paid by the Company.

OFFICERS.—John F. Gilchrist, President; A. Hardgrave, Vice-President; Robert W. Waite, Secretary; Worth Bates, Lexington, Mo., Treasurer.

General Office—St. Louis, Mo. Main operating office, Lexington, Mo.

ST. JOSEPH GAS COMPANY, ST. JOSEPH, MO.

The St. Joseph Gas Co. was incorporated in 1897 under the laws of Missouri and is a consolidation of St. Joseph Gas & Manufacturing Co. and St. Joseph Light and Fuel Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock authorized, \$1,000,000; outstanding, \$1,000,000. Shares, \$100.

Transfer agents, Emerson McMillin & Co. Registrars, American Light & Traction Co.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$1,000,000; issued, \$1,000,000; dated July 1, 1897; due July 1, 1937. Interest payable January 1 and July 1 at Emerson McMillin & Co. Denomination, \$1,000; registerable as to

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES



METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York



principal. Redeemable at 110 and interest on any interest date. Trustee of bonds, Guaranty Trust Co.

SECURITY.—First lien.

OFFICERS.—President, Emerson McMillin; Vice-President, W. A. P. McDonald; Secretary and Treasurer, A. V. Schaeffer; Manager, V. L. Elbert.

DIRECTORS.—Emerson McMillin, Milton Tootle, Jr.; W. A. P. McDonald, V. L. Elbert, Henry Krug, I. A. Vant, R. R. Clark, W. P. Fulkerson, Alanson P. Lathrop.

Annual meeting of stockholders held third Wednesday in September at St. Joseph, Mo.

Company's fiscal year ends December 31.

LACLEDE GAS LIGHT COMPANY, ST. LOUIS, MO.

Incorporated under special acts of the Legislature of Missouri, March 2, 1857, March 3, 1857, and March 26, 1868, and does the entire gas lighting business of the city. Charter perpetual and confers upon the Company the perpetual right to use the streets of St. Louis for its pipes and for any appliances for conducting a substitute for gas.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 5% cum..	\$2,500,000	\$2,500,000
Common stock.....	17,500,000	10,700,000

Shares, \$100. Transfer agents, The Guaranty Trust Co. of New York. Registrars, Central Trust Co. of New York.

Financial agents: Bankers Trust Co., New York City, and St. Louis Union Bank Co., St. Louis, Mo.

Dividend on preferred stock, 5 per cent.

Dividends on common stock at the rate of 7 per cent, aggregating \$749,000, were paid during the year.

In addition to the regular dividend of 7 per cent, an extra cash dividend of 10 per cent, accumulated during the preceding seven years, was paid out of the dividend common stock account on January 2, 1917, to common stockholders of record December 26, 1916. This resulted in the decrease in common stock dividend account, as shown on condensed balance sheet.

The surplus earnings of the company, after deducting interest, preferred and the regular common stock dividends, a bonus to employees equivalent to one week's salary, and all other proper charges, was credited to the common stock dividend fund. The total to the credit of that account, as of December 31, 1917, was \$159,274.27.

FUNDED DEBT.

Bonds: First mortgage 5 per cent, authorized, \$10,000,000; issued, \$10,000,000; dated May 1, 1889; due May 1, 1919; interest payable February 1, May 1, August 1 and November 1 at Bankers' Trust Co., New York, and St. Louis Union Bank, St. Louis. Denomination, \$1,000; registerable as to principal. Security, a first lien upon entire property.

Bonds: Refunding and extension mortgage 5 per cent, authorized, \$20,000,000; issued, \$10,000,000; dated April 1, 1904; due April 1, 1934; interest payable April 1 and October 1 at Bankers' Trust Co., New York, and St. Louis Union Bank, St. Louis. Denomination, \$1,000; registerable as to principal. Security, subject to first gold 5s, described above.

Debentures, 5%, authorized, \$5,000,000; outstanding, \$3,850,000; dated February 1, 1914; due February 1, 1919; interest payable February 1 and August 1. Coupon debentures in denomi-

nation of \$1,000 each, registerable as to principal. Callable as a whole, but not in part, on any interest payment date at 101½ and interest. St. Louis Union Trust Co., trustee. These debentures are the first maturing funded obligation of the Laclede Gas Light Co. They precede \$2,500,000 5% dividend paying preferred stock and \$10,700,000 7 per cent dividend paying common stock, having a present market value of approximately \$15,000,000, or nearly four times the total debentures outstanding.

FINANCIAL STATEMENT FOR THE TWELVE MONTHS ENDED DECEMBER 31.

	1917	1916
Gross earnings	\$4,800,264.25	\$4,509,424.20
Operating expenses, including maintenance and taxes	2,187,742.52	1,663,177.39
Net income	\$2,612,521.73	\$2,846,246.81
Reserve for replacements and contingencies	364,807.57	359,551.54
Net earnings	\$2,247,714.16	\$2,486,695.27
Interest and preferred dividends	1,329,533.49	1,287,500.00
Net on com. stock.	\$918,180.67	\$1,199,195.27
Per cent on common stock	8.58	11.21
Dividends on common stock at the rate of 7 per cent, aggregating \$749,000, were paid during the year 1917.		

CONDENSED BALANCE SHEET AS AT DECEMBER 31.

<i>Assets.</i>		1917.
Plant and investment.....		\$38,364,763.01
Stores		696,242.50
Cash		106,069.22
Accounts receivable		795,944.27
Total assets		\$39,963,019.00
<i>Liabilities.</i>		
Common stock		\$10,700,000.00
Preferred stock		2,500,000.00
First mortgage 5% bonds.....		10,000,000.00
Ref. and ext. mtge 5% bonds....		10,000,000.00
Five per cent debentures.....		3,850,000.00
Bills and accounts payable.....		1,046,546.17
Liabilities, accrued, not due.....		396,821.64
Reserves		1,128,784.94
Reserve, common stock, dividend fund		159,274.27
Surplus		181,591.98
Total liabilities		\$39,963,019.00



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard Garage Heater of North America.

Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

CONSTRUCTION.—During the year 1917 the company expended \$704,903.91 for extensions and improvements. The net increase in this account during the year was \$540,229.33. The difference, amounting to \$164,674.58, covers the cost value of property written off from the plant account during the year.

The following covers the more important additions made during the year:

At Station "A," gas producers of the latest approved type were installed on 20 benches of 8's in the Convent street house. Two DeBrower charging and two DeBrower discharging machines, and other miscellaneous apparatus, were also installed at this plant.

At Station "B," ammonia concentrator and steel storage tank were installed.

At coke station, a pure benzol plant, to refine light oils, was installed, as well as additional apparatus for handling coal and coke.

At Station "E," a new 4,000-kw. turbo-generator and all necessary condensers and auxiliaries, switching equipment, pipe, valves, fittings etc., were installed. Building was erected at this plant for the installation of voltage regulators and equipment. In addition, automatic feeder regulators, open feed water heater and air compressor, were provided.

The gas distribution system was increased by

the addition of 11 miles of main and 916 new gas services. The net increase in gas customers was 4,347.

The electric distribution system was improved by the undergrounding of wires in certain districts, and extensions were made to care for the new customers added during the year.

In addition, many improvements of lesser importance were made in all departments in continuance of the policy of providing the best service commercially possible to the public and in effecting greater economy and efficiency in operation.

The \$164,674.58 credited to plant account during the year represents the cost value of all condemned mains, meters and services, gas and electric, as well as all other obsolete property written off during 1917.

OFFICERS.—President, C. L. Holman; Vice-President, G. H. Walker; Secretary and Treasurer, W. H. Whitton; Assistant Treasurer, W. S. Dodd; General Manager, C. L. Holman.

DIRECTORS.—D. R. Calhoun, Murray Carleton, W. K. Bixby, C. L. Holman, E. A. Faust, Edw. Mallinckrodt, Birch O. Mahaffey, James E. Smith, R. H. Stockton, G. H. Walker, Rolla Wells, Thos. H. West, F. O. Watts.

Company's fiscal year ends December 31.

THE ST. LOUIS COUNTY GAS COMPANY, ST. LOUIS, MO.

General Office, Webster Groves, Mo.

The St. Louis County Gas Co. was incorporated in 1912 under the laws of Missouri and does the entire gas business in St. Louis County.

FRANCHISES.—The principal franchise of the Company, namely, that for the County of St. Louis, extends, in the opinion of counsel, until February 3, 1954. The Company has a number of other franchises in the various municipalities served.

CAPITALIZATION.—Capital stock outstanding, \$700,000.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold, authorized, \$30,000,000; outstanding, \$920,000; dated April 1, 1912; due April 1, 1951; interest payable April 1 and October 1. Coupon bonds, denomination, \$1,000 and \$100, registerable as to principal. Optional at 105 and interest on April 1, 1917, or any interest date thereafter. Trustee of Bonds, Harris Trust & Savings Bank, Chicago, and Festus J. Wade, Esq., St. Louis.

SECURITY.—These bonds are secured, in the opinion of counsel, by a first and only mortgage on the property, rights and franchises of the Company, now owned or hereafter acquired.

INCOME ACCOUNT, YEAR ENDED DECEMBER 31, 1917.

Operating revenues	\$324,600.72
Operating expenses	212,143.23
Depreciation	21,536.71
Taxes	8,115.00

Net operating revenues	\$82,805.78
Non-operating revenues	26,168.48

Gross income	\$108,974.26
Interest charges deductions	46,512.58

Net income	\$62,461.68
------------------	-------------

OFFICERS.—President, J. D. Mortimer; Vice-President, C. S. Ruffner; Secretary, J. F. Fogarty; Treasurer, Robt. Sealy; Assistant Secretary, S. H. Wallace; Assistant Treasurer, G. B. Blake; Vice President and General Manager, Louis H. Egan.

DIRECTORS.—Louis H. Egan, Edwin Gruhl, James D. Mortimer, Charles S. Ruffner, S. H. Wallace.

UNITED STATES PUBLIC SERVICE CO., ST. LOUIS, MO.

Principal address, 750 Railway Exchange Building.

The United States Public Service Co. sells either electricity, gas, water or steam heat in the following cities: St. Louis and St. Louis County, Mo.; Cape Girardeau, Chaffee, Charleston, Dexter, Fornfelt, Illmo, Morehouse, Poplar Bluff, Sikeston, Webb City and Cartersville, Mo.;

Danville and Paris, Ky.; Mitchell, S. D.; Monmouth, Ill.; Oberlin and Ravenna, Ohio.

The United States Public Service Co. is the holding company. Property operated by The Light & Development Co. of St. Louis.

CAPITALIZATION.—Preferred stock, authorized,

HUNT PIVOTED BUCKET CONVEYORS are reducing coal and coke handling costs in a great many of the largest gas works. Catalogue N15-4 describes the details of design, and shows a number of typical installations. Our engineers are at your service. C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

\$2,500,000; outstanding, \$2,025,000; common stock, authorized, \$7,500,000; outstanding, \$4,555,000.

FUNDED DEBT.—Bonds: 6 per cent collateral first lien gold bonds. Authorized and outstanding, \$2,750,000. Dated February 1, 1917; due February 1, 1927. Interest payable April 1 and October 1 in New York. Guaranty Trust Co., New York, Trustee. Denomination, \$1,000, coupon, with privilege of registration as to principal. Subject to call as a whole or in lots of not less than \$100,000 at 101 and interest on any interest date on four weeks' notice.

FUNDED DEBT.—First lien gold bonds, first series, 6%, outstanding, \$2,750,000; dated Feb. 1, 1917; due, Feb. 1, 1927; interest payable Feb. 1 and Aug. 1 at office of Wm. P. Bonbright & Co., Inc. Denomination, \$100, \$500 and \$1,000. Trustee, Guaranty Trust Co. of New York. Secured by deposit of 2,871,000 of bonds and 3,218,200 of stock of subsidiary companies.

OFFICERS.—President, H. Wurdack; Vice-President, Henry Ittleton; Secretary and Treasurer, Horace W. Beck.

SPRINGFIELD RAILWAY & LIGHT COMPANY, SPRINGFIELD, MO.

The Springfield Railway & Light Co. was incorporated in November, 1905, under the laws of Maine. It owns the entire capital stock and bonds of the Springfield Traction Co. and the Springfield Gas & Electric Co. These two companies do all the street railway, gas and electric light and power and central station steam heating business of Springfield, Mo.

FRANCHISES.—The street railway franchise expires in 1944, the gas franchise in 1929, the steam heating franchise in 1936 and the electric light franchise is perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 7% cum.	\$2,000,000	\$750,000
Common stock	1,600,000	1,100,000
First lien 15-year 5% sinking fund gold bonds....	7,000,000	2,028,500

In addition to the bonds outstanding, \$211,500 par value have been purchased and are held in the sinking fund, making a total of \$2,240,000 already issued.

FUNDED DEBT.—The bonds are dated May 1, 1911, and will mature May 1, 1926. Interest will be payable May 1 and November 1 in New York, Boston and Chicago. These bonds will be callable as a whole (but not in part except for the sinking fund) at 102 per cent and accrued interest, on any interest day. They will be coupon bonds in denominations of \$500 and \$1,000, with privilege of registration as to principal only.

The issue is limited to \$7,000,000, of which \$2,240,000 are now issued. The remaining bonds can be issued only to the extent of 80 per cent of the cost of additions, extensions, improvements or betterments, and then only if the net earnings for the preceding twelve months shall have been at least twice the amount of annual interest charges on these bonds and all prior issues, including interest on the bonds then proposed to be issued. Guaranty Trust Co. of New York, trustee.

SECURITY.—The bonds are secured by a first mortgage on all the capital stock, mortgage bonds and notes of the two subsidiary companies, making them substantially a first lien on the entire property of the system. No additional stock, bonds, notes or other evidences of indebtedness (other than current operating obligations) can be issued by the subsidiary companies except to the Springfield Railway & Light Co., and all such issues must be pledged under the mortgage securing these bonds.

SINKING FUND.—An annual cash sinking fund (first installment March 1, 1913) provides for the payment of 25 per cent of all bonds issued under this mortgage. Bonds may be purchased for the sinking fund at not exceeding 102 and interest, at which price they may be drawn. Bonds in the sinking fund are to be kept alive and interest added to the fund.

This Company is managed by the Federal Light and Traction Co.

MONTANA POWER COMPANY, BUTTE, MONTANA.

The Montana Power Co. was organized on December 12, 1912, under the laws of New Jersey. It owns in fee all the properties formerly owned by Butte Electric and Power Co., Madison River Power Co., Billings and Eastern Montana Power Co., Missouri River Electric and Power Co., and (former) The Montana Power Co. It also owns all the capital stocks (except directors' qualifying shares) of Great Falls Power Co., Thompson Falls Power Co., and Montana Reservoir and Irrigation Co. It serves with electric light and power the great part of the population of the State of Montana, including the Butte

district and the most important centres of industry in the state. Its business is well diversified.

FRANCHISES are either unlimited in point of time or for long periods and are free from burdensome restrictions.

CAPITALIZATION.—Preferred stock outstanding, \$9,700,000; common stock outstanding, \$49,633,300, of which \$14,500,000 becomes dividend bearing by instalments, \$2,500,000 May 1, 1918, and \$3,000,000 on June 2, each year, 1918 to 1921 inclusive. Dividend on preferred stock, 7%; on



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



common, 2% to and including October 1, 1915; 3% (rate of 3% per annum) January 3, 1915, to and including April 1, 1916; 4% (rate of 4% per annum), July 1, October 1, 1916, and January 2 and April 2, 1917; 5% (rate of 5% per annum) July 2, October 1, 1917, and January 2, 1918.

Shares, \$100. Transfer agent, Guaranty Trust Co. of New York. Registrar, United States Mortgage & Trust Co.

FUNDED DEBT.—Bonds: First and refunding mortgage 5% sinking fund gold, authorized \$75,000,000, issued \$17,040,000; dated July 1, 1913; due July 1, 1943; interest payable January 1 and July 1, in New York. Denomination, \$100, \$500 and \$1,000, coupon bonds registerable as to principal; fully registered bonds of \$1,000, \$5,000 and \$10,000 and multiples. \$1,000 coupon and registered bonds are interchangeable. Callable, as a whole, or in part, at 105 and accrued interest on July 1, 1918, or any interest date thereafter. Trustee of bonds, Guaranty Trust Company of New York.

As of January 1, 1918, the outstanding funded debt of the system is:

	Amount.	Annual Int.
Butte Elec. & Power Co.		
1st mtge. 5s.....	\$1,036,000	\$201,800
Madison River Power Co.		
1st mtge. 5s.....	2,151,000	107,550
Montana Power Transmis-		
sion Co. 1st mtge. 5s....	534,000	26,700
Great Falls Power Co. 1st		
mtge. 5s.	4,549,000	†250,000
Total underlying bonds.....	\$11,270,000	\$586,050
Montana Power 1st and		
ref. mtge. 5s.....	17,040,000	\$52,000

Total funded debt.....\$28,310,000 \$1,438,050

† Includes interest on \$451,000 bonds held in sinking fund.

SINKING FUND.—The mortgage provides a cumulative sinking fund of $\frac{1}{2}$ of 1% annually January 1, 1918, to 1922, inclusive, and $\frac{1}{4}$ % annually January 1, 1923, to 1943, inclusive.

These percentages are to be computed on the aggregate amount of bonds of the company (including underlying bonds) and of subsidiary companies outstanding at the date of each sinking fund payment, including as outstanding all bonds held in this sinking fund and all underlying bonds or bonds of subsidiary companies acquired or retired after January 1, 1918, for their respective sinking funds.

The company is to be allowed credit, toward the above sinking fund, for any payments of

sinking funds on underlying bonds, Great Falls Power Co. bonds, and bonds of any other subsidiary companies.

This sinking fund, and its accretions, must be applied to the purchase of the first and refunding mortgage bonds at not exceeding 105 and interest, or to drawing same at that price, if not so purchasable.

This sinking fund will retire or acquire, before maturity, approximately 50% of the total amount of bonds of the system outstanding on January 1, 1918. In addition, it will, of course, acquire a substantial part of the bonds issued after January 1, 1918. It is roughly estimated that prior to the maturity of these bonds in 1943 the sinking funds will have acquired or retired about 40% of the total bond issues of the system up to that date.

SECURITY.

The bonds are secured by mortgage to Guaranty Trust Co. of New York, as Trustee, and cover, by direct lien, all real estate, plants, equipment, rights and franchises now owned or hereafter acquired by The Montana Power Co., together with certain stocks and bonds of other companies.

EARNINGS FOR FISCAL YEAR ENDING DECEMBER 31.

The combined earnings of the companies for 1915 and 1916 are as follows:

	1916	1917
Gross earnings	\$6,244,905	\$6,912,364
Operating exp'ns and taxes	1,491,623	2,023,332
Net earnings	\$4,753,282	\$4,889,032
Interest charges	1,319,735	1,395,605
Surplus over charges....	\$3,433,547	3,493,427
Reserve for depreciation...	350,000	350,000

Surplus

OFFICERS.—President, John D. Ryan; Vice-Presidents, Alfred Jaretski, F. M. Kerr and Frederick Strauss; Secretary and Treasurer, Walter Dutton; Asst. Secretary, S. P. Hogan, and Asst. Treasurer in Montana, J. F. Denison; Asst. Sec'y and Asst. Treasurer, Ernest Shaw; Manager, F. M. Kerr.

DIRECTORS.—John D. Ryan, Alfred Jaretski, Frederick Strauss, Charles H. Sabin, Albert H. Wiggin, S. Z. Mitchell, Charles M. Clark, C. A. Coffin, George F. Canfield, William E. Corey, Marcus Daly, Frederic W. Allen, W. D. Thornton, F. M. Kerr, Henry Seligman, H. P. Whitney, J. G. Schmidlapp, W. K. Whigham, W. S. Brayton, N. Penrose Hallowell.

Annual meeting of stockholders held first Monday in April at Newark, N. J. Company's fiscal year ends December 31.

HELENA LIGHT AND RAILWAY CO., HELENA, MONT.

Principal office: 43 Exchange Place, New York.

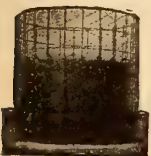
The Helena Light and Railway Co. was incorporated in September, 1905, under the laws of Connecticut, and is a consolidation of all electric lighting, gas and railway companies then in Helena.

FRANCHISES.—Expire April, 1926.

CAPITALIZATION.

	Authorized	Outstanding
Pref. stock, 5% cumulative	\$600,000	\$374,000
Common stock	900,000	561,000

Shares, \$100; transfer agents, Maitland, Coppell & Co.; registrars, Columbia Trust Co., New York.



The cuts at the sides show the first five million cu. ft. holder erected in the United States, over twenty years ago. This size now is the most general for large gas plants.

R. D. WOOD & CO., PHILA., PA.



FUNDED DEBT.—Bonds: First mortgage 5 per cent gold coupon S. F., authorized, \$1,500,000; outstanding, \$1,043,000. Dated September 1, 1905; due September 1, 1925. Interest payable March 1 and September 1 at Columbia Trust Co., New York, trustee. Denomination, \$1,000; coupon. Redeemable at 105 and interest on any interest date. Trustee of bonds: Columbia Trust Co.

SECURITY.—First mortgage on all property of Company.

SINKING FUND.—One and one-half per cent to June, 1918; thereafter at two and one-half per

cent on outstanding bonds. Retirement of bonds at not over 105 and interest: \$182,000 retired.

OFFICERS.—President, P. G. Gossler; Vice-Presidents, Arthur Coppell, J. H. Pardee, R. B. Marchant; Secretary and Treasurer, T. W. Moffatt.

DIRECTORS.—J. G. White, R. B. Marchant, J. H. Pardee, S. Z. Mitchell, P. G. Gossler, Arthur Coppell, J. K. Choate.

Annual meeting of stockholders held first Wednesday in February at Hartford, Conn. Company's fiscal year ends December 31.

LINCOLN GAS AND ELECTRIC LIGHT CO., LINCOLN, NEB.

Controlled by Cities Service Company.

The Lincoln Gas and Electric Light Co. was incorporated in 1901 under the laws of Nebraska, and succeeded the Lincoln Gas and Electric Co.

FRANCHISES.—Granted in 1872; exclusive for 21 years; perpetual thereafter. Electric franchise, perpetual.

CAPITAL STOCK.—\$2,250,000; outstanding, \$2,181,200; par, \$100. No dividends. Transfer office: Henry L. Doherty & Co., 60 Wall St., New York; Citizens Trust and Savings Bank, Columbus, O. Listed on Columbus Stock Exchange.

\$1,500,000 First Consolidated Gold 5s; dated December 1, 1901; due December 1, 1941; inter-

est June and December 1, at Emerson McMillin & Co., 40 Wall St., New York. Coupon, \$100 and \$1,000. Principal may be registered. Authorized, \$1,500,000. Bonds redeemable on or before December 1, 1921, at \$105, and thereafter at \$110.

OFFICERS.—President, Frank W. Frueauff; Vice-President and General Manager, J. E. Harsh; Secretary and Treasurer, O. R. Mallatt; Assistant Treasurer, T. A. Wallace.

DIRECTORS.—Henry L. Doherty, J. E. Harsh, E. C. Strode, S. H. Burnham, Max V. Beghtol, A. H. Armstrong, Homer Honeywell, Frank W. Frueauff, Wm. Raymond.

Annual meeting, first Monday in January.

NEBRASKA POWER COMPANY, OMAHA, NEB.

Nebraska Power Company was incorporated April 23, 1917, under the laws of Maine as a successor company to the Omaha Electric Light & Power Co. The latter company for many years supplied commercial and municipal electric light and power service in Omaha and several suburban towns, and, through its subsidiary, the Citizens Gas and Electric Co. of Council Bluffs, commercial and municipal electric light and power and gas service in Council Bluffs, Iowa. Nebraska Power Co. controls the Citizens Gas & Electric Co. of Council Bluffs through ownership of all its capital stock, except directors' shares.

American Power & Light Co. controls the Nebraska Power Co. through the ownership of all its second preferred stock and a majority of its common stock. The population served by the Nebraska Power Co. (not including Council Bluffs) is estimated at 184,000.

FUNDED DEBT.—Bonds: Omaha Electric Light & Power Co. first mortgage 5 per cent sinking fund 30-year gold; authorized, \$3,000,000; issued, \$3,000,000; dated July 1, 1903; due July 1, 1933. Interest payable January 1 and July 1, at office of trustee, Old Colony Trust Co., Boston, Mass. Denomination, \$1,000; coupon form; can be

registered both as to principal and interest. Redeemable at 105 and interest on any interest date at Old Colony Trust Co., trustee.

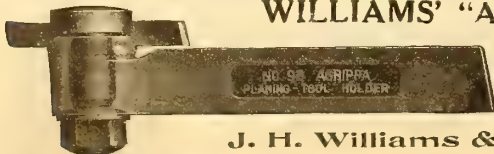
SECURITY.—First lien.

SINKING FUND.—Beginning in 1908 payable each year on or before December 31 until 1931 for the year ending July 31 next preceding date of payment, a sum equal to 5 per cent of the gross earnings of the company.

BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Plants	\$14,936,840.31
Securities of other companies....	685,418.50
Current Assets:	
Cash.....	\$57,015.43
Notes receivable	2,808.38
Accounts receivable ..	334,002.70
Materials and supplies	144,662.76
Contractual advances	7,706.01
Prepaid accounts	13,654.40
	559,849.68
Sinking fund	729,484.30
Suspense	3,728.02
Total	\$16,915,320.81

WILLIAMS' "AGRIPPA" PLANING-TOOL HOLDER



The Planing Tool with thirty-six angles of adjustment may be used on shapers or for heavy turning on lathes.

J. H. Williams & Co., 74 Richards St., B'klyn, N. Y.

Liabilities.

Capital Stock:	
Preferred, 7%	\$3,500,000.00
Second preferred, 7%	1,000,000.00
Common	5,000,000.00
Bonds, Omaha Electric Light & Power Co, 1st mortgage 5%	3,000,000.00
Ten year 5% notes	1,500,000.00
Current Liabilities:	
Notes payable	\$1,257,607.44
Accounts payable ..	398,913.31
Customers deposits..	15,037.10
Accrued accounts ..	61,082.65
	<hr/>
Reserves	*1,732,640.50
	1,067,512.93
Surplus	115,167.38
	<hr/>
Total	\$16,915,320.81

* Of this amount \$797,110.51 is due American Power & Light Co.

OFFICERS.—George H. Harries, President; W. D. McHugh, W. M. Burgess, E. W. Hill, G. E. Clafin and J. E. Davidson, Vice-Presidents; J. E. Davidson, General Manager; S. E. Schweitzer, Secretary and Treasurer; E. G. Cleminson, M. H. Arning, W. C. Lang, Assistant Secretaries and Assistant Treasurers.

DIRECTORS.—Ward M. Burgess, George H. Harries, George W. Holdrege, Joseph H. Millard, William D. McHugh, Casper E. Yost, Joseph Barker, H. A. Holdredge, Thos. C. Byrne, Geo. H. Harries, J. E. Davidson, Gould Deitz, Omaha, Neb.; Geo. E. Clafin, A. S. Grenier, E. W. Hill, A. E. Smith, F. G. Sykes, New York.

EARNINGS.

A statement of earnings for the year ended December 31, 1917, compared with the previous year, follows:

	1917	1916
Gross earnings	\$1,676,288	\$1,566,234
Operating expenses and taxes	1,030,353	913,595
Net earnings	645,935	652,639
	<hr/>	<hr/>
Other income	29,780	26,800
Total income	675,715	679,439
	<hr/>	<hr/>
Total interest charges ...	177,957	113,807
	<hr/>	<hr/>
Income after charges	497,758	565,632
Dividends on preferred stocks	122,500	.....
	<hr/>	<hr/>
Balance	\$375,258	\$565,632

SIERRA PACIFIC ELECTRIC COMPANY, RENO, NEVADA.

This Company owns the capital stock of the companies which do the entire electric lighting and power business in the cities and towns of Reno, Sparks, Virginia City, Carson City and Silver City, Nevada, and furnish power in the surrounding mining districts of Western Nevada. These companies also do the entire gas business in Reno, Sparks and Carson City, and supply water for domestic purposes in Reno and Sparks.

FRANCHISES (subsidiary companies).—Electric lighting and power franchise in Reno and Sparks expires in 1929. Gas and water franchises in Sparks expire in 1955. Other important franchises not limited in time.

Stock.—Shares, \$100 par. Preferred authorized and outstanding, \$3,500,000; redeemable at 115; preferred as to dividends and in case of liquidation. Common, authorized and outstanding, \$3,000,000.

Dividends: Preferred stock, 6% cumulative, payable February 1, May 1, August 1 and November 1.

BONDS.—No bonded indebtedness.

NOTES.—Three-year 5% gold coupon notes, due April 1, 1919.

Outstanding ..	\$350,000
Unissued ..	150,000
	<hr/>
Authorized ..	\$500,000

Issued in exchangeable denominations of \$500 and \$1,000.

Callable as a whole at 100 and interest at any time on 30 days' notice.

Coupons: April 1 and October 1, payable at office of Trustee.

Trustee and registrar of notes, State Street Trust Company, Boston.

EARNINGS AND EXPENSES (COMBINED COMPANIES)
FOR 12 MONTHS ENDING DECEMBER 31, 1917.

Gross earnings	\$681,132.57
Operating expenses and taxes	317,695.66
	<hr/>
Net earnings	\$363,436.91
Interest charges	62,955.85
	<hr/>
Balance	\$300,481.06
	<hr/>
Bond sinking funds	18,992.67
	<hr/>
Balance	\$281,488.39
Dividends, preferred stock 6%	210,000.00
	<hr/>
Bal. for reserves and replacements.	\$71,488.39

OFFICERS.—President, Alfred von der Ropp; Vice-Presidents, W. P. Hammon, F. S. Pratt; Secretary, A. K. Todd; Treasurer, Charles Hayden; Assistant Treasurer, Henry B. Sawyer; under management of Stone & Webster; Manager Operating Company, G. A. Campbell.

Annual meeting third Monday in January.

General managers, Stone & Webster. Transfer agents, Stone & Webster, Boston. Stock registrar, Old Colony Trust Company, Boston.

RELIABLE

“ANGLIRON” RANGES and
“HOT SPOT” HEATERS

Service is essential to business success. It is the combination of quality, efficiency and durability. It is this combination which has placed “ANGLIRON” ranges and “HOT SPOT” heaters into the homes of thousands of satisfied users of gas as a fuel. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

PORTSMOUTH GAS CO. PORTSMOUTH, N. H.

The Portsmouth Gas Co. was incorporated in 1907 under the laws of Maine.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$100,000.00	\$21,100.00
Common stock	100,000.00	100,000.00

FUNDED DEBT.—Bonds: First mortgage bonds, authorized, \$200,000; issued, \$130,000. Dated April 1, 1911; due April 1, 1931. Interest payable April 1 and October 1 at International Trust Co., Boston. Denomination, \$500. Callable at notice, at 105 and interest, on any interest date for sinking fund purposes only; redeemable as a whole also, at same price, on April 1, 1916, or any interest date thereafter.

SECURITY.—First mortgage.

OFFICERS.—President, E. H. Palmer; Secretary, H. K. Seybolt; Treasurer and General Manager, E. Seybolt.

DIRECTORS.—E. Seybolt, E. H. Palmer, H. K. Seybolt, C. J. Root, A. C. Redner.

GENERAL BALANCE SHEET AS OF DECEMBER 31, 1917.

<i>Assets.</i>	
Fixed capital	\$255,932.67
Cash	3,811.67
Stock in treasury	78,200.00
Materials and supplies	10,844.51
Accounts receivable	14,321.44
Other assets	31.05
	<u>\$363,141.34</u>
<i>Liabilities.</i>	
Capital stock	\$200,000.00
Bonds	130,000.00
Bills and accounts payable and other liabilities	25,490.36
Profit and loss	7,650.98
	<u>\$363,141.34</u>

Company's fiscal year ends June 30.

ATLANTIC CITY GAS COMPANY, ATLANTIC CITY, N. J.

1127 Land Title Building, Philadelphia.

The Atlantic City Gas Co. was incorporated in January, 1910, under the laws of New Jersey and is a consolidation of Atlantic City Gas and Water Co. and Consumers Gas and Fuel Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$1,000,000; outstanding, \$1,000,000. Shares, \$100.

FUNDED DEBT.—Bonds: First mortgage 5 per cent sinking fund gold bonds, authorized, \$6,000,000; issued, \$3,374,000. Dated January 1, 1910; due January 1, 1960. Interest payable January 1 and July 1 at Girard Trust Co., Philadelphia, Pa. Denomination, \$500 and \$1,000. Coupon, may be registered as to principal. Redeemable at 105 and interest on January 1, 1920, or any

interest due date thereafter. Trustee of bonds, Girard Trust Co., Philadelphia, Pa.

SECURITY.—First lien on all property now owned or subsequently acquired.

SINKING FUND.—\$25,000 on November 1, 1919, and each November 1 thereafter.

OFFICERS.—President, C. H. Geist; Vice-President, Jos. A. Slattery; Secretary, H. A. Lang; Treasurer, H. A. Lang; Manager, Carlton Geist.

DIRECTORS.—C. H. Geist, J. A. Slattery, H. A. Lang, C. J. Goble, C. H. Weak, Carlton Geist, L. N. Yetter, Leo. O. Greiner, Robt. Wiederwax, W. S. Clement, J. H. Nixon, C. C. St. John and Edmund Mitchell.

Annual meeting of stockholders held first Tuesday in January at Atlantic City, N. J. Company's fiscal year ends December 31.

THE COAST GAS COMPANY, BELMAR, N. J.

Incorporated May 5, 1902. Supplies Ocean Grove, Bradley Beach, Neptune Township, Brielle, Avon, Belmar, Wall Township, Spring Lake, Neptune City, Sea Girt, Point Pleasant, Bay Head and Allenwood; also the Shore Gas Co., at Manasquan, N. J., and the Lakewood Gas Co., at Lakewood, N. J.

CAPITAL STOCK.—Authorized, \$1,000,000; outstanding, \$495,500. Shares, \$100 each. Dividend—1912, 2%; 1913, 3%; 1914, 2%; 1915, 2%; 1916, 2½%. No dividend, 1917.

FUNDED DEBT.—Authorized, \$1,000,000, 5% gold bonds; dated February 1, 1911; due February 1, 1951; interest, February 1 and August 1, at office of the trustee, Commonwealth Title, Insurance & Trust Co., Philadelphia, Pa. Bonds, \$1,000 each. Issued, \$765,000. Subject to call on February 1, 1916, or any interest date there-

after at 105 and interest. Secured by first mortgage on entire property.

Interest payable without deduction of U. S. normal income tax.

GENERAL BALANCE SHEET, DEC. 31, 1917.

<i>Assets.</i>	
Plant and equipment	\$1,101,616.00
Stocks owned	107,734.00
Materials and supplies	23,972.00
Cash on hand	1,976.00
Bills and notes receivable	45,150.00
Current accounts receivable	17,567.00
Other assets	1,367.00
Bond discount	82,075.00
	<u>\$1,381,457.00</u>

The largest gas companies in America regard the GOODMAN STOPPER as an indispensable part of their equipment.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

Liabilities.

Capital stock	\$495,450.00
Bonded debt	765,000.00
Loans and notes payable	43,486.00
Current liabilities	26,255.00
Interest accrued	15,937.00
Deferred credit items	579.00
Accrued amort. of capital	14,560.00
Profit and loss	20,190.00
	<u>\$1,381,457.00</u>

OFFICERS.—Joseph Mayer, President; L. C. Ritchie, Vice-President and Treasurer; J. J. Lyons, Jr., Secretary.

Annual meeting, first Monday in April.

INCOME ACCOUNT.

Gross earnings from gas sales	\$138,021.00
Operating expenses and taxes	91,898.75
	<u>46,122.25</u>
Other income	7,170.91
	<u>53,293.16</u>
Bond interest	\$38,250.00
Interest on notes	2,545.90
Bond discount	2,480.88
Depreciation	8,000.00
Bad debts	111.18
Dividend. (none)	
	<u>51,387.96</u>
Gain for year	\$1,905.20

ELIZABETHTOWN GAS LIGHT CO., ELIZABETH, N. J.

The Elizabethtown Gas Light Co. was incorporated in February, 1855, under the laws of New Jersey, and controls through stock ownership: Cranford Gas Light Co., Rahway Gas Light Co. and Metuchen Gas Light Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Common stock, authorized, \$300,000; outstanding, \$300,000.

Dividend on common stock, annual rate, 10%, payable quarterly.

FUNDED DEBT.—Bonds: Refunding first mortgage, authorized, \$200,000; issued, \$200,000. Dated January 1, 1913; due January 1, 1933. Interest payable July 1 and January 1 at Bankers Trust Co. of New York. Denomination, \$1,000; registered form. Redeemable at Bankers Trust Co. of New York on any interest date

at 105 per cent. Trustee of bonds: Bankers Trust Co. of New York.

SECURITY.—First lien on all of the assets of the Company.

SINKING FUND.—None. (To pay bonds issued January 1, 1893.)

OFFICERS.—President, Julian H. Kean; Secretary, Francis Engel; Treasurer, Julian H. Kean; Superintendent, Francis Engel.

DIRECTORS.—Julian Kean, Hamilton F. Kean, Alexander L. Kean, John Kean, John W. Whelan.

Annual meeting of stockholders held Monday before second Tuesday in November at the office of the Company.

Company's fiscal year ends October 31.

LAKEWOOD GAS COMPANY, LAKEWOOD, N. J.

Incorporated April 21, 1889. Supplies Lakewood, N. J.

CAPITAL STOCK.—Authorized and outstanding, \$100,000. Par, \$100 per share. Transfer office, Lakewood, N. J. Stock control is held by the Coast Gas Co., Belmar, N. J. No dividends.

FUNDED DEBT.—Authorized and issued, \$100,000. First mortgage 5% gold bonds; dated May 1, 1889; due May 1, 1939. Interest payable May 1 and November 1, at office of the trustee, The Lakewood Trust Co., Lakewood, N. J. A first lien on all property of the company. Normal income tax deducted from interest.

INCOME ACCOUNT.

Gross earnings from gas sales	\$32,829.02
Operating expenses and taxes	24,795.27
	<u>8,033.75</u>
Other income	960.12
	<u>\$8,993.87</u>
Less interest	\$9,718.52
Depreciation	984.87
Bad debts	1,214.56
	<u>\$11,917.95</u>
Loss for year	\$2,924.08

GENERAL BALANCE SHEET, DEC. 31, 1917.

Assets.

Plant and equipment	\$261,993.00
Materials and supplies	3,386.00
Cash	830.00
Accounts receivable	7,112.00
Other assets	1,389.00
Profit and loss	16,941.00
	<u>\$291,651.00</u>

Liabilities.

Capital stock	\$100,000.00
Bonded debt	100,000.00
Bills payable	82,219.00
Vouchers payable	4,377.00
Interest accrued	833.00
Deferred credit items	1,847.00
Accrued amortization of capital (for depreciation)	2,375.00
	<u>\$291,651.00</u>

OFFICERS.—Joseph Mayer, President; J. J. Lyons, Jr., Vice-President; L. C. Ritchie, Secretary and Treasurer; A. H. Osborn, Assistant Secretary and Assistant Treasurer.

Annual meeting, third Tuesday in May.

Recording Calorgraph automatically and constantly records the calorific power of any gas in gross or net heat units, with 60 - day or 24 - hour charts. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

CONSOLIDATED GAS CO. OF NEW JERSEY, LONG BRANCH, N. J.

The Consolidated Gas Co. of New Jersey was incorporated in 1895, under the laws of New Jersey, and is a consolidation of Long Branch Gas Light Co. and Long Branch Electric Light Co.

FRANCHISES.—Fourteen franchises, mostly perpetual.

CAPITALIZATION.—Capital stock outstanding, \$1,000,000. Shares, \$100. Transfer agents, Emerson McMillin & Co. Registrars, American Light and Traction Co.

FUNDED DEBT.—Bonds: First consol. mtge. 5s, authorized, \$1,000,000; issued, \$1,000,000. Dated January 1, 1896; due January 1, 1936. Interest payable January 1 and July 1 at Emerson McMillin & Co. Denomination, \$1,000; registerable as to principal. Callable at 110 and interest on any interest date at Knickerbocker Trust Co., New York, trustee.

Bonds: First refund gold 5s, authorized, \$5,000,000; issued, \$700,000; dated April 1, 1915; due, April 1, 1965. Interest payable April 1 and October 1 at Emerson McMillin & Co. Denomination, \$1,000; registerable as to principal. Redeemable at 110 and interest on any interest date. Trustee of bonds, Bankers Trust Co., New York, and F. N. B. Close.

OFFICERS.—President, Alanson P. Lathrop; Vice-Presidents, Philip Lehman, F. R. Cutcheon; Secretary, H. N. McKaig; Treasurer, C. H. Irwin; Manager, F. R. Cutcheon.

DIRECTORS.—Alanson P. Lathrop, Philip Lehman, Gustavus Maas, Emerson McMillin, C. N. Jelliffe, Marion McMillin, Jacob Steinbach, F. W. Hope, F. R. Cutcheon.

Annual meeting of stockholders held in July at Long Branch, N. J.

Company's fiscal year ends December 31.

PUBLIC SERVICE CORPORATION OF NEW JERSEY.

General Office, 80 Park Place, Newark, N. J.

ORGANIZATION.—Incorporated May 6, 1903, under the laws of the State of New Jersey under a perpetual charter, and operates through the medium of subsidiary corporations, all the gas, electric and street railway business throughout the larger cities and more populous districts of the State, excepting the shore resorts, the gas business in the City of Elizabeth and the street railway business in the City of Trenton. The corporation serves a population of 2,126,899 in the railway branch of its business, 2,033,027 in its gas branch, and 2,196,081 in its electric branch.

The corporation owns every share of stock (excepting directors' shares) of Public Service Electric Co., which operates, under lease, all the electric properties controlled by the corporation. It owns every share of stock (excepting directors' shares) of Public Service Gas Co., which operates, under lease, all the gas properties controlled by the Corporation. It owns 99.96 per cent of the \$48,750,000 par value of stock of Public Service Railway Co., which operates directly or under lease all the street railways controlled by the Corporation. The Corporation also owns all the stock (excepting directors

shares) of the Middlesex Electric Light & Power Co., the Nichols Electric Light & Power Co. of Nutley, N. J.; Citizens' Electric Light, Heat & Power Co., Perth Amboy, N. J.; Burlington Electric Light & Power Co., Weehawken Contracting Co., Morristown Gas Light Co., Public Service Railroad Co., and 98.02 per cent of the \$20,000,000 par value of stock of United Electric Co. of New Jersey, 97.85 per cent of the \$2,500,000 par value of the common stock of the New Jersey & Hudson River Railway & Ferry Co., 94.57 per cent of the \$122,500 par value of the stock of the Princeton Light, Heat & Power Co., 92.35 per cent of the \$1,000,000 par value of stock of Orange & Passaic Valley Railway Co., and 93.66 per cent of the \$112,000 par value of stock of the Shore Lightening Co.

CAPITALIZATION.—Capital stock authorized \$50,000,000, outstanding December 31, 1917, \$29,999,600. Par, \$100. Transfer agents, Guaranty Trust Co., New York City; office of the Company, Newark, N. J. Listed on New York Stock Exchange. Registrars, Bankers Trust Co., New York City; Fidelity Trust Co., Newark, N. J.

Stocks of the various companies have been exchanged for certificates on the following basis:

	Total Stock	Total Stock Deposited	New Certificates	Total Certificates of All Stock Exchanged
*North Jersey Street Railway Co.....	\$15,000,000	\$14,994,400	40%	\$6,000,000
*Jersey City, Hoboken & Paterson Street Railway Co.	20,000,000	19,984,600	35%	7,000,000
*Elizabeth, Plainfield & Central Jersey Railway Co.	3,000,000	3,000,000	30%	900,000
Orange & Passaic Valley Railway Co.....	1,000,000	923,500	30%	300,000
United Electric Co. of New Jersey.....	20,000,000	19,604,500	30%	6,000,000
Total		\$58,507,000		\$20,200,000

* Merged in Public Service Railway Co.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street

PHILADELPHIA, PA.

These certificates were issued in exchange for stock of United Electric Co. of New Jersey, The Orange & Passaic Valley Railway Co. and of certain other companies out of which the Public Service Railway Co. was subsequently formed (viz.: The North Jersey Street Railway Co., Jersey City, Hoboken & Paterson Street Railway Co., and Elizabeth, Plainfield & Central Jersey Railway Co.).

Quarterly dividends of 1 per cent were paid from June 29, 1907, to June 30, 1909, inclusive; $1\frac{1}{4}$ per cent from June 30, 1909, to December 31, 1910, inclusive; $1\frac{1}{2}$ per cent from March 31, 1911, to September 30, 1915. On December 31, 1915, and March 31, 1916, $1\frac{3}{4}$ per cent was paid; 2 per cent quarterly since that time.

BONDED DEBT.—\$20,050,770 perpetual interest bearing certificates, dated June 1, 1903; interest payable May 1 and November 1 at Fidelity Trust Co., trustee, at 3 per cent semi-annually hereafter, perpetually. Authorized issue, \$20,000,000.

\$50,000,000 general mortgage sinking fund gold 5s, dated October 1, 1909; due October 1, 1959; interest April 1 and October 1, at Fidelity Trust Co., Newark, trustee, or at J. P. Morgan & Co., New York City. Listed on New York and Philadelphia Exchanges. Coupon, \$1,000; principal may be registered. Authorized, \$50,000,000.

\$10,000,000 of these bonds are deposited as collateral to \$7,500,000 5 per cent three-year collateral gold notes due March 1, 1919, and \$2,500,000 are deposited as collateral to a \$2,000,000 6 per cent note.

These bonds are secured by:

(1) A first lien upon leases for at least 900 years from their respective dates on all the gas and electric properties, the franchises of which are perpetual, except as to a few minor grants.

(2) A first lien upon \$15,019,381.70 par value of bonds of subsidiary companies deposited with the trustee.

(3) A first lien upon \$44,230,983 par value of capital stock of subsidiary companies deposited with the trustee.

(4) A lien upon \$68,007,000 par value of capital stock of subsidiary companies, now owned by the corporation, but subject to a prior pledge thereof under a certain agreement of pledge dated June 1, 1903, made between Public Service

Corporation of New Jersey and Fidelity Trust Co., to secure the payment of the interest upon securities known as Public Service perpetual interest bearing certificates, of which \$20,050,770 are outstanding.

(5) A lien upon all the real estate and personal property of every character now owned by the corporation (particularly described in the mortgage) or that hereafter may be acquired by it.

All bonds have now been certified and issued by the trustee.

CALL PRIVILEGE.—At the option of the corporation, in the manner provided in the mortgage, these bonds are redeemable as a whole (but not in part) on October 1, 1919, or on any interest date thereafter, at 105 and accrued interest.

SINKING FUND.—Commencing August 1, 1913, an annual sinking fund payment of \$209,500 draws bonds at 105 and accrued interest, if not purchasable at a lower price. This annual sinking fund payment, with the accumulations of interest upon the bonds purchased for sinking fund account, will be sufficient to retire about two-thirds of the entire authorized issue of \$50,000,000; the shares and bonds mentioned above pledged under the mortgage should be much more than sufficient to retire any bonds of the entire \$50,000,000 issue not retired by the cash sinking fund and its accumulations. A reserve for this sinking fund is also required and is being set aside out of the revenues of the corporation. \$1,329,000 were held in Sinking Fund December 31, 1917.

FUND FOR RENEWALS, DEPRECIATION, ETC.—Under contract with the bankers, dated September 27, 1909, the Company is required to provide out of earnings, for rehabilitation, renewals and depreciation, other than customary and proper maintenance charges, and for construction, extensions or acquisition of property, a reserve as follows, viz.:

In 1911	\$400,000
1912	600,000
1913	800,000
1914 and each year thereafter.....	1,000,000
Making a total during the period of the mortgage of.....	46,800,000

Under certain contingencies after 1914 this fund may be increased until the maximum of \$1,500,000 for the year is reached.

COMBINED RESULTS OF OPERATIONS OF PUBLIC SERVICE CORPORATION OF NEW JERSEY AND SUBSIDIARY COMPANIES FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1917.

Operating revenue of subsidiary companies.....	\$47,291,342.13
Operating expenses, including amortization charges and taxes	30,539,368.75
Operating income	\$16,751,973.38
Non-operating income	397,706.32
	\$17,149,679.70
Income deductions of subsidiary companies (bond interest, rentals and miscellaneous interest charges).....	12,299,838.17
Net income of subsidiary companies.....	\$4,849,841.53
Public Service Corporation of New Jersey income from securities pledged (exclusive of dividends on stocks of operating companies) and from miscellaneous sources.....	\$1,953,097.19
Less expenses and taxes.....	223,232.19
	1,729,865.00
Net income (carried forward).....	\$6,579,706.53

SERVICE CLEANERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our New American Service Cleaners have been improved and they are now sold generally throughout the country.

DRIP PUMPS

These are made of brass and are exceptionally strong and durable.

Net income (brought forward).....		\$6,579,706.53
Public Service Corporation of New Jersey income deductions:		
Interest charges	\$3,796,631.75	
Amortization of debt, discount and expense.....	159,238.68	
Sinking fund for public service general mortgage 5% bonds...	209,500.00	
Other contractual deductions from income.....	36,936.30	
		4,202,306.73
Net income		\$2,377,399.80
Appropriation accounts of subsidiary companies:		
Amortization of new business expenditures prior to January 1.		
1911	\$40,329.96	
Adjustments of surplus account (credit).....	140,006.69	
		99,676.73
		\$2,477,076.53
Appropriation accounts of Public Service Corporation of New Jersey (exclusive of dividends) (credit)		17,484.77
Net increase in surplus.....		\$2,494,561.30

OFFICERS.—President, Thos. N. McCarter; Vice-Presidents, Percy S. Young, Edmund W. Wakelee, Randal Morgan, Anthony R. Kuser; Treasurer, T. W. Van Middlesworth; Secretary, Percy Ingalls.

DIRECTORS.—Frank Bergen, Samuel T. Bodine, Walton Clark, Forrest F. Dryden, James P. Dusenberry, J. Horace Harding, Wm. C. Heppenheimer, Edwin W. Hine, Anthony R. Kuser, Lewis Lillie, Horatio G. Lloyd, Thomas N. McCarter, Uzal H. McCarter, Randal Morgan, William Schoerer, Garret A. Hobart, Edmund W. Wakelee, Percy S. Young.

PUBLIC SERVICE GAS COMPANY.

Public Service Gas Co. was incorporated in New Jersey by a special act of the Legislature approved April 4, 1873, under the name of Oxy-Hydrogen Co. of the United States. Name changed to Public Service Gas Co. by certificate filed August 26, 1909.

On October 1, 1909 (concurrent with the execution of Public Service Corporation of New Jersey mortgage), Public Service Corporation of New Jersey assigned the leases made to it by Essex & Hudson Gas Co., The East Newark Gas Light Co. and Hudson County Gas Co., and properties and franchises thereby granted, to Public Service Gas Co., and also, by the same instrument, assigned the leases made by South Jersey Gas, Electric & Traction Co., The Paterson & Passaic Gas & Electric Co., Somerset, Union & Middlesex Lighting Co. and The Gas & Electric Co. of Bergen County, together with the properties and franchises thereby granted in so far as such properties and franchises were used in or related to the manufacture and distribution of gas. On July 1, 1910, Public Service Gas Co. leased the Morristown Gas Light Co. and Ridge-wood Gas Co., each for a period of 999 years from that date, and on May 1, 1911, leased the properties and franchises of the Shore Lighting Co. and Princeton Light, Heat & Power Co., each for a period of 900 years from that date, in so far as such properties and franchises were used in or related to the manufacture and distribution of gas.

Stock, \$30,000,000; \$13,600,000 outstanding: all owned by Public Service Corporation of New Jersey, except directors' shares.

Stock will be issued from time to time at par to Public Service Corporation of New Jersey only for cash or for improvements at actual cost thereof.

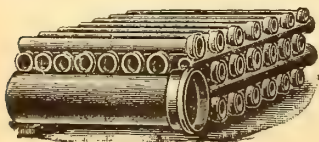
OFFICERS.—President, T. N. McCarter; Vice-Presidents, P. S. Young, E. W. Wakelee; Treasurer, T. W. Van Middlesworth; Vice-President and Gen. Mgr., H. D. Whitcomb; Secretary, Percy Ingalls.

COMPANIES LEASED BY PUBLIC SERVICE GAS COMPANY.

(1) **ESSEX & HUDSON GAS CO.**—Organization: Incorporated in November, 1898, in New Jersey, and on December 1, 1898, assumed the lease of Newark Consolidated Gas Co. to United Gas Improvement Co. for 999 years from December 1, 1898. Essex & Hudson Gas Co. was leased to Public Service Corporation of New Jersey for 900 years from June 1, 1903, and lease assigned October 1, 1909, to Public Service Gas Co. Lease provides for payment, as rental, an amount equivalent to the following dividend on stock: First year, 3½ per cent; second year, 4½ per cent; third year, 5 per cent; fourth year, 6 per cent; fifth year, 7 per cent; sixth year and thereafter, 8 per cent. Stock authorized and outstanding, \$6,500,000.

OFFICERS.—President, Walton Clark; Secretary, Percy Ingalls; Treasurer, Jas. Ball.

(a) **NEWARK CONSOLIDATED GAS CO.**—Organization: Incorporated November 30, 1898, in New Jersey. Consolidation of Newark Gas Co., Montclair Gas & Water Co., Summit Gas Light Co., People's Gas Co. of Irvington, and Clinton Gas Co. Owns entire capital stock of Orange Gas Light Co. and practically all the stock of the East Newark Gas Light Co. Leased all its property to United Gas Improvement Co. of Philadelphia, Pa., for 999 years from December 1, 1898, and on same date lease was assigned to Essex & Hudson Gas Co., and by last-named company to Public Service Gas Co. October 1, 1909. Lease provides for payment, as rental, interest on bonded debt and an amount equal to the following dividend on stock: Commencing, ½ per cent July 1, 1909, and increasing ½ per cent yearly until 5 per cent is reached in 1910; thereafter 5



CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

per cent per annum. Stock authorized and outstanding, \$6,000,000.

Bonds.—Newark Consolidated Gas Co. 5 per cent consolidated mortgage, due December 1, 1948. Fidelity Trust Co., trustee; interest payable June and December; authorized, \$10,000,000; outstanding, \$6,000,000; \$4,000,000 are reserved to retire underlying liens.

Newark Gas Co. 6 per cent first mortgage, due April 1, 1944. J. William Clark, Marcus L. Ward, John O. H. Pitney, trustees; interest payable July, October, January and April, at Fidelity Trust Co., Newark. Authorized, \$4,000,000; outstanding, \$3,999,700.

OFFICERS.—President, Thomas N. McCarter; Vice-President, Percy S. Young; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

(2) THE EAST NEWARK GAS LIGHT CO.—Organization: Incorporated March 28, 1862, in New Jersey. Leased to Public Service Corporation of New Jersey for 999 years from September 1, 1909, and lease assigned October 1, 1909, to Public Service Gas Co. Lease provides for payment, as rental, an amount equivalent to 6 per cent on stock. Stock, \$60,000 (\$25); all out; no bonds. Stock is owned by Essex & Hudson Gas Co., Newark Consolidated Gas Co. and Public Service Corporation of New Jersey.

OFFICERS.—President, T. N. McCarter; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

(3) HUDSON COUNTY GAS CO.—Organization: Incorporated October 31, 1899, in New Jersey, and is a consolidation of Peoples Gas Light Co. of Jersey City, Jersey City Gas Light Co., Consumers Gas Co. of Jersey City, Hudson County Gas Light Co., Bayonne and Greenville Gas Light Co. Leased to Public Service Corporation of New Jersey for 900 years from June 1, 1903, and lease assigned October 1, 1909, to Public Service Gas Co. Lease provides for payment, as rental, interest on bonded debt and an amount equivalent to the following dividend on stock: First year 2 per cent; second year, 2½ per cent; third year, 3 per cent; fourth year, 4 per cent; fifth year, 5 per cent; sixth year, 6 per cent; seventh year, 7 per cent; eighth year and thereafter, 8 per cent. Stock authorized and outstanding, \$10,500,000.

Bonds.—Hudson County Gas Co. 5 per cent first mortgage, due November 1, 1949. New Jersey Title Guarantee & Trust Co., trustee. Interest payable May and November. Authorized, \$10,500,000; outstanding, \$10,500,000.

OFFICERS.—President, Walton Clark; Secretary, Percy Ingalls; Treasurer, Jas. Ball.

(4) RIDGEWOOD GAS CO.—Organization: Incorporated April 24, 1900, in New Jersey. Leased to Public Service Gas Co. for 999 years from July 1, 1910. Lease provides for payment, as rental, interest on bonded debt and an amount equivalent to 2 per cent on stock. Stock authorized and outstanding, \$100,000.

Bonds.—Ridgewood Gas Co. 5 per cent first mortgage, due June 1, 1925. Equitable Trust Co., trustee. Interest payable June and December. Authorized and outstanding, \$100,000.

Ridgewood Gas Co. 5 per cent second mortgage, due April 1, 1925. Fidelity Trust Co., Newark, trustee. Interest payable April and October. Authorized, \$100,000; outstanding, \$85,000.

OFFICERS.—President, Thomas N. McCarter; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

(5) MORRISTOWN GAS LIGHT CO.—Organization: Incorporated in February, 1855, in New Jersey. In 1910, Public Service Corporation of New Jersey acquired all the capital stock of this company. Leased to Public Service Gas Co. for 999 years from July 1, 1910. Lease provides for payment, as rental, an amount equal to 5 per cent on outstanding stock. Stock outstanding, \$367,500 (\$100), all owned by Public Service Corporation of New Jersey excepting directors' shares. No bonds.

OFFICERS.—President, T. N. McCarter; Vice-Presidents, P. S. Young, E. W. Wakelee; Treasurer, T. W. Van Middlesworth; Secretary, Percy Ingalls.

(6) NEW BRUNSWICK LIGHT, HEAT & POWER CO.—Organization: Incorporated December 7, 1899, in New Jersey. Owns all the stock of the Gas Light Co. of the City of New Brunswick except directors' shares. See latter company below. Stock authorized, \$500,000; outstanding, \$400,000.

Bonds.—New Brunswick Light, Heat & Power Co. 4 per cent first mortgage, due December 15, 1939. Fidelity Trust Co., Newark, trustee. Interest payable June and December. Authorized, \$500,000; outstanding, \$500,000.

(a) THE GAS LIGHT COMPANY OF THE CITY OF NEW BRUNSWICK.—Organization: Incorporated March 18, 1851, in New Jersey. Leased to the Public Service Corporation of New Jersey for 900 years from January 1, 1905 (June 1, 1906, lease assigned to South Jersey Gas, Electric & Traction Co.). This Company is now controlled by Public Service Gas Co. by reason of assignment of lease of gas properties of South Jersey Gas, Electric & Traction Co. to Public Service Gas Co. Lease provides for payment, as rental, interest on bonded debt of New Brunswick Light, Heat and Power Co. and an amount equivalent to the following dividend on stock of the Gas Light Co. of the City of New Brunswick: 2 per cent in each of the years 1905 and 1906, 2½ per cent in 1907 and 1908, 3 per cent in 1909 and 1910, 3½ per cent in 1911, 4 per cent in 1912, 4½ per cent in 1913 and 5 per cent in 1914 and thereafter. Stock, authorized, \$500,000; outstanding, \$400,000.

OFFICERS.—President, Thomas N. McCarter; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

COMPANIES LEASED BY PUBLIC SERVICE GAS COMPANY AND PUBLIC SERVICE ELECTRIC COMPANY.

(1) THE PATERSON & PASSAIC GAS & ELECTRIC CO.—Organization: Incorporated February 28, 1899, in New Jersey, and is a merger of Peoples Gas Light Co. of the City of Paterson, Paterson Gas Light Co., Edison Electric Illumi-

INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



nating Co. of Paterson, Passaic Lighting Co., Lodi Light, Heat and Power Co., Passaic and Bergen Gas Co. Leased to Public Service Corporation of New Jersey for 900 years from June 1, 1903, and so much of lease as relates to manufacture and distribution of gas assigned October 1, 1909, to Public Service Gas Co., and on July 1, 1910, so much of lease as relates to the generation or manufacture and distribution of electrical energy assigned to Public Service Electric Co. Lease provides for payment, as rental, interest on bonded debt, and an amount equivalent to the following dividend on stock: First year, $1\frac{1}{2}$ per cent; second year, 2 per cent; third year, $2\frac{1}{2}$ per cent; fourth year, 3 per cent; fifth year, $3\frac{1}{2}$ per cent; sixth year, 4 per cent; seventh year and thereafter, 5 per cent. Stock authorized and outstanding, \$5,000,000; \$269,700 owned by Public Service Corporation of New Jersey.

Bonds.—Paterson & Passaic Gas & Electric Co. 5 per cent consolidated mortgage, due March 1, 1949. The Paterson Safe Deposit & Trust Co., trustee. Interest payable September and March. Authorized, \$5,000,000; outstanding, \$4,049,000; \$951,000 reserved to retire bonds of Edison Illuminating Co., Passaic Gas Light Co. and Passaic Lighting Co., which see below.

Edison Electric Illuminating Co. of Paterson 5 per cent first mortgage, due July 1, 1925. The Paterson Safe Deposit & Trust Co., trustee. Interest payable January and July. Authorized \$600,000; outstanding, \$585,000.

Passaic Gas Light Co. 6 per cent first mortgage, due June 1, 1922. The Paterson Savings Institution, trustee. Interest payable June and December. Authorized and outstanding, \$50,000.

Passaic Lighting Co. 5 per cent consolidated mortgage, due May 1, 1925. Guaranty Trust Co., trustee. Interest payable May and November. Authorized, \$450,000; outstanding, \$316,000.

OFFICERS.—President, Walton Clark; Secretary, Percy Ingalls; Treasurer, James Ball.

(2) **SOUTH JERSEY GAS, ELECTRIC & TRACTION Co.**—Organization: Incorporated August 31, 1900, in New Jersey, and is a consolidation by merger of Camden Gas Light Co., Camden Gas Light & Fuel Co., Camden & Burlington Gas & Electric Co., East Side Gas Co., Gloucester City Electric Light Co., of Camden County, The Consumers Gas Co. of Woodbury, The Woodbury Electric Light & Power Co., Camden Lighting & Heating Co., Trenton Gas & Electric Co., River Shore Gas Co., The Burlington Gas Light Co., The Gloucester City Gas Light Co., The Bordentown Gas Light Co., Camden Gas Co., Stockton Electric Light & Power Co., The Beverly City & Township Gas & Water Co., Suburban Improvement Co. Controls through stock ownership Peoples Gas Improvement Co. of Trenton, Wood Lynne Park Association, Camden Coke Co., Camden, Gloucester & Woodbury Railway Co., and on June 1, 1906, assumed the lease of the Gas Light Co. of the City of New Brunswick to Public Service Corporation of New Jersey. It leased Camden, Gloucester & Woodbury Railway Co. for 999 years from September 1, 1900, which lease was assigned to Public Service Corporation of New Jersey De-

cember 22, 1905, and reassigned to Public Service Railway Co., September 24, 1907. It also leased the Camden & Suburban Railway Co. for 999 years from May 1, 1904, which lease was assigned to Public Service Corporation of New Jersey July 25, 1904, and reassigned to Public Service Railway Co. September 24, 1907. Leased to Public Service Corporation of New Jersey for 900 years from June 1, 1903, and so much of lease as relates to street railway properties, assigned September 30, 1907, to Public Service Railway Co., so much of lease as relates to manufacture and distribution of gas assigned October 1, 1909, to Public Service Gas Co., and on July 1, 1910, so much of lease as relates to the generation or manufacture and distribution of electrical energy assigned to Public Service Electric Co. Lease provides for payment, as rental, interest on bonded debt, and an amount equivalent to the following dividend on stock: First year, $3\frac{1}{2}$ per cent; second year, $4\frac{1}{2}$ per cent; third year, 5 per cent; fourth year, 6 per cent; fifth year, 7 per cent; sixth year and thereafter, 8 per cent. Stock authorized and outstanding, \$6,000,000.

Bonds.—South Jersey Gas, Electric & Traction Co. 5 per cent first mortgage, due March 1, 1953. Fidelity Trust Co., Newark, trustee. Interest payable September and March. Authorized, \$15,000,000; outstanding, \$12,892,000; \$3,507,000 owned by Public Service Corporation of New Jersey; \$2,108,000 are reserved to retire bonds of Burlington Gas Light Co. and Trenton Gas & Electric Co., which see below.

Burlington Gas Light Co. 5 per cent first mortgage, due May 1, 1921. Burlington City Loan & Trust Co., trustee. Interest payable May and November. Authorized and outstanding, \$100,000.

Trenton Gas & Electric Co. 5 per cent first mortgage, due March 1, 1949. Equitable Trust Co., trustee. Interest payable March and September. Authorized and outstanding, \$2,000,000.

OFFICERS.—President, Thomas N. McCarter; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

(3) **SOMERSET, UNION & MIDDLESEX LIGHTING Co.**—Organization: Incorporated December 1, 1903, in New Jersey, as a consolidation of Somerset Lighting Co. of Somerville, N. J., Plainfield Gas & Electric Light Co. of Plainfield, N. J., and Citizens' Electric Co. of North Plainfield. On December 31, 1909, Central Electric Co. was also merged in the same. Leased to Public Service Corporation of New Jersey for 900 years from December 31, 1903, and so much of lease as relates to manufacture and distribution of gas assigned October 1, 1909, to Public Service Gas Co., and on July 1, 1910, so much of lease as relates to the generation or manufacture and distribution of electrical energy assigned to Public Service Electric Co. Lease provides for payment, as rentals, interest on bonded debt, and an amount equivalent to the following dividend on stock: December 1, 1905, 1 per cent; December 1, 1906, $1\frac{1}{2}$ per cent; December 1, 1907, 2 per cent; December 1, 1908, $2\frac{1}{2}$ per cent; December 1, 1909, 3 per cent; December 1, 1910, $3\frac{1}{2}$ per cent; December 1, 1911, and thereafter, 4 per



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

cent. Stock authorized and outstanding, \$1,050,000; \$422,400 owned by Public Service Corporation of New Jersey.

Bonds.—Somerset, Union & Middlesex Lighting Co. 4 per cent first mortgage, due December 1, 1943. Fidelity Trust Co., Newark, trustee. Interest payable June and December. Authorized, \$2,750,000; outstanding, \$1,974,372; \$573,182 owned by Public Service Corporation of New Jersey; \$1,128,372 of these bonds have been issued in exchange for the stocks of the companies consolidated, and \$846,000 for extensions and improvements; \$503 is reserved for Central Electric stock not yet acquired; \$775,000 to retire the underlying bonds, and \$125 for future additions and betterments.

Central Electric Co. 5 per cent consolidated mortgage, due July 1, 1940. Fidelity Trust Co., Newark, Trustee. Interest payable January and July. Authorized, \$750,000; outstanding, \$700,000; \$20,200 owned by Public Service Corporation of New Jersey; \$50,000 are reserved to retire a like amount of Edison Electric Illuminating Co. bonds. Central Electric bonds are subject to call after 1905 at 110 and interest.

Edison Electric Illuminating Co. of New Brunswick 6 per cent first mortgage, due June 1, 1918. Benjamin F. Howell, Theo. E. Townsend, trustees. Interest payable June and December. Authorized and outstanding, \$50,000.

Plainfield Gas & Electric Light Co. 5 per cent general mortgage, due April 1, 1940. Guaranty Trust Co., trustee. Interest payable April and October. Authorized, \$500,000; outstanding, \$500,000.

Somerset Lighting Co. 5 per cent first mortgage, due February 1, 1939. Fidelity Trust Co., Newark, trustee. Interest payable February and August. Authorized and outstanding, \$150,000; \$21,000 owned by Public Service Corporation of New Jersey.

OFFICERS.—President, H. G. Runkle; Secretary and Treasurer, H. B. McDonald.

(4) **GAS & ELECTRIC CO. OF BERGEN COUNTY.**—Organization: Incorporated May 31, 1899, in New Jersey, and is a merger of Hackensack Gas & Electric Co., Englewood Gas & Electric Co., Ridgewood Electric Light & Power Co., New York, Rutherford and Suburban Gas Co., Rutherford, Boiling Springs & Carlstadt Electric Co. Leased to Public Service Corporation of New Jersey for 999 years from January 1, 1905, and so much of lease as relates to manufacture and distribution of gas assigned October 1, 1909, to Public Service Gas Co., and on July 1, 1910, so much of lease as relates to the generation or manufacture and distribution of electric energy assigned to Public Service Electric Co. Lease provides for payments, as rentals, interest on bonded debt, and an amount equivalent to the following dividend on stock: Two per cent for first two years, 2½ per cent for the next year, 3 per cent for the next two years, 4 per cent for the next four years, and 5 per cent thereafter. Stock authorized and outstanding, \$2,000,000.

Bonds.—The Gas & Electric Co. of Bergen County 5 per cent general mortgage No. 2, due November 1, 1954. Fidelity Trust Co., Newark, trustee. Interest payable May and November.

Authorized, \$5,000,000; outstanding, \$2,571,000; \$955,000 owned by Public Service Corporation of New Jersey; \$1,538,000 is reserved to retire prior liens as shown below and \$891,000 for future additions and improvements.

The Gas & Electric Co. of Bergen County 5 per cent general mortgage No. 1, due November 1, 1954. Equitable Trust Co., trustee. Interest payable May and November. Authorized, \$5,000,000; outstanding, \$38,000. This mortgage was superseded by general mortgage No. 2, above.

The Gas & Electric Co. of Bergen County 5 per cent consolidated mortgage, due June 1, 1949. Fidelity Trust Co., Newark, trustee. Interest payable June and December. Authorized, \$1,500,000; outstanding, \$1,443,000.

Hackensack Gas Light Co. 5 per cent first mortgage, due July 1, 1934. G. W. Conklin, D. W. Chamberlain, trustees. Interest payable July and January at Fidelity Trust Co., Newark, Trustees. Authorized, \$42,000; outstanding, \$24,000.

Hackensack Gas & Electric Co. 5 per cent general mortgage, due July 1, 1935. G. W. Conklin, E. A. Pearce, trustees. Interest payable January and July at Fidelity Trust Co., Newark. Authorized, \$40,000; outstanding, \$10,000.

Englewood Gas & Electric Co. 5 per cent first mortgage, due January 1, 1939. Geo. W. Conklin, David St. John, trustees. Interest payable January and July. Authorized, \$200,000; outstanding, \$23,000.

OFFICERS.—Vice-President, John C. Eisele; Secretary, Lemuel Lozier; Treasurer, P. S. Young.

(5) **PRINCETON LIGHT, HEAT & POWER CO.**—Organization: Incorporated in New Jersey July 31, 1905, and is a consolidation of Princeton Electric Light Works, Princeton Gas Light Co. and Hopewell Electric Light, Heat & Power Co. Electric properties have been leased to Public Service Electric Co., and gas properties to Public Service Gas Co., the leases being for 900 years from May 1, 1911, and provides for the payment of interest on bonds, and an amount equivalent to 2 per cent per annum on outstanding stock. Stock authorized, \$250,000; outstanding, \$122,500. Public Service Corporation of New Jersey owns \$115,850 of the stock.

Bonds.—Princeton Light, Heat & Power Co. 5 per cent 30-year sinking fund mortgage, due February 1, 1939. Equitable Trust Co. of America, trustee. Interest payable February and August. Authorized, \$250,000; outstanding, \$178,500. Redeemable on any interest day at 105 and interest. Sinking fund, 4 per cent of gross earnings, begun in 1910.

OFFICERS.—President, T. N. McCarter; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

(6) **SHORE LIGHTING CO.**—Organization: Incorporated March 21, 1911, in New Jersey, and is a consolidation of Shore Electric Co., Sea Bright Electric Light Co. and Citizens' Light & Fuel Co. of South Amboy. The electric properties have been leased to Public Service Electric Co., and the gas properties to Public Service Gas Co.;

HUNT COAL AND COKE VALVES—simplex, duplex, Seaton or "S," Briggs, etc., especially designed for controlling coal and coke, movement in gas works are described in detail in Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

the leases are for 900 years from May 1, 1911, and provide for payment of interest on bonds and an amount equivalent to 5 per cent per annum on the authorized stock. Stock authorized and outstanding, \$112,000. \$104,900 owned by Public Service Corporation of New Jersey.

Bonds.—Shore Lighting Co. 5 per cent first

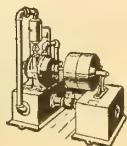
mortgage, due April 1, 1951. Fidelity Trust Co., Newark, trustee. Interest payable April and October. Authorized and outstanding, \$400,000.

OFFICERS.—President, T. N. McCarter; Secretary, Percy Ingalls; Treasurer, T. W. Van Middlesworth.

PUBLIC SERVICE GAS COMPANY

BALANCE SHEET, DECEMBER 31, 1917.

Fixed Capital:	Assets.	
Balance December 31, 1916.....	\$12,206,933.81	
Construction—year ending December 31, 1917.....	1,814,672.35	
Total	\$14,021,606.16	
Less property written off during year.....	257,824.77	
Balance December 31, 1917.....		\$13,763,781.39
Investments		474,474.20
Sinking funds and other special funds.....		14,347.95
Current Assets:		
Materials and supplies.....	\$1,282,627.14	
Cash	582,766.70	
Accounts Receivable:		
Customers	\$1,787,054.61	
Miscellaneous	254,609.82	
	2,041,664.43	
Interest and dividends receivable.....	2,944.55	
Other current assets.....	6,625.00	
		3,916,627.82
Deferred Charges:		
Prepayments	\$38,639.30	
Unamortized debt discount and expense.....	519.90	
Other suspense	68,081.69	
		107,240.89
		\$18,276,472.25
	<i>Liabilities, Capital Stock and Surplus.</i>	
Funded Debt:		
Real estate mortgages.....		\$248,166.67
Bills payable		50,000.00
Advances from other Corporations:		
Public Service Corporation of New Jersey.....		1,700,000.00
Current Liabilities:		
Taxes accrued	\$331,832.16	
Interest accrued	2,507.42	
Other accrued liabilities.....	463,062.92	
Consumers' deposits	792,885.93	
Other accounts payable.....	\$20,592.08	
Other unfunded debt.....	41,971.91	
		2,452,852.42
Reserves:		
Permanent reserves	\$15,378.20	
Accrued amortization of capital.....	165,895.37	
Unamortized premium on debt.....	33.93	
Casualty and insurance reserve.....	33,430.44	
Other optional reserves.....	2,930.44	
		217,668.38
Capital stock		\$13,600,000.00
Corporate Surplus:		
Balance December 31, 1916.....	\$243,711.35	
Net income year ending December 31, 1917.....	600,480.44	
	\$844,191.79	
Sundry deductions from surplus.....	20,407.01	
Total	\$823,784.78	
Less dividends paid during year.....	816,000.00	
Balance of surplus December 31, 1917.....		7,784.78
		\$18,276,472.25



THE SYSTEM THAT STAYS SOLD. THE NEEDHAM HIGH PRESSURE GAS SYSTEM demonstrates by high efficiency other fuels can be permanently displaced without increasing manufacturing costs.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

MUNICIPAL GAS COMPANY OF THE CITY OF ALBANY.

Principal Address, 124-126 State Street, Albany, N. Y.

The Municipal Gas Company of the City of Albany was incorporated in February, 1885, under the laws of New York.

CAPITALIZATION.—Common stock authorized \$10,000,000; outstanding, \$6,000,000; 60,000 shares, \$100 each.

Dividend on common stock, annual rate, 6 per cent, payable quarterly.

REGISTRARS.—National Commercial Bank, Albany, N. Y.

OFFICERS.—President, N. F. Brady; Vice-

President, Carl H. Graf; Secretary and Treasurer, Wm. G. Furlong; General Manager, Carl H. Graf.

DIRECTORS.—Robert C. Pruyn, John A. Delehanty, Edward B. Cantine, John S. McEwan, Charles Gibson, N. F. Brady, J. C. Brady, E. P. Gavit, Edward J. Hussey.

Annual meeting of stockholders held Third Tuesday in May at 126 State Street, Albany, N. Y.

Company's fiscal year ends December 31st.

LONG ISLAND LIGHTING COMPANY, BAY SHORE, LONG ISLAND, N. Y.

Executive Office, 50 Church Street, New York

The Long Island Lighting Company was incorporated December 31, 1910, in New York. Consolidation of Amityville Electric Light Co., Islip Electric Light Co., Northport Electric Light Co., Sayville Electric Light Co., Suffolk Gas and Electric Light Co., and South Shore Gas Co. Also successor by purchase to the Babylon Electric Light Co.

FRANCHISES cover territories of Northport Village, the eastern half of Huntington township, Smithtown township, including the villages of Kings Park, Greenlawn, Smithtown, St. James, Islip township, including the villages of Bay Shore, Islip, East Islip, Brentwood, Central Islip, Sayville, Bayport, Great River and Oakdale; Babylon township, including the villages of Babylon, Lindenhurst, Amityville, Copiague. In addition to the above named territory, which is located in Suffolk county, part of the township of Oyster Bay in Nassau county, including the villages of Massapequa and Farmingdale. All franchises are perpetual, except in Islip, which expires in 1959, and Smithtown, which expires in 1941, and the following franchises, which were granted to the Babylon Electric Light Co., which expire as follows: Village of Babylon, 1958; town of Islip, 1943, and village of Farmingdale, 1958.

Owens electric generating stations at Northport, Amityville, Sayville, Islip, Babylon and Bay Shore; also gas generating stations at Bay Shore and Babylon. It supplies electricity wholesale in Huntington and Port Jefferson, and gas wholesale in Patchogue and serves a population of about 100,000. Has municipal lighting contracts for the villages of Northport, Centerport, Amityville, Islip, Central Islip, East Islip, Sayville, West Sayville, Bayport, Copiague, Babylon and Bay Shore.

CAPITAL STOCK.—Authorized, \$3,000,000 (increased from \$1,000,000 in March, 1917); issued December 31, 1916, \$834,000; par \$100. A dividend of 5.6 per cent was paid in 1912; none in 1913; 4 per cent in 1914; 5½ per cent in 1915; 6 per cent in 1916; 6 per cent in 1917.

BONDED DEBT.—\$1,459,400 first gold 5s; dated March 1, 1911; due March 1, 1936; interest May 1 and September 1 at Bankers Trust Co., New York, trustee, Coupon \$100, \$500 and \$1,000; principal may be registered. Authorized issue \$6,000,000; the remaining bonds are issuable for not to exceed 75 per cent of the cash cost of betterments, extensions and additions, but no bonds in excess of the total of \$1,459,400 may be issued unless (a) the net earnings for the preceding twelve months are at least twice the annual interest charge, including all bonds then about to be certified. The mortgage securing this issue provides for a sinking fund of 1 per cent annually, commencing five years from the date of issuance of bonds, and a betterment and extension fund of the 1 per cent annually commencing three years from the date of issuance of bonds, which fund is to be expended only for improvements and additions to the property, against which improvements and additions no bonds may be issued. Subject to call on any interest date at 105 and interest. An absolute first lien on entire property. Interest paid without deduction for normal income tax.

OFFICERS.—President, Ellis L. Phillips; Vice-President, Geo. W. Olmsted; Secretary, Henry R. Frost; Treasurer, Gurney E. Lott; Auditor, Russell F. Van Doorn; General Manager, Archibald McLaren; Purchasing Agent, Bruce S. Gramley.

DIRECTORS.—Geo. W. Olmsted, Ellis L. Phillips, Gurney E. Lott, Geo. de B. Greene, Eversley Childs.

BINGHAMTON GAS WORKS, BINGHAMTON, N. Y.

The Binghamton Gas Works was incorporated in 1898 under the laws of New York.

FRANCHISES.—Expire in 1947.

CAPITALIZATION.—Capital stock, authorized, \$750,000; outstanding, \$450,000; shares, \$100. Transfer agents, Emerson McMillin & Co., N. Y. Registrars, American Light & Traction Co., 120 Broadway, New York City.

FUNDED DEBT.

Bonds: First mortgage 5s, authorized, \$750,000; issued, \$750,000; dated April 1, 1898; due April 1, 1938. Interest payable April 1 and October 1 at Emerson McMillin & Co., New York. Denomination, \$1,000; registerable as to principal. Redeemable at 110 and interest.

OUR HEAT EXCHANGERS give the greatest efficiency because they embody the principles of high speed counter current flow in thin films.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Trustee of bonds: Central Trust Co., New York.

SECURITY.—First lien.

Bonds: General gold 5s, authorized, \$2,500,000; issued, \$246,000; dated October 1, 1904; due October 1, 1954. Interest payable April 1 and October 1 at Emerson McMillin & Co. Denomination, \$1,000; registerable as to principal. Redeemable at 105 and interest on any interest date. Trustee of bonds: Equitable Trust Co.

OFFICERS.—President, Alanson P. Lathrop;

Vice-President and General Manager, Edwin H. Kifer; Secretary-Treasurer, Robert W. Manier; Assistant Secretary-Treasurer, C. N. Jelliffe.

DIRECTORS.—Emerson McMillin, A. P. Lathrop, J. W. Manier, Geo. F. O'Neil, S. J. Hirschmann, I. T. Deyo, C. M. Stone, W. G. Phelps, E. H. Kifer.

Annual meeting of stockholders held first Monday in June, at 40 Chenango St., Binghamton, N. Y. Company's fiscal year ends December 31.

BROOKLYN BOROUGH GAS COMPANY.

Principal office: Coney Island, Brooklyn, N. Y.

This Company was incorporated February, 1898, in New York State, as successor to the former Coney Island Fuel Gas & Light Co., which in turn succeeded in 1881 to the property and franchise of the old Kings County Gas Light Co., which was incorporated in December, 1877.

The Brooklyn Borough Gas Co. is the only Company furnishing gas in the 31st Ward of the Borough of Brooklyn. The entire field served by the Company is now part of the 16th Assembly District of Greater New York.

The territory embraces Seagate, Gravesend, Sheepshead Bay, Manhattan and Brighton Beaches and Coney Island, and extends northward in the general form of a triangle with its top approximately four miles inland.

FRANCHISE AND CONTRACTS.—The Brooklyn Borough Gas Co.'s franchise is perpetual, and contains no limitations on the price for gas, nor any burdensome restrictions.

CAPITALIZATION.—Capital stock authorized, \$1,000,000; outstanding, \$647,900.

Semi-annual dividend of 3 per cent paid January 20 and July 20.

FUNDED DEBT.

Bonds: First mortgage gold 5s, issued \$500,000; dated March 5, 1898; due March 6, 1938. Interest payable March 1 and September 1. Denomination, \$1,000. Trustee of bonds: Title Guarantee & Trust Co., New York.

SECURITY.—First lien.

Bonds: General mortgage 5 per cent gold, authorized, \$1,000,000; issued, \$500,000; dated June 1, 1905; due June 1, 1945. Interest payable June 1 and December 1 in New York City. Denomination, \$1,000; coupon bonds. Callable at 105 and accrued interest on any interest date.

Trustee of bonds: Title Guarantee and Trust Co., New York City. Reserved to retire a like amount of first 5s, \$500,000.

On January 1, 1917, the company had in use 13,097 meters and on January 1, 1918, 14,770 meters, an increase of 8 per cent. The installation of the new meters cost \$19,505.49, and the new services cost \$11,408.68.

There were laid in 1917 new mains, varying in size from 4 inches to 20 inches, 13,734 feet, or about 2.6 miles, making a total length now in use of 115 miles.

The financial statement of the Company as of December 31, 1917, is as follows:

<i>Assets.</i>	
Fixed capital	\$1,907,871.70
Work in progress	260.27
Cash	41,413.75
Manufacturing materials, appliances, etc.	47,266.36
Accounts receivable	45,938.89
Insurance and rent prepaid	4,970.17
Franchise	168,970.82
Bond discount	45,004.21
Deficit	64,308.69

Total assets\$2,326,004.86

<i>Liabilities</i>	
Capital stock outstanding (7500 shares)	\$750,000.00
Bonds outstanding	1,000,000.00
Accounts payable	32,129.02
Accrued amortization	336,943.16
Meter deposits	106,128.42
Collector of Internal Revenue	222.00
New rate reserve	100,582.26
Total liabilities	\$2,326,004.86

FINANCIAL STATEMENT FOR YEAR ENDING DECEMBER 31, 1917.

Total earnings from gas sales.....\$434,645.62
Operating expenses, including (maintenance).....*393,567.69

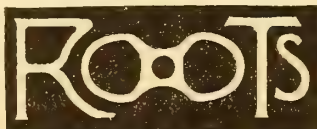
Net earnings from operation.....\$41,077.93
New rate reserve.....20,676.07

Other income\$61,754.00—Total at 95c.
\$66,874.25—Rate reserve.

Carried forward\$5,120.25—Deficit at 80c. rate.

GAS EXHAUSTERS

*Maximum Net
Delivery*



GAS BOOSTERS

Maximum Service

Brought forward	\$5,120.25—Deficit at 80c rate.
Deduct fixed charges, viz:	
Interest on bonded debt and mortgages, taxes, amortization, etc.	55,172.25—Fixed charges
Net deficit for the year.....	\$60,292.50—Deficit.

* Includes taxes and general amortization.

DIRECTORS.—Richard L. Austin, John Gribbel, Clayton E. Platt, Albert Seligman, John B. Austin, Jr.

OFFICERS.—President, Richard L. Austin;

Vice-President, John Gribbel; Secretary and Treasurer, C. E. Platt; General Manager, G. H. Woodall.

Annual meeting, third Tuesday in March.

THE BROOKLYN UNION GAS COMPANY, BROOKLYN, N. Y.

Principal Office, 176 Remsen Street.

The Brooklyn Union Gas Co. was incorporated September 7, 1895, under the laws of the State of New York. It acquired the following companies: The Brooklyn Gas Light Co., the Citizens Gas Co., the Fulton Municipal Gas Co., Metropolitan Gas Light Co., the Nassau Gas Light Co., the People's Gas Light Co., the Williamsburgh Gas Light Co., all located in the City of Brooklyn.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Common stock, authorized, \$20,000,000; outstanding, \$18,000,000. Shares, \$100. Transfer agents, Guaranty Trust Co. of New York. Registrars, United States Mortgage and Trust Co.

Dividend on common stock, annual rate 6 per cent annually, payable quarterly: 1 per cent extra paid in July, 1917.

FUNDED DEBT.—Bonds: First consolidated mortgage, authorized, \$15,000,000; issued, \$14,698,000; dated September 16, 1895; due May 1, 1945. Interest payable May 1 and November 1 at the Chase National Bank. Denomination, \$1,000; coupon; principal may be registered. Redeemable at the office of the Company or its agency in the City of New York on May 1, 1945. Trustee of bonds, the Guaranty Trust Co. of

New York. Security, first lien on all property of the company, subject only to outstanding \$302,000 prior lien below.

Underlying Bonds—

The Citizens Gas Light Co. consolidated mortgage bonds.....	\$264,000
The Union Gas Light Co. consolidated mortgage bonds	38,000
	<u>\$302,000</u>

The Brooklyn Union Gas Co.....	\$14,698,000
Underlying bonds.....	302,000

Total\$15,000,000

OFFICERS.—President, J. H. Jourdan; Vice-Presidents, Wm. G. Rockefeller, A. F. Staniford; Secretary, H. E. McGowan; Treasurer, E. R. Chapman.

DIRECTORS.—E. R. Chapman, David G. Legget, Wm. Rockefeller, Henry H. Rogers, Wm. G. Rockefeller, James H. Jourdan, Robert L. Pierrepont.

Annual meeting of stockholders held Tuesday after second Monday in November at 176 Remsen street, Brooklyn, N. Y.

Company's fiscal year ends December 31.

KINGS COUNTY LIGHTING CO., BOROUGH OF BROOKLYN, NEW YORK CITY.

The Kings County Lighting Co., the successor of the Kings County Gas & Illuminating Co., serves the territory known as the 30th Ward of Brooklyn, including Bay Ridge, Fort Hamilton, New Utrecht, Bath Beach, Bensonhurst, Unionville, Borough Park, etc. The population of this section, which is increasing very rapidly, is now estimated to be over 130,000.

The franchises under which the Company operates are, in the opinion of counsel, unlimited in duration.

The gas works are located on valuable land, owned by the Company, lying between 54th and 55th streets, and running west from First avenue to the pier line of New York Bay. At 65th street and Ninth avenue the Company also owns a piece of property on which are built the storage holders and building housing distribution shop, storeroom and garage, and there

is ample room on this real estate for additional holders as the business demands.

Stock.—Authorized, \$2,000,000; outstanding, \$2,000,000.

Dividends have not been paid since March, 1916.

BONDS.—First refunding mortgage 5s, authorized, \$5,000,000; outstanding, \$3,178,000. Reserved to retire: Kings County Gas & Illuminating Co. 5s due October 1, 1940, \$750,000. To be issued for additional property, extensions and improvements.

Subject to \$750,000 Kings County Gas & Illuminating Co. bonds, the first refunding mortgage bonds, in the opinion of counsel, are secured by a first lien upon all the property, rights and franchises now owned or hereafter acquired.

WASH OIL PUMPS

Minimum Cost



P.H. & F.M. ROOTS CO.

Connersville

Indiana

New York

Chicago

Bonds can only be issued with the consent and approval of the Public Service Commission of the first district of the State of New York.

OFFICERS.—President, F. M. Tait; Vice-Presidents, Elton Parks and G. W. Mead; Secretary and Treasurer, Wm. M. Flook; Asst. Sec-

retary, J. J. Blanchfield; Asst. Treasurer, Paul Bucher; General Manager, Ralph Elsmann.

DIRECTORS.—C. K. G. Billings, W. M. Flook, Elton Parks, George O. Knapp, F. M. Tait.

ANNUAL MEETING.—Last Tuesday in January.

CENTRAL UNION GAS CO., BRONX, NEW YORK CITY.

Office, 529 Courtlandt Avenue.

The Central Union Gas Co. was incorporated in July, 1897, under the laws of New York.

CAPITALIZATION.—Common capital stock, authorized, \$3,500,000; outstanding, \$3,500,000; shares, \$100. Transfer agents, the Company's officers.

FUNDED DEBT.

Bonds.	Authorized.	Issued.
First mortgage 5 per cent gold bonds	\$3,500,000	\$3,500,000
First mortgage dated August 16, 1897; due August 16, 1927. Interest payable January 1 and July 1 at National City Bank, 55 Wall Street. Trustee of bonds, Central Trust Co.		

OFFICERS: President, Wm. H. Bradley; Vice-President, L. H. Werner; Secretary, L. H. Werner; Asst. Secretary, C. G. Duffy; Treasurer, Philip J. Schneider; Asst. Treasurer and Supt. of Distribution, A. H. Hall.

DIRECTORS.—Wm. H. Bradley, William Rockefeller, J. W. Sterling, R. A. Carter, Geo. B. Cortelyou, Geo. W. Doane, N. F. Brady.

Annual meeting of stockholders held on the third Monday in January at 529 Courtlandt avenue, Bronx, New York City. Company's fiscal year ends December 31.

NORTHERN UNION GAS CO., BRONX, NEW YORK CITY.

CAPITALIZATION.—Common stock, authorized, \$1,500,000; outstanding, \$1,500,000. Shares, \$100. Transfer agents, the Company's officers.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold bonds, authorized, \$1,500,000; issued, \$1,250,000; dated November 1, 1897; due November 1, 1927; interest payable May 1 and November 1, at the office of National City Bank, 55 Wall street. Denomination, \$1,000; coupon. Trustee of bonds: Knickerbocker Trust Co., New York City.

OFFICERS.—President, Geo. W. Doane; Vice-President, M. M. Graham; Secretary, Frederick R. Devoe; Treasurer, Frederick R. Devoe.

DIRECTORS.—J. W. Sterling, H. E. Gawtry, G. W. Doane, R. A. Carter, Geo. B. Cortelyou, Wm. H. Bradley, Wm. Rockefeller.

Annual meeting of stockholders held on the second Tuesday in October at 1815 Webster avenue, Bronx. Company's fiscal year ends December 31.

BUFFALO GAS COMPANY, BUFFALO, N. Y.

Organized 1899. A consolidation of the Buffalo City Gas Co. and the Buffalo Gas Light Company into the Buffalo Gas Company which, in the same year, merged with the Buffalo Mutual Gas Light Co. Each of the constituent companies had, for many years prior to consolidation and merger, supplied different sections of the city. In 1899 the Buffalo City Gas Co. acquired about 90 per cent of the stocks and bonds of the Peoples Gas Light and Coke Co. of Buffalo. The company operates under perpetual franchises.

The Buffalo Gas Company went into the hands of receivers on September 24, 1914.

Receivers, Alexander C. Humphreys and Harry T. Ramsdell.

Plant sold to W. J. Judge by foreclosure. Possession October 1, 1917.

CAPITALIZATION.

Preferred stock	\$2,000,000	\$1,713,000
Common stock	7,000,000	7,000,000
Shares, \$100. Transfer agents, Guaranty Trust Company. Registrars, New York Trust Company.		

FUNDED DEBT.—First mortgage 50-year 5 per cent gold bonds, authorized \$7,000,000, issued \$5,900,000. Dated October 1, 1897; due October 1, 1947. Interest payable April and October at Guaranty Trust Company. Denomination, \$1,000, coupon form. Principal subject to registration. Redeemable at 115 and accrued interest on eight weeks' notice. New York Trust Company, trustee.

SECURITY.—First lien on all property now owned or hereafter acquired.

SINKING FUND.—None.

SOUTHERN ONTARIO GAS CO., LTD., BUFFALO, N. Y.

The Southern Ontario Gas Co., Ltd., was incorporated on April 22, 1913, under the laws of Ontario, Canada.

FRANCHISES.—Township Harwich, April, 1933; township Aldoborough May 20, 1933; township Dunwich, perpetual; township Raleigh, April, 1933.

CAPITALIZATION.—Common stock, authorized, \$15,000,000; outstanding, \$4,000,500.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold bonds, authorized \$10,000,000, issued \$3,984,000; dated October 1, 1913; due October 1, 1953. Interest payable April 1 and October 1 at office or agency, New York, or Province of



Tycos Temperature Instruments for Gas Works
INDICATING—CONTROLLING—RECORDING
 To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Ontario. Denomination, \$1,000. Coupon bond may be registered. Redeemable at 105 per cent and accrued interest on any interest date at the Equitable Trust Co., New York, trustee of bonds.

SECURITY.—First mortgage.

SINKING FUND.—1 per cent of outstanding

bonds commencing April 1, 1915. Bonds kept alive in sinking fund.

OFFICERS.—President, J. C. McDowell; Vice-President, F. M. Lowry; Secretary, Jas. A. Richie; Treasurer, J. A. Richie.

DIRECTORS.—J. C. McDowell, F. M. Lowry, E. Sweet, H. L. Doherty, Frank W. Frueauff.

CORNING LIGHT AND POWER CORPORATION, CORNING, N. Y.

The Corning Light & Power Corporation was incorporated in October, 1913, under the laws of New York and is a reorganization of Corning Gas and Electric Co., which was incorporated in May 1901.

FRANCHISES.—Gas and electric perpetual.

CAPITALIZATION.—Authorized common stock, \$500,000; outstanding, \$400,000; shares, \$100; transfer agents, Brooklyn Trust Co.

FUNDED DEBT.—Bonds, debenture 6s, authorized, \$100,000; issued, \$79,000; dated, 1913; due 1923; interest payable April 1 and October 1. Denomination, \$1,000. Redeemable at any interest date at 6 per cent, Brooklyn Trust Co.

SECURITY.—First lien upon the property.

OFFICERS.—President, D. J. Creem; Vice-President, Paul T. Brady; Secretary, C. L. Rossiter; Treasurer, C. L. Rossiter; General Manager, J. H. Doherty.

DIRECTORS.—Daniel J. Creem, Paul T. Brady, John J. Creem, Wm. V. Hester, Frederick A. M. Burrell, M. J. Warner, Clinton L. Rossiter.

Company's fiscal year ends December 31.

BALANCE SHEET AS OF DECEMBER 31, 1917.

<i>Assets.</i>	
Tangible capital gas.....	\$118,569.66
Tangible capital electric.....	178,425.29
Intangible capital	178,785.69
Cash	8,053.95
Accounts receivable	18,725.87
Material and supplies	12,137.29
Prepayments, insurance	671.07
U. S. Liberty Loan bonds.....	6,000.00
	\$521,368.82
<i>Liabilities.</i>	
Capital stock	\$400,000.00
Ten-year debenture bonds.....	50,000.00
Accounts payable	7,507.47
Discounts accrued	1,458.00
Bond interest accrued	750.00
Consumers' deposits	1,244.00
Sinking fund reserved.....	12,625.00
Depreciation and reserves, including amount of federal income and excess profits tax.....	12,642.44
Dividends payable January 1, 1918..	4,000.00
Surplus	31,141.91
	\$521,368.82

HOMER AND CORTLAND GAS LIGHT CO., CORTLAND, N. Y.

Principal Address, 43 Exchange Place, New York City.

This company was incorporated on February 16, 1848, under the laws of New York.

FRANCHISES.—Expire August, 1936.

CAPITALIZATION.—Authorized capital stock, \$200,000; outstanding, \$148,400; shares, \$100.

FUNDED DEBT.—Bonds 5 per cent, S. F. 40-year gold, authorized, \$250,000; issued, \$176,000. Dated January 1, 1910; due January 1, 1950; interest payable January and July. Denomination \$1,000, coupon not registerable as to principal.

SINKING FUND.—July 1, 1911, $\frac{1}{2}\%$ semi-annually of bonds outstanding.

OFFICERS.—President, J. I. Mange; Vice-Presidents, C. A. Greenidge, T. W. Moffat, S. J. Magee; Secretary, H. B. Brown; Treasurer, H. B. Brown; Manager, J. J. Boyle.

DIRECTORS.—C. A. Dougherty, J. I. Mange, T. W. Moffat, H. B. Brown, C. A. Greenidge, all of New York.

Annual meeting of stockholders held in January at New York. Company's fiscal year ends December 31.

ELMIRA WATER, LIGHT AND RAILROAD CO., ELMIRA, N. Y.

The Elmira Water, Light and Railroad Co. was incorporated in May, 1900, under the laws of New York and is a consolidation of Elmira Gas and Illuminating Co., Elmira Illuminating Co., Elmira & Horseheads Railway Co., Maple Avenue R. R. Co., West Water Street R. R. Co., Elmira Water Works Co. Has since been merged with Montour Falls Electric Light Co.

and Chemung County Gas Co. Merged the Elmira & Seneca Lake Traction Co. and the Elmira Transmission Corp. in 1916. Owns Rorick's Glen Park and the Maple Avenue Driving Park.

FRANCHISES.—99 years, 999 years, or perpetual.



1803

Our long experience at your service

HOLDERS, PURIFIERS, CONDENSERS, ETC.

R. D. WOOD & CO., PHILA., PA.

1918



CAPITALIZATION.

	Issued	Authorized
First preferred stock.....	\$1,400,000	\$3,000,000
Second preferred stock....	1,200,000	1,200,000
Common stock	1,000,000	1,000,000

Shares, \$100; transfer agents, Bertron, Griscom & Co., New York.

FUNDED DEBT.

Elmira Water, Light & R. R. Co.—First consolidated 5s. authorized, \$5,000,000; outstanding, \$3,965,000 (as of January 31, 1918). Dated September 1, 1906; due September 1, 1956. Interest payable March 1 and September 1 at The New York Trust Co. Denomination, \$1,000. Coupon bonds. Registerable as to principal. Not redeemable. Trustee: The New York Trust Co. (\$146,000 in treasury).

OFFICERS.—President, Ray Tompkins, Elmira, N. Y.; First Vice-President, Geo. Bullock; Second Vice-President and General Manager, F. H. Hill; Secretary and Treasurer, Chas. A. Kolstad;

Assistant Secretary, J. A. McKenna; Assistant Treasurer, A. L. Linn, Jr.; Auditor, A. M. Lewis.

DIRECTORS.—Ray Tompkins, Jos. B. Rathbone, M. J. Dodge, L. C. Gerry, George Bullock, E. G. Connette, F. T. Homer.

Annual meeting of stockholders held first Thursday in June at Elmira. Company's fiscal year ends December 31.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR
ENDING DECEMBER 31, 1917.

Gross earnings	\$1,261,301.92
Operating expenses, renewals and replacements	855,126.93
Net earnings	\$406,174.99
Fixed charges	234,591.81
Preferred stocks dividend.....	\$171,583.18
Surplus	158,000.00
	\$13,583.18

QUEENS BOROUGH GAS AND ELECTRIC CO., FAR ROCKAWAY, N. Y.

The Queens Borough Gas & Electric Co. was incorporated July 1, 1902, in New York; consolidation of Queens Borough Electric Light & Power Co. and Town of Hempstead Gas & Electric Light Co. Supplies all of the Fifth Ward, Borough of Queens, and a portion of Nassau County, as follows: Inwood, Lawrence, Cedarhurst, Woodmere, Hewlett, Valley Stream, Lynbrook, Oceanside, East Rockaway and Malverne.

FRANCHISES.—Perpetual, except one in Nassau County, which expires in 1954.

CAPITAL STOCK.—Authorized and outstanding, \$2,000,000. Par, \$100. 4 per cent dividend in 1917. Transfer agent, Equitable Trust Co. of New York City.

BONDED DEBT.—\$1,600,000 first gold 5s. due July 1, 1952; interest payable January 1 and July 1 at Guaranty Trust Co., New York. Coupon, \$1,000; principal may be registered. Authorized, \$2,000,000; unissued bonds reserved to retire the undernoted prior liens. Secured on entire property now owned or hereafter acquired, subject to the below described prior liens.

\$250,000 Queens Borough Electric Light & Power Co. first gold 5s, dated October 1, 1898; due April 1, 1928; interest payable April 1 and October 1 at Equitable Trust Co. of New York.

\$150,000 Town of Hempstead Gas & Electric Light Co. first gold 5s, dated February 1, 1901; due February 1, 1941; interest payable February

1 and August 1 at Bank of Long Island, Far Rockaway. Subject to call at par.

\$41,500 real estate mortgage bonds.

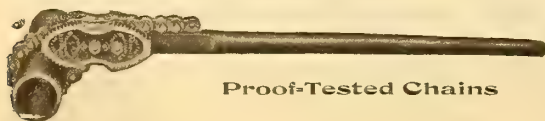
SINKING FUND.—None.

GENERAL BALANCE SHEET, DECEMBER 31

Assets.		1917	1916
Plant and equipment.....	\$5,858,426	\$5,364,119	
Investments	24,181	15,131	
Material and supplies.....	161,436	98,316	
Cash	66,378	40,317	
Other current assets.....	75,983	80,633	
Other assets	5,644	3,360	
Coupon special deposit....	41,163	40,525	
Total	\$6,233,211	\$5,642,401	
Liabilities.		1917	1916
Capital stock	\$2,000,000	\$2,000,000	
Bonded debt	2,041,500	2,041,500	
Interest and taxes accrued.	63,294	58,531	
Bills payable	987,500	445,000	
Accounts payable	63,212	59,055	
Customers' deposits	79,246	68,668	
Accrued amortization of cap.	630,129	523,035	
Reserves	94,163	79,973	
Surplus	274,167	366,639	
Total	\$6,233,211	\$5,642,401	

INCOME ACCOUNT YEARS ENDED DECEMBER 31.

	1913	1914	1915	1916	1917
Gross earnings	\$637,854	\$707,608	\$747,695	\$817,322	\$858,568
Operating expenses and taxes.....	428,961	504,525	526,590	603,016	723,281
Net earnings	208,893	203,083	221,005	214,306	135,287
Other income	3,465	1,809	1,300	2,154	1,817
Interest, etc.	125,852	131,015	133,788	134,566	145,852
Surplus for year.....	86,506	73,157	88,617	81,894	8,748



Proof-Tested Chains

Williams' Improved "Vulcan"
Drop-Forged Chain Pipe Wrench
J. H. WILLIAMS & CO., 74 Richards St.,
BROOKLYN, N. Y.

OFFICERS.—Carleton Macy, President, General Manager and Purchasing Agent; H. Hobart Porter, Vice-President; J. A. Mooney, Secretary; George D. Gregory, Treasurer; L. A. Howland, General Superintendent; E. L. Davies, Gas Superintendent; E. H. Webster, Auditor.

DIRECTORS.—G. D. Gregory, Isaac R. Stewart, V. Everit Macy, A. H. Bronson, E. D. Hawkins, Carleton Macy, Gurry Huggins.
Annual meeting in February.
Offices, 68 Broad Street, New York, and Far Rockaway, L. I., N. Y.

NEW YORK AND QUEENS GAS COMPANY, FLUSHING, NEW YORK.

Principal Address, 88 Main Street, Flushing, N. Y.

The New York & Queens Gas Co. was incorporated in July, 1904, under the laws of New York State, and is a consolidation of the College Point Gas Co. and the Newtown & Flushing Gas Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Common stock, authorized, \$600,000; outstanding, \$600,000. Shares, \$100. Transfer agents, Lincoln Trust Co. Registrars, First National Bank, New York.

FUNDED DEBT.—Bonds: First general mortgage, authorized and issued, \$1,000,000; dated August 1, 1904; due August 1, 1934. Interest payable February and August at Lincoln Trust Co. Denomination, \$1,000; coupon; may be reg-

istered. Redeemable at Lincoln Trust Co. on any interest date at 110. Trustee of bonds, Lincoln Trust Co.

SECURITY.—First mortgage on all property of Company.

SINKING FUND.—None.

OFFICERS.—President, Moses Taylor; Vice-President, L. B. Gawtry; Secretary and Manager, M. H. Spear; Treasurer, R. A. Carter.

DIRECTORS.—Moses Taylor, Geo. B. Cortelyou, Wm. Rockefeller, N. F. Brady, J. W. Sterling, W. R. Addicks, R. A. Carter.

Annual meeting of stockholders held second Company's fiscal year ends December 31. Friday in July.

NASSAU & SUFFOLK LIGHTING COMPANY, FREEPORT, N. Y.

New York office, 149 Broadway.

The Nassau & Suffolk Lighting Company, incorporated in May, 1905, under the laws of the State of New York, supplies gas to the rapidly developing residential territory directly adjacent to New York City on Long Island, serving the most populous section of Nassau County, in which are located the following cities, towns and districts, with a population of approximately 50,000: Freeport, Hempstead, Garden City, Rockville Centre, Hempstead Manor, Garden City Estates, New Garden City, Mineola, Merrick, Seaford, Bellmore, Ocean Side, Roosevelt and Wantagh.

FRANCHISES.—The numerous franchises under which the Company operates are perpetual with the exception of three, and the terms are liberal and free from burdensome restrictions.

CAPITALIZATION.—The capitalization of the Company is as follows:

	Authorized	Outstanding
6% cumulative preferred stock	\$500,000	\$500,000
Common stock	1,500,000	568,200
First mortgage bonds....	\$5,000,000	\$1,399,000
First mortgage bonds, reserved for future extensions	3,601,000	

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold; dated February 1, 1915; due February 1, 1945. Interest payable February 1 and August 1. Denominations, \$500 and \$1,000; coupon registerable as to principal. Redeemable at 105 and accrued interest. Equitable Trust Co., New York, Trustee. Tax exempt in New York and tax refundable in Pennsylvania.

No reserve bonds can be issued for extensions and improvements to the property except when the net earnings for the preceding twelve consecutive calendar months are double the interest requirements of the bonds outstanding and those proposed to be issued, and then only, after approval and authorization by the Public Service Commission, for extensions and improvements to the property at 85 per cent of the actual cost of same.

SECURITY.—These bonds are secured by a direct first mortgage on all the rights, franchises and property of the Company now owned or hereafter acquired. It is conservatively estimated that the value of this property securing the mortgage is over double the amount of bonds now outstanding.

SINKING FUND.—A sinking fund provision calls for a payment of 1 per cent annually on all bonds outstanding, from January 1, 1918, to January 1, 1930, inclusive; 1½ per cent from January 1, 1931, to January 1, 1939, inclusive, and 2 per cent from January 1, 1940, to February 1, 1944, inclusive.

OFFICERS.—President, George MacDonald; 1st Vice-President, Chas. A. Cooper; 2d Vice-President, Joseph Kennedy; Secretary, Joseph MacDonald; Treasurer, W. H. B. Cooper; General Manager, George MacDonald.

DIRECTORS.—George MacDonald, Joseph MacDonald, Charles Cooper, Henry MacDonald, Martin Wood Hall.

Annual meeting first Friday in May at company's office in Hempstead.

RELIABLE

HOT SPOT

COPPER REFLECTOR

GAS HEATERS

By adopting the "HOT SPOT" heater as his leader, the live new business man will increase his sales and exclude from his territory heating appliances of inferior kinds, thus increasing the popularity of gas for heating purposes. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

EMPIRE COKE CO., GENEVA, N. Y.

The Empire Coke Company was incorporated in 1903, under the laws of New York.

CAPITALIZATION.—First preferred stock: Authorized, \$300,000; outstanding \$300,000. Preferred stock: Authorized, \$1,100,000; outstanding, \$948,725. Common stock: Authorized, \$750,000; outstanding, \$750,000. Dividend on preferred stock, annual rate 6 per cent, payable quarterly. Dividend on first preferred stock 6 per cent, payable monthly.

FUNDED DEBT.—Bonds: Empire Coke Co. collateral trust 6 per cent bonds, authorized \$500,000, outstanding \$243,700; dated September 1, 1916; due September 1, 1941. Interest payable March 1 and September 1 at Metropolitan Trust Co., New York City. Denominations, \$1,000, \$500 and \$100. Trustee, Metropolitan Trust Co., New York City.

SECURITY.—\$150,000 Empire Gas and Electric Co. common stock and \$150,000 Seneca Power Corporation stock for \$150,000 of their bonds, which is all the Public Service Commission has authorized to be issued.

OFFICERS.—President, E. H. Palmer; Vice-President, H. O. Palmer; Secretary, L. G. Hoskins; Treasurer, C. J. Root.

DIRECTORS.—Jervis Langdon, Austin Lathrop, Edwin F. Metcalf, Irving Rouse, C. H. Pierce,

Wm. Nottingham, Chas. J. Avery, E. H. Palmer, Wm. T. Morris, Theo. J. Smith, H. O. Palmer.

BALANCE SHEET, JANUARY 1, 1918.

<i>Assets.</i>	
Plant	\$1,288,875.37
Cash	2,133.56
Accounts receivable	140,499.13
Materials and supplies.....	39,100.23
Suspense	53,933.10
Investments, stocks	790,000.00
Investments, bonds	31,020.00
Seneca Power Co. stock	243,700.00
Total.....	\$2,589,261.39
<i>Liabilities.</i>	
Interest accrued	\$4,874.00
Bills payable	175,500.00
Accounts payable	46,490.50
Capital stock	1,998,725.00
Surplus	119,971.89
Collateral trust bonds.....	243,700.00
Total.....	\$2,589,261.39

Annual meeting of stockholders held third Tuesday in January at office of company. Company's fiscal year ends January 1st.

EMPIRE GAS AND ELECTRIC COMPANY, GENEVA, N. Y.

The Empire Gas & Electric Co. was incorporated in 1911 under the laws of New York and is a consolidation of Auburn Gas Co., Auburn Light, Heat & Power Co., Seneca Falls & Waterloo Gas Light Co., Inter-Urban Gas Co., Auburn Subway & Electric Co., Citizens Light & Power Co., and the Central N. Y. Gas & Electric Co.

FRANCHISES.—In Auburn, Cayuga, Waterloo, Geneva, Seneca Falls, Phelps, Palmyra, Newark, Lyons, Clyde, all franchises run 50 years; nearly all unlimited.

CAPITALIZATION.—Common capital stock, authorized, \$900,000; outstanding, \$800,000. Preferred stock, authorized, \$350,000; outstanding, \$350,000. Shares, \$100.

Dividend on preferred stock, annual rate 6 per cent, payable monthly. Dividend on common stock, annual rate, $5\frac{1}{2}$ per cent.

FUNDED DEBT.

Inter-Urban Gas Co., Empire Coke Co., joint first mortgage 5 per cent bonds, dated August 1, 1903; due August 1, 1928. Interest, 5 per cent, semi-annual, August and February at New York Trust Co. Denomination, \$1,000; coupon; principal can be registered. Not redeemable. Trustee, New York Trust Co. First mortgage on property of both companies. Authorized, \$500,000; outstanding, \$433,000.

Seneca Falls & Waterloo Gas Light Co. first mortgage 5 per cent bonds, dated July 1, 1900; due July 1, 1930. Interest, 5 per cent, semi-annually, July and January, at Equitable Trust Co., New York. \$1,000; coupon. Not redeemable.

Trustee as above. First mortgage on property of Company. Authorized, \$75,000; outstanding, \$52,000.

Auburn Gas Co. first mortgage 5 per cent bonds, dated January 1, 1902; due January 1, 1927; 5 per cent semi-annually; coupon; principal can be registered. Not redeemable. Trustee, New York Trust Co. First mortgage on property of Company. Authorized, \$400,000; outstanding, \$214,000. Sinking fund, \$5,000 per year, to be invested and bear interest; at present amounts to \$98,000.

Auburn Gas Co. consolidated mortgage bonds, dated June 1, 1905; due June 1, 1930; 5 per cent semi-annually, June and December; coupon; principal can be registered. Trustee and registrar, New York Trust Co. Authorized, \$600,000; outstanding, \$276,000. Collateral, \$300,000 first mortgage bonds of Citizens Light & Power Co., covering property of Auburn Gas Co., as second mortgage.

Empire Gas & Electric Co. and Empire Coke Company joint first and refunding mortgage bonds, dated March 1, 1911; due March 1, 1941. Interest, semi-annually, March and September, payable at office of trustee and registrar, The Pennsylvania Co. for Insurance on Lives and Granting Annuities, Philadelphia, Pa., \$1,000. Redeemable at 105. First mortgage on property of Auburn Light, Heat & Power Co. and Auburn Subway & Electric Co. Will be first on all property when the other bonds are refunded or paid off. Improvement fund, 2 per cent on outstanding bonds, which must be spent each year for betterments and improvements or paid to trustee



to invest in bonds of this issue. Authorized, \$5,000,000; outstanding, \$1,911,000.

Central New York Gas & Electric Co. first mortgage 5s, sinking fund gold, authorized \$2,000,000; issued, \$1,323,000; dated, March 15, 1911; due July 1, 1941. Interest payable July 1 and January 1 at Phila. Trust Co. Denomina-

tion \$500 and \$1,000 coupon, may be registered. Redeemable at any interest date at 105 on 30 days' notice. Trustee, Phila. Trust Co. Security, first lien on property of Central N. Y. Gas & Electric Co. Sinking Fund, $\frac{1}{2}$ per cent on bonds outstanding. Can invest Sinking Fund in bonds of company at 105.

BALANCE SHEET, DECEMBER 31, 1917, EMPIRE GAS AND ELECTRIC COMPANY.

<i>Assets.</i>	
Cash	\$11,094.77
Bills receivable	499.30
Account receivable system corpora- tion	5,166.97
Other accounts receivable	230,298.59
Materials and supplies	148,431.18
Hammer Beach Elec. Co. stock	5,524.85
Chamber of Commerce Fund	562.60
Fixed capital	4,885,071.45
Sinking fund uninvested	17,217.81
Utilities mutual fund	2,139.45
Prepaid insurance	1,226.78
Unamortized debt, discount and expenses	401,582.13
Other suspense	8,815.28
	<hr/> \$5,717,631.12

<i>Liabilities.</i>	
Interest accrued	\$42,180.83
Bills payable	46,895.13
Consumers' deposit	8,553.54
Accounts payable	58,008.74
Bonds	4,209,000.00
Real estate mortgage	17,000.00
Accrued amortization of capital ..	179,518.52
Other reserve	4,581.57
Stock	1,150,000.00
Surplus	1,892.79
	<hr/> \$5,717,631.12

OFFICERS.—President, E. H. Palmer; Vice-President, H. O. Palmer; Secretary, L. G. Hoskins; Treasurer, C. H. Pierce; Manager, H. L. Coleman.

DIRECTORS.—E. H. Palmer, D. E. French, L. G. Hoskins, H. L. Coleman, H. O. Palmer, J. A. Seymour, Geo. W. Bowen, Dr. Frederick Sefton, J. M. Pitkin, S. E. Comstock and J. D. Bashford.

Annual meeting of stockholders held third Tuesday in January.

Company's fiscal year ends January 1.

FULTON COUNTY GAS AND ELECTRIC COMPANY, GLOVERSVILLE, N. Y.

Fulton County Gas & Electric Company was incorporated in New York and absorbed Johnstown and Gloversville Gas Company, Johnstown Electric Light & Power Company, and Gloversville Electric Company.

CAPITAL STOCK.—Authorized and outstanding, \$300,000. Shares, \$100. Gloversville, N. Y. Transfer office. Annual meeting, second Tuesday in July.

FUNDED DEBT.—Outstanding December 31, 1917, \$1,000,000 (entire issue) first mortgage 5% 36-year gold bonds, due June 1, 1936; interest June and December 1st at Guaranty Trust Co., New York, Trustee. Bonds are subject to

redemption at any interest date at 105 and accrued interest. Secured by first and direct lien on entire property.

Gold notes outstanding, \$387,000 three-year 6 per cent gold notes; due March 1, 1919; interest March 1 and September 1 at Gloversville, N. Y. Issued for extension and improvement.

OFFICERS.—President, R. A. C. Smith; Vice-Presidents, Walton Clark, Lewis Lillie and J. C. DeLong; Secretary, G. W. Curran; Treasurer, I. W. Morris; Manager, L. C. Smith.

DIRECTORS.—J. C. DeLong, R. A. C. Smith, Walton Clark, Lewis Lillie, G. W. Curran, L. N. Littauer, Paul Thompson.

ASSOCIATED GAS AND ELECTRIC CO., ITHACA, N. Y.

Principal Office: 43 Exchange Place, New York, N. Y.

This Company was incorporated in March, 1906, as a holding Company, and owns a controlling interest in the following companies: Ithaca (N. Y.) Gas and Electric Corporation, Homer and Cortland (N. Y.) Gas Light Co., Norwich (N. Y.) Gas and Electric Co., Greenville (Ohio) Gas Light Co., Van Wert (Ohio) Gas Light Co., Kentucky Public Service Co., Clarksville (Tenn.) Electric Co., Clarksville (Tenn.) Gas Co.

CAPITAL STOCK.—Authorized, \$1,000,000 common and \$1,000,000 6 per cent cumulative pre-

ferred; outstanding, \$600,000 common and \$959,300 preferred; par \$100. Preferred stock has preference to assets as well as to dividends.

BONDED DEBT.—Authorized, \$5,000,000; outstanding, \$1,175,000; first mortgage bond and stock collateral trust 5s, dated July 1, 1909; due July 1, 1939; interest January and July 1, at Philadelphia Trust Co., Philadelphia, trustee. Coupon, \$500 and \$1,000; principal may be registered. Authorized issued, \$5,000,000; balance to be issued only to acquire further issues of subsidiary companies' bonds and stock and

Be prepared for emergencies. Keep GOODMAN STOPPERS in stock.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

other securities of new companies, or to cover 80 per cent of cost of improvements and extensions of properties. Secured by pledge with the trustee of stocks and bonds of subsidiary companies acquired. The bonds are subject to call at 105 and interest.

\$145,000 collateral trust debenture 6s, dated September 1, 1909; due September 1, 1949; interest March and September 1, at Company's office, est March and September 1, at Franklin Trust Co., Brooklyn, N. Y. Coupon, \$1,000; principal may be registered. Philadelphia Trust Co., trustee. Authorized issue, \$1,500,000. Subject to call at 105 and interest on any interest date.

\$926,500 collateral trust 6 per cent bonds; dated January 1, 1916; due January 1, 1941;

interest January 1 and July 1, at Fidelity Trust Co., trustee, Philadelphia, Pa. Authorized, \$2,000,000.

OFFICERS.—J. H. Pardee, President. R. B. Marchant and J. I. Mange, Vice-Presidents: T. W. Moffat, Secretary and Treasurer.

DIRECTORS.—J. H. Pardee, J. I. Mange, J. G. White, R. B. Marchant, Theo. Roosevelt, Jr., New York; Robert L. Montgomery, Wm. Dignan, Jr., Philadelphia.

Operated under the management of the J. G. White Management Corporation, 43 Exchange place, New York.

For balance sheet, etc., see "Received too late."

KINGSTON GAS AND ELECTRIC COMPANY, KINGSTON, N. Y.

The Kingston Gas & Electric Co. was incorporated May 2, 1902, under the laws of New York State.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$700,000; outstanding, \$700,000. Shares, \$100.

FUNDED DEBT.—Bonds: First gold 5s, authorized, \$700,000; issued, \$700,000; dated May 1, 1902; due May 1, 1952. Interest payable May 1 and November 1 at Metropolitan Trust Co., New York City. Denomination, \$1,000 each; coupon bonds; may be registered. Redeemable in 1912 on payment of 7 per cent premium. Trustee of

bonds, Metropolitan Trust Co. of New York. Security, first mortgage.

OFFICERS.—President, M. W. Stroud; Vice-Presidents, Wm. Carpender, S. P. Curtis and J. C. Lowry; Secretary, W. L. Fox; Treasurer, J. B. Townsend, 3rd; Manager, F. Tobey, Jr.

DIRECTORS.—M. W. Stroud, Wm. Carpender, S. P. Curtis, F. Tobey, Jr., and J. B. Townsend, 3d.

Annual meeting of stockholders held Friday after fourth Wednesday in May at Kingston, N. Y.

Company's fiscal year ends December 31.

LOCKPORT LIGHT, HEAT AND POWER COMPANY, LOCKPORT, N. Y.

The Lockport Light, Heat & Power Co. was incorporated in May, 1907, under the laws of New York and is a consolidation of Lockport Gas & Electric Co. and Economy Light, Fuel & Power Co.

FRANCHISES.—Expire in 2005.

CAPITALIZATION.—Common stock, authorized, \$600,000; outstanding, \$150,000. Shares, \$100. Transfer agents, Bertron, Griscom & Co., New York.

FUNDED DEBT.—Bonds: Gas and Electric Co. first 5s authorized, \$300,000; issued, \$300,000; dated Feb. 1, 1900; due Feb. 1, 1920. Interest payable February 1 and August 1 at Equitable Trust Co. Denomination, \$1,000; coupon; registerable as to interest. Redeemable at 110 on any interest date. Trustee of bonds, Equitable Trust Co.

SECURITY.—First mortgage on property formerly Lockport Gas and Electric Light Co.

Light, Heat & Power Co. first and refunding 5s authorized, \$750,000; issued, \$450,000; dated January 1, 1908; due January 1, 1938. Interest payable January 1 and July 1 at the New York Trust Co. Denominations, \$1,000 and \$500; coupon bonds; registerable as to principal. Redeemable at par. Trustee, the New York Trust Co. Security, first mortgage on property former-

ly the Economy Light, Fuel & Power Co.; second mortgage on property formerly the Lockport Gas & Electric Light Co.

Light, Heat & Power Co., one-year 6 per cent notes, outstanding, \$350,000; due 1918; interest January 1 and July 1, at the New York Trust Co.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$377,954.01
Operating expenses, renewals and replacements	298,500.00
Net earnings	\$79,454.01
Fixed charges	71,937.01
Surplus	\$7,517.00

OFFICERS.—President, E. G. Connette; Vice-President, J. F. Wessel; Secretary, J. A. McKenna; Assistant Secretary, John A. Duff; Treasurer, J. A. McKenna; Assistant Treasurer, John A. Duff; Manager, J. A. Perkins.

DIRECTORS.—George Bullock, E. G. Connette, M. J. Dodge, J. F. Wessel, A. L. Linn, Jr., J. A. McKenna, Morgan D. Evans.

Annual meeting of stockholders held second Monday in October at Lockport.

Company's fiscal year ends December 31.

Test Meters, steel cases, with capacities from 1/10 to 1 cubic foot per revolution, reading fractional quantities direct and adding up and indicating large volumes. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

WESTERN NEW YORK UTILITIES CO., INC., MEDINA, N. Y.

The Western New York Utilities Co., Inc., was incorporated in June, 1898, under the laws of New York.

CAPITALIZATION.

Capital stock, authorized \$300,000, outstanding \$300,000. Shares, \$100. Dividend, annual rate, 6 per cent, payable annually.

FUNDED DEBT.—Bonds: First mortgage 5 per cent 30-year gold bonds, authorized \$5,000,000, issued \$700,000. Dated June 1, 1916; due June 1, 1946. Interest payable June 1 and December 1 at New York Trust Company, New York. Denominations, \$1,000, \$500 and \$100. Coupon

bearer and coupon with principal registered. Redeemable at 105 on any interest date at the New York Trust Company, New York.

SECURITY.—First lien.

OFFICERS.—President, A. L. Swett; Vice-President, C. S. Swett; Secretary, R. F. Swett; Treasurer, C. S. Swett.

DIRECTORS.—A. L. Swett, C. S. Swett, R. F. Swett.

Annual meeting of stockholders held second Tuesday of January at Medina, N. Y.

Company's fiscal year ends December 31.

WESTCHESTER LIGHTING COMPANY, MT. VERNON, N. Y.

The Westchester Lighting Co. was incorporated in 1900 as a consolidation of various operating companies and was later consolidated with the New York & Westchester Lighting Co. It furnishes gas and electricity in various towns in Westchester County, viz.: Gas to New York (borough of Bronx), Yonkers, Mount Vernon, New Rochelle, Eastchester, Pelham, Mamaroneck, Harrison, Rye, White Plains, Greenburg, Pelham, North Pelham, Pelham Manor, Tuckahoe, Bronxville, Larchmont, Mamaroneck, Rye, Port Chester, White Plains, North Tarrytown, Tarrytown, Irvington, Hastings, Dobbs Ferry, Scarsdale and Elmsford. It supplies electricity to New York (borough of Bronx), Mount

Vernon, New Rochelle, Bedford, Eastchester, Greenburg, Harrison, Mamaroneck, Mount Pleasant, New Castle, North Castle, Pelham, Rye, Scarsdale, White Plains, Ardsley, Bronxville, Dobbs Ferry, Hastings, Irvington, Larchmont, Mamaroneck, Mt. Kisco, No. Tarrytown, Pelham, No. Pelham, Pelham Manor, Port Chester, Rye, Tarrytown, Tuckahoe, White Plains, Elmsford.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$2,500,000	\$2,500,000
Common stock.....	10,000,000	10,000,000

Shares, \$100. Transfer agents, officers of the Company.

FUNDED DEBT.

	Authorized	Outstanding
Westchester Lighting Co. first mortgage 5 per cent 50-year gold bonds, interest payable June 1 and December 1.....	\$10,000,000	\$8,510,000
New York & Westchester Lighting Co. general mortgage 100-year gold coupon bonds ($\frac{1}{2}$ to 4 per cent), interest payable January 1 and July 1.....	10,000,000	10,000,000
New York & Westchester Lighting Co. 50-year 5 per cent gold debenture coupon bonds, interest payable January 1 and July 1.....	2,500,000	2,500,000
Hudson River Gas & Electric Co. first mortgage 5 per cent gold refunding bonds, interest payable May 1 and November 1.....	250,000	250,000
White Plains Lighting Co. first mortgage 5 per cent 40-year gold bonds, interest payable June 1 and December 1.....	350,000	335,000
New York Suburban Gas Co. first mortgage 5 per cent 50-year gold bonds, interest payable March 1 and September 1.....	350,000	230,000
	\$23,450,000	\$21,825,000
Real estate bond and mortgage, interest payable April 10 and October 10.....		20,000
Westchester Lighting Co. 5 per cent collateral trust notes, interest payable June 1 and December 1.....		580,000
		\$22,425,000

Westchester Lighting Co., dated December 1, 1900; due December 1, 1950; denomination, \$1,000; coupon; trustee under mortgage, Colonial Trust Co.; principal and interest payable at the office of Equitable Trust Co.

New York & Westchester Lighting Co., dated July 1, 1904; due July 1, 2004; denomination, \$1,000; coupon; trustee under mortgage, Central Trust Co.; principal and interest payable at the office of Central Trust Co.

New York & Westchester Lighting Co., dated July 1, 1904; due July 1, 1954; denomination, \$1,000; coupon; trustee under mortgage, Central

Trust Co.; principal and interest payable at the office of Central Trust Co.

Hudson River Gas & Electric Co., dated May 1, 1899; due May 1, 1929; denomination, \$1,000; coupon; trustee under mortgage, State Trust Co.; principal and interest payable at the office of Guaranty Trust Co.

White Plains Lighting Co., dated June 1, 1898; due June 1, 1938; denomination, \$1,000; coupon; trustee under mortgage, State Trust Co.; principal and interest payable at the office of Guaranty Trust Co.

New York Suburban Gas Co., dated March

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road

and 29th Street

PHILADELPHIA, PA.

1, 1899; due March 1, 1949; denomination, \$1,000; coupon; trustee under mortgage, Girard Life & Annuity Co. of Philadelphia; principal and interest payable at the office of Girard Trust Co. of Philadelphia.

Collateral trust notes, dated December 1, 1910; due December 1, 1920; denomination, \$1,000; note; principal and interest payable at the office of Columbia Trust Co.

OFFICERS.—President, F. A. Stratton; Vice-Presidents, B. W. Stilwell and W. J. Clark;

Secretary and Assistant Treasurer, R. A. Carter; Treasurer and Assistant Secretary, E. S. Bellows.

DIRECTORS.—W. R. Addicks, George B. Cortell-you, R. A. Carter, N. F. Brady, B. W. Stilwell, Thos. E. Murray, Wm. Rockefeller, John W. Sterling, F. A. Stratton.

Annual meeting of stockholders held on first Tuesday in March.

Company's fiscal year ends December 31.

AMERICAN LIGHT AND TRACTION COMPANY, NEW YORK, N. Y.

Corporate Office, Jersey City, N. J. New York Office, 40 Wall Street.

Incorporated under the laws of New Jersey May 13, 1901. This Company owns practically all of the capital stock of the Milwaukee Gas Light Co., St. Paul Gas Light Co. (St. Paul, Minn.), Grand Rapids Gas Light Co. (Grand Rapids, Mich.), St. Joseph Gas Co. (St. Joseph Mo.), Southern Light & Traction Co. (San Antonio, Tex.), Binghamton Gas Works (Binghamton, N. Y.), Consolidated Gas Co. of New Jersey (Long Branch, N. J.), Madison Gas & Electric Co. (Madison, Wis.), Muskegon Traction & Lighting Co. (Muskegon, Mich.), St. Croix Power Co. (St. Paul, Minn.), Detroit City Gas Co. (Detroit, Mich.), South St. Paul Gas & Electric Co. (St. Paul, Minn.), West Allis (Wis.) Gas Co., Wauwatosa (Wis.) Gas Co.

CAPITALIZATION.—(Par, \$100.) Preferred, authorized, \$25,000,000; issued, \$14,236,200; common, authorized, \$40,000,000; common outstanding, \$20,599,600 (January 31, 1918).

Dividends: Preferred, 6 per cent annually, payable quarterly on first days of February, May, August and November. Common, 2½ per cent quarterly, in cash; 2½ shares common quarterly on every 100 shares of common outstanding. First cash dividend on common stock paid November 1, 1904.

BONDS.—None.

Transfer agents, Emerson McMillin & Co., 120 Broadway, New York, and Michigan Trust Co., Grand Rapids, Mich.

The following is a list of the outstanding bonds issued by the subsidiary companies:

Milwaukee Gas Light Co. first mortgage 4s, due 1927; interest payable May 1 and November 1—

Authorized	\$10,000,000
Issued	8,697,000

Grand Rapids Gas Light Co. first mortgage 5s, due 1939; interest February 1 and August 1—

Authorized	7,500,000
Issued	1,575,000

Madison Gas & Electric Co. first mortgage 6s, due 1926; interest April 1 and October 1—

Authorized	400,000
Issued	400,000

First refunding mortgage 5s, due 1940: interest April 1 and October 1—

Authorized	3,000,000
Issued	463,500

St. Joseph Gas Co. first mortgage 5s, due 1937—

Authorized	1,000,000
Issued	1,000,000

Southern Light & Traction Co. collateral trust 5s, due 1949; interest March 1 and September 1—

Authorized	2,500,000
Issued	341,000

Being exchanged—one \$500 first mortgage bond of San Antonio Gas & Electric Co. and one first mortgage bond of San Antonio Traction Co., \$500 in exchange for one \$1,000 Southern Light & Traction Collateral Trust 5 per cent bond. San Antonio bonds, due Sept. 1, 1949; interest, March 1 and September 1.)

St. Paul Gas Light Co. consolidated extension 6s, due 1918; interest January 1 and July 1—

Authorized	2,650,000
Issued	600,000

St. Paul Gas Light Co. general mortgage 5s, due 1944; interest March 1 and September 1—

Authorized	5,000,000
Issued	4,400,000

St. Croix Power Co. first mortgage 5s, due, 1929; interest April 1 and October 1—

Authorized	750,000
Issued	750,000

Muskegon Traction & Lighting Co. first mortgage gold bonds, 30-year, 5 per cent, due 1931—

Authorized	600,000
Issued	600,000

Binghamton Gas Works first mortgage 5s, due 1938; interest April 1 and October 1—

Authorized	750,000
Issued	750,000

SYPHON AND "U"

American Meter Company

561 W. 47th St., New York, N. Y.

PRESSURE GAUGES. These have been improved so they can be repaired without the use of cement. We also manufacture all types of Arch Pressure Gauges and Single Tube Gauges.

General mortgage, 50-year, 5 per cent, due 1954—		CONDENSED BALANCE SHEET AS OF DECEMBER 31, 1917.	
Authorized	2,500,000	Investment account	\$34,384,751.65
Reserve to retire first mortgage bonds at 110 per cent.....	825,000	Temporary investment	5,888,855.84
Issued	246,000	Earnings, subsidiary companies:	
		Earnings receivable.....	\$2,259,673.04
		Reconstruct. reserve	3,378,207.06
Detroit City Gas Co. general mortgage 5s, due variously from 1913 to 1922, inclusive—			5,637,880.10
Authorized	10,000,000	Bills receivable	1,723,932.26
Issued	4,004,000	Accounts receivable	180,509.76
Gold mortgage 5s, due 1923—		Managers' stock contracts.....	16,100.00
Authorized	6,000,000	Interest and dividends receivable from temporary investments....	57,135.00
Outstanding	5,995,000	Cash	1,564,395.16
		Total assets	\$49,403,559.77
Consolidated Gas Co. of New Jersey first mortgage consolidated 5s, due 1936; interest January 1 and July 1—		<i>Liabilities.</i>	
Authorized	1,000,000	Preferred stock	\$14,236,200.00
Issued	1,000,000	Common stock	20,588,900.00
Consolidated Gas Co. of New Jersey first refunding mortgage 5s, due 1965; interest April and October—		Warrants	84,372.50
Authorized	5,000,000	Bills payable	90,000.00
Issued	700,000	Deposits on managers' stock contracts	6,368.32
*Long Branch Lighting Co. first mortgage 6s, due 1924—		Miscellaneous	7,708.78
Outstanding	15,000	Taxes and expenses anticipated..	116,538.71
		Accounts payable	12,184.56
		Dividends accrued:	
		Cash	\$657,084.50
		Common stock	514,722.50
			1,171,807.00
		Contingent reserve	842,606.94
		Surplus balance	12,246,872.96
		Total liabilities	\$49,403,559.77

* Funds for retiring these bonds are in hands of trustee.

EARNINGS STATEMENT FOR TWELVE MONTHS ENDING DECEMBER 31.

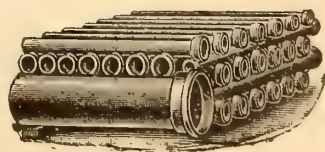
	1917	1916	1915	1914	1913
Earnings on stocks of subsidiary companies owned by this company	\$4,345,215.28	\$5,295,233.34	\$4,555,155.55	\$3,714,959.83	\$3,751,976.21
Miscellaneous earnings.....	1,047,399.50	564,704.57	623,231.58	717,420.56	714,257.55
Gross earnings	5,392,614.78	5,859,937.91	5,178,387.13	4,432,380.39	4,466,233.76
Expenses	369,233.71	211,911.38	156,623.53	157,292.72	123,107.66
Net earnings twelve months ending Dec. 31.....	5,023,381.07	5,648,026.53	5,021,763.60	4,275,087.67	4,343,126.10
Surplus and reserve Dec. 31 previous year	12,051,598.89	10,861,339.36	9,959,037.76	9,495,882.09	8,689,292.99
Total surplus earnings..	17,074,979.96	16,509,365.89	14,980,801.36	13,770,969.76	13,032,419.09
Less dividends for twelve months ending Dec. 31:					
Cash dividends on preferred stock	\$854,172.00	854,172.00	\$854,172.00	\$854,172.00	\$854,172.00
Cash dividends on common stock	1,986,967.50	1,801,797.50	1,632,645.00	1,478,880.00	1,341,182.50
Stock dividends on common stock	1,986,967.50	1,801,797.50	1,632,645.00	1,478,880.00	1,341,182.50
Total dividends	\$4,828,107.00	\$4,457,767.00	\$4,119,462.00	\$3,811,932.00	\$3,536,537.00
Surplus balance Dec. 31..	\$12,246,872.96	\$12,051,598.89	\$10,861,339.36	\$9,959,037.76	\$9,495,882.09

OFFICERS.—Chairman Board of Directors, Emerson McMillin; President, Alanson P. Lathrop; First Vice-President, Marion McMillin; Second Vice-President, Secretary and Treasurer, C. N. Jelliffe; Vice-President and Engineer, H. C. Abell; Auditor, James Lawrence; Counsel, Chas. W. Young; Assistant Secretary and Assistant Treasurer, W. G. de Berg.

DIRECTORS.—Emerson McMillin, H. C. Abell, George Blumenthal, Franklin Q. Brown, Frank L. Clark, R. R. Colgate, T. R. Fell, Warren W. Foster, Anton G. Hodenpyl, C. N. Jelliffe, William B. Joyce, Alanson P. Lathrop, Philip Lehman, James M. McCarthy, Marion McMillin, M. S. Paine, Seward Prosser, William Shillaber, Frank Sullivan Smith, General James H. Wilson.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES

R. D. WOOD & CO. : PHILADELPHIA, PA.



AMERICAN POWER AND LIGHT COMPANY, NEW YORK.

General Office, 71 Broadway, New York, N. Y.

The American Power & Light Co. was incorporated Sept. 17, 1909, under the laws of Maine, as an investment company to acquire securities of companies operating and controlling electric light and power, gas, railway and water works properties. It is purely an investment company, created for the purpose of averaging the risks of investors in securities of this class and of securing for them the advantages resulting from a large volume of business and a wide market for their securities.

The American Power & Light Co. controls through stock ownership the Kansas Gas & Electric Co., the Pacific Power & Light Co., the Portland Gas & Coke Co., the Nebraska Power Co., and the Southwestern Utilities Corporation. The Southwestern Utilities Corporation controls the Southwestern Power & Light Co.

CAPITAL STOCK AND DIVIDENDS.—The authorized and outstanding capital stock of the American Power & Light Co. as of December 31, 1917, was as follows:

	Authorized	Outstanding
Preferred	\$5,000,000	\$3,656,700
Common	17,500,000	8,705,400

The preferred stock is entitled to cumulative dividends at the rate of 6 per cent per annum, and dividend payments at this rate have been made since the Company's organization. The preferred dividends are payable quarterly on paid regularly since the date of issue. The preferred stock also has preference as to assets in case of liquidation. It is subject to redemption at 115 and accrued dividends on any dividend date.

The Registrar & Transfer Co. of Jersey City, N. J., is transfer agent for the stock, and the Corporation Trust Co. of Jersey City, N. J., is registrar.

An initial dividend of 1 per cent was paid on the common stock March 1, 1913, since which time quarterly dividends at the rate of 4 per cent per annum have been regularly paid.

BONDS.—Six per cent gold debenture outstanding, \$5,551,000; dated March 1, 1916; due March 1, 2016. Interest payable March 1 and September 1. Denomination, \$100, \$500 and \$1,000. Redeemable at 110 and accrued interest on any interest date at Bankers Trust Co., Trustee.

NOTES.—The authorized and outstanding notes (other than notes for current indebtedness) of the American Power & Light Co. as of December 31, 1917, were as follows:

	Authorized	Outstanding
Ten-year 6 per cent gold notes	\$2,200,000	\$2,200,000

The ten-year 6 per cent gold notes are dated August 1, 1911; due August 1, 1921; interest payable February 1 and August 1. They are issued in denominations of \$1,000, \$500 and \$100. The Guaranty Trust Company of New York is trustee. They are redeemable as a whole on any interest date at the option of the company at 102 and accrued interest.

The ten-year 6 per cent gold notes were issued accompanied by transferable option warrants giving holders of the option warrants the right at any time within ten years to purchase at par an amount of the company's common stock, or voting trust certificates therefor, equal in par value to the face of the notes. Payment for the stock, or voting trust certificates therefor, can be made in cash or in the notes at their par value. All sums received by the company in payment for common stock, as provided in the option warrants are to be paid to the trustee and may be used by it for the purchase of notes at not more than 101 per cent and accrued interest. Whenever there shall remain with the trustee as much as \$5,000 for sixty days, notwithstanding efforts to purchase notes therewith, the fund may be returned to the company when the company has acquired stocks, bonds, notes or other securities of corporations, of whose stock it owns at least 51 per cent; provided that the amount returned by the trustee is not in excess of the cash cost to the company of the securities acquired, and that the securities so acquired shall have been first deposited with the trustee as further security for the payment of the notes.

SERVICE AND PROPERTY OF SUBSIDIARY COMPANIES.—The subsidiary companies of the American Power & Light Company supply electric light and power service to 172 communities, artificial gas service to 23 communities, natural gas service to 6 communities, water service to 7 communities, street railway service to 3 communities, interurban railway service to 3 communities, and ice service to 1 community. The total population served is estimated at approximately 1,342,175.

The total number of customers served by the companies and the physical equipment and output of all of the properties controlled as of December 31, 1917, as compared with the same statistics as of December 31, 1916, and as compared with the same statistics for the properties controlled as of September 17, 1909, the date of organization of the American Power & Light Company, partly estimated in a few instances, follow:

	1917	1916	1909
Electric customers	140,350	125,612	4,893
Artificial gas customers.....	81,491	74,759	450
Natural gas customers.....	28,376	27,789	10,301
Water customers	9,381	8,654	.....
Total customers	259,598	236,814	15,644
Kilowatt generating capacity.....	105,526	92,045	2,575
Kilowatt generating capacity under construction.....	29,135	25,850	750
Kilowatt-hour feeder output for twelve months.....	299,432,844	238,840,446	6,654,227



SMOKE STACK AND CHIMNEY PAINTS

We have different kinds of smoke stack and chimney paints depending upon the temperature to be met with and on other conditions; write and we will submit specifications. For most service we recommend our No. 750 Smoke Stack Black.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Miles of overhead electric distributing pole lines (6,600 volts or less) in service, irrespective of the number of circuits carried	1917	1916	1909
.....	3,236	2,941	119
Miles of underground electric distributing conduit in service, irrespective of the number of circuits carried	41	34	.....
Miles of high voltage transmission lines (over 6,600 volts) in operation, irrespective of the number of circuits carried	1,705	1,431	.....
Miles of high voltage transmission lines (over 6,600 volts) under construction irrespective of the number of circuits carried	131	235	8
Artificial gas holder capacity (cu. ft.)	9,921,000	8,821,000	40,000
Artificial gas holder capacity (cu. ft.) under construction .....	.....	1,100,000	.....
Artificial gas output (cu. ft.) for twelve months	2,534,082,000	2,284,372,500	9,377,300
Natural gas output (cu. ft.) for twelve months	4,974,543,000	6,075,717,000	2,745,997,700
Miles of street railway and interurban railway lines in operation	38	36.5	4.5
Miles of gas mains	1,844	1,714	142
Miles of water mains	144	141	.....

BALANCE SHEET.

American Power & Light Co., as of Dec. 31, 1917.

Assets.

Investments	\$19,276,964.52
Current assets:	
Cash	\$1,049,899.69
Advances to subsidiaries	5,776,246.41
Notes receivable	143,814.00
Accounts receivable	219,660.11
Accrued interest and dividends receivable	45,444.69
Prepaid accounts	2,973.12
Total current assets	7,238,038.02
Furniture and fixtures	6,992.17
Note and bond discount and expense	598,633.59
Suspense	88,797.44
Total	\$27,209,425.74

Liabilities.

Current liabilities:	
Subscriptions gold debenture bonds	
American 6% series due Mar. 1, 2016	\$1,332,969.00
Less amt due from subscribers	1,332,135.03
Balance: Subscribers partial payments received	\$833.97
Notes payable	5,963,411.59
Accounts payable	389,502.25
Dividends payable	56,105.50
Accrued interest and taxes	183,741.27
Total current liabilities	\$6,593,594.58
Funded debt:	
Ten-year 6% gold notes due August 1, 1921	2,200,000.00
Gold debenture bonds, American 6% series due March 1, 2016 ..	5,551,000.00
Capital stock:	
Preferred, 6%	3,656,700.00
Common	8,705,400.00
Reserve	170,335.50
Surplus	332,395.66
Total	\$27,209,425.74

EARNINGS, YEAR ENDING DECEMBER 31, 1917.

Gross earnings year ending Dec. 31, 1917	\$1,622,177
Expenses	418,227
Net earnings	\$1,203,950
Interest and discounts	645,621
Net income	\$558,329
Combined net surplus of the foregoing companies and Southwestern Utilities Corporation and Southwestern Power & Light Co., after payment of dividends, for 12 months ending Dec. 31, 1917	\$317,075
Transferred to reserve for depreciation	272,500
Balance undistributed surplus	\$44,575
Less amount accruing to common stock not owned by American Power & Light Co.	887
Balance accruing to American Power & Light Co.	43,688
Total net income accruing to American Power & Light Co. for 12 months ending Dec. 31, 1917	\$602,017
Less preferred stock dividends paid ..	216,971
Balance accruing to American Power & Light Co. common stock	\$385,046
Less common stock dividends paid ..	336,827
Balance combined surplus for 12 months ending Dec. 31, 1917	\$48,219
Surplus American Power & Light Co. Dec. 31, 1916	327,865
Surplus Dec. 31, 1916, of the above named controlled companies	\$1,334,756
Less amount accruing to common stock not owned by American Power & Light Co.	8,969
Balance surplus, A. P. & L. Co.	\$376,084

ULCO LEAD WOOL FOR SAFETY

IN ROPE FORM

UNITED LEAD COMPANY
111 BROADWAY, NEW YORK

Balance surplus, A. P. & L. Co.	\$376,084
Balance surplus accruing to American Power & Light Co.	1,325,787
Balance combined surplus accruing to American Power & Light Co. Dec. 31, 1917	\$1,701,871

INCOME ACCOUNT.

Statement of combined earnings for year ended Dec. 31, 1917—Kansas Gas & Electric Co., Pacific Power & Light Co., Portland Gas & Coke Co., Nebraska Power Co. and Southwestern Power & Light Co.'s subsidiaries:

	1917	1916
Gross earnings	\$11,389,659	\$10,344,895
Net earnings	4,762,414	4,717,754

Note—The above statement shows the earnings of all the properties of the above named companies now owned, irrespective of the dates of their acquisition.

The gross earnings for the twelve months ended Dec. 31, 1917, as shown above, were derived from various classes of business as follows:

	Amount	Approximate % of Total
Electric Light & Power	\$7,451,020	65
Artificial gas	2,352,023	21
Natural gas	1,117,297	10
Railway	199,212	2
Water	209,480	2
Miscellaneous	60,627	..
Total	\$11,389,659	100

OFFICERS.—Chairman Board of Directors, S. Z. Mitchell; President, F. G. Sykes; Vice-Presidents, G. E. Claflin, A. S. Grenier, R. J. McClelland, E. W. Hill; Secretary and Treasurer, M. H. Arning; Assistant Secretaries and Assistant Treasurers, E. P. Summerson and W. C. Lang.

DIRECTORS.—A. C. Bedford, R. E. Breea, A. W. Burchard, G. E. Claflin, F. A. Farrar, S. Z. Mitchell, F. G. Sykes, F. C. Walcott, Henry H. Wehrhane, H. P. Wright, A. S. Grenier, C. E. Groesbeck.

CITIES SERVICE COMPANY.

General office: 60 Wall Street, New York City.

Incorporated September 2, 1910, under the laws of Delaware as a holding company to control gas, electric and other kindred properties in various cities of the United States.

During the last month of 1913, arrangements were perfected for the acquisition of the assets of Consolidated Cities Light, Power and Traction and Utilities Improvement Companies, by the issuance therefor of its own securities, making the list of properties now controlled through stock ownership, as follows:

COMPANIES AND COMMUNITIES SERVED.

Acme Power Co., Toledo, Ohio.
 Alliance Gas & Power Co., Alliance, Ohio.
 Arkansas Valley Gas Co., Arkansas City, Kans.
 Ashland Gas & Electric Light Co., Ashland, Ohio.
 Athens Railway & Electric Co., Athens, Ga.
 Bartlesville Gas & Oil Co., Bartlesville, Okla.
 Bartlesville Interurban Railway Co., Bartlesville and Dewey, Okla.
 Berea Pipeline Co., Berea, Ohio.
 Bristol Gas & Electric Co., Bristol, Va. & Tenn.
 Brush Electric Co., Galveston, Texas.
 Central Ohio Gas & Electric Co., which controls the following:
 Buckeye State Gas & Fuel Co., pipe line and field company in Ohio.
 Columbus Natural Gas Co., selling wholesale to Columbus, O., and has local franchises at Pataskala and Reynoldsburg.
 Coshocton Gas Co., Coshocton, Ohio.
 Mansfield Gas Light Co., Mansfield, Ohio.
 Mansfield Electric Light & Power Co., Mansfield, Ohio.
 Medina Gas & Fuel Co., Medina, O., and nine other communities.
 Cities Fuel & Power Co. and subsidiaries.
 viz:
 American Pipe Line Co., Carey, Kan.

Franklin County Pipeline Co., Ottawa, Kan.
 Glenwood Nat. Gas Co., Ltd. Field company in Ontario.
 Manufacturers Nat. Gas Co., Ltd. Pipe line company in Ontario.
 Sentinel Oil & Gas Co., Ottawa, Kan.
 City Light & Traction Co., Sedalia, Mo.
 City Light & Water Co., Amarillo, Texas.
 Crew Levick Co., Philadelphia, Pa.
 Cumberland & Westernport Electric Ry. Co., Cumberland, Md., and seven other communities.
 Danbury & Bethel Gas & Electric Light Co., Danbury, Brookfield and Bethel, Conn.
 Denver Gas & Electric Light Co., Denver, Colo., and six other communities.
 Dominion Gas Co., with six subsidiaries serving the cities of Hamilton, Brantford, Galt, St. Catherines, Woodstock and other communities in Ontario.
 Durham Traction Co., Durham, N. C.
 Electric Bond Deposit Co.
 Empire District Electric Co., serves with its subsidiaries Joplin, Webb City, Carterville, Carthage, Missouri, and ten other communities in Missouri and Kansas.
 Empire Refining Co., Cushing, Okmulgee, Oklahoma City, Ponca City, Okla.
 Empire Gas & Fuel Co. owns a number of oil and gas properties in Oklahoma, including Quapaw Gas Co., sells wholesale to communities in Oklahoma and Missouri.
 Wichita Natural Gas Co., sells wholesale to Wichita, Newton, Winfield and Wellington, Kan.
 Wichita Pipe Line Co., Cherryvale and Iola, Kan. Subsidiaries of Empire Gas & Fuel Co.
 Empire Gasoline Co.
 Empire Oil & Gas Co. (Del.), operating in Kentucky.
 Empire Petroleum Co., operating in Kansas, Oklahoma and Texas.



THE SCIENTIFIC SAFETY GARAGE HEATER

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Empire Gas & Fuel Co. (Colo.), operating in Colorado.

Empire Gas & Fuel Co. (Maine), operating in Texas.

Empire Gas & Fuel Co. (Va.), operating in Oklahoma.

Empire Gas & Pipe Line Co. (Maine), operating in Kansas.

Fremont Gas, El. Lt. & Pr. Co., Fremont, Neb.

Frost Gas Co., with three subsidiaries: Westfield, Mayville, Chautauqua, Fredonia, Brocton and Silver Creek, N. Y.

Hattiesburg Traction Co., subsidiary of Meridian Light & Ry. Co., serves Hattiesburg, Miss.

Knoxville Gas Co., Knoxville and Park, Tenn.

Lebanon Gas & Fuel Co., Lebanon, Pa.

Lincoln (Nebr.) Gas & Electric Light Co.

Lorain County Electric Co., Elyria and Lorain, Ohio.

Massillon Electric & Gas Co., Massillon, O., and four other communities.

Meridian Light & Railway Co., Meridian, Miss.

Montgomery Light & Water Power Co., Ala.

Pueblo (Colo.) Gas & Fuel Co.

Republic Construction Co., Mansfield, Ohio.

Reserve Gas Co., Field Co. in Oklahoma.

St. Joseph Railway, Light, Heat & Power Co., St. Joseph and Savannah, Mo.

Salina Light, Power & Gas Co., Salina, Kans.

Southern Ontario Gas Co., Ltd.—Pipe Line Co., but also has local franchises in Aldborough, Dun-

wich, Harwich and Raleigh, Ont.

Southwestern Oklahoma Gas & Fuel Co., Pipe

Line Co. in Oklahoma.

Spokane Gas & Fuel Co.,* Spokane, Washing-

ton.

Summit County Power Co., Dillon, Colo.

Toledo Traction, Light & Power Co., holding

company for the following: Toledo Railways &

Light Co., Toledo, Ottawa Beach & Nor. Ry. Co.,

Toledo & Western Railroad Co., Maumee Valley

Ry. & Light Co., Adrian Street Railway Co.,

Toledo Beach Co. (Population served includes

Toledo, O., and eleven other communities in

Ohio and Michigan.)

Trumbull Public Service Co., Warren & Niles,

O., and five other communities.

United Water, Gas & Electric Co., Hutchinson

& Nickerson, Kan.

Utilities Construction Co., Lorain, Ohio.

Venture Gas Co., Morral, Ohio.

Washita Gas & Fuel Co., Field Co. in Okla-

homa.

Watauga Power Co., Hydro-Elec. generating

company in Tennessee.

Western Distributing Co., twenty communities

in Kansas.

Western Okla. Gas & Fuel Co., Duncan, Law-

ton and Marlow, Okla.

NOTE.—The total population of these communi-

ties by census of 1910 in the United States and

1911 in Canada, was 1,711,000; and this was an

increase of nearly 42 per cent over the popula-

tion in the preceding census. At this rate of in-

crease, the present population is more than

2,000,000. This total does not include the rural

population served by several of the companies.

*Cities Service Co. has contract to acquire all

of the common stock.

CAPITAL STOCK.—Authorized, preferred, \$100,-
000,000; common, \$50,000,000; outstanding, com-
mon, \$32,122,464; preferred, December 31, 1917,
\$69,311,375. Shares, \$100. Preferred stock
has preference both as to dividends and
assets. Transfer agents, Henry L. Doh-
erty & Co., New York, N. Y.; Pennsylvania
Company for Insurance on Lives and Granting
Annuities, Philadelphia, Pa.; The Guardian
Savings and Trust Co., Cleveland, Ohio; Citi-
zens' Trust & Savings Bank, Columbus, Ohio;
International Trust Co., Denver, Colo. Regis-
trars, Girard Trust Co., Philadelphia, Pa.;
Guaranty Trust Co., New York, N. Y.; The First
Trust and Savings Co., Cleveland, Ohio; State
Savings Bank & Trust Co., Columbus, Ohio;
First National Bank, Denver, Colo. Fiscal year
ends December 31.

Of the \$32,122,464 outstanding common stock,
\$25,666,372 is in the hands of the public; \$6,456,-
692 is in the treasury of the company. Of the
\$69,311,375 outstanding preferred stock \$66,494,-
851 is in hands of public; \$2,816,524 is in treas-
ury of company.

Dividends on both classes of stock are paid
monthly on the first of each month to holders
of record on the 15th of the preceding month.
Dividends have been paid continuously on both
classes of stock since the organization of the
company to August 1, 1914, as follows: On the
preferred stock, 6 per cent per annum; and on
the common stock at 3 per cent per annum to
January, 1912; at 4 per cent per annum during
the year 1912; at 5 per cent per annum during
1913; 6 per cent per annum up to August 1,
1914; 2 per cent in 1915; 9 per cent accumulated
dividend paid in convertible debenture; 6 per
cent in 1916 and 1917.

Preferred shares listed on important stock
exchanges of England, Holland and United
States.

BALANCE SHEET, JANUARY 10, 1918.

Assets.

Capital Assets:

Plant and investment.....	\$84,624,336.73
Employees subscription	2,125,763.00
Capital stock of company owned..	6,609,292.66
Current Assets:	

Accounts receivable.....	\$1,449,087.45
Bills receivable.....	507,725.00
Receivable for secu-	
rities (since rec'd)	1,711,250.00
Coupons receivable..	284,008.84
Interest receivable..	21,045.45
Cash	2,191,552.48
	<u>6,164,669.22</u>

Other Assets:

Preferred dividends	
receivable	\$1,535,188.85
Surplus earnings due	
from subsidiaries.....	11,931,617.79
Advances to subsid-	
iaries	21,574,653.44
Payments made in	
advance	5,997.61
	<u>35,047,457.69</u>

Total assets

\$134,571,519.30

MacDONALD - MANN COKE QUENCHING CHUTES makes
quenching an easier and more agreeable duty, as the gas and steam are confined in water-
sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and
the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Liabilities.

Capital Liabilities:

Common stock (256,663,7207 shares in hands of public; 64,560,9193 shares owned by company)	\$32,122,464.00
Preferred stock (664,948,5125 shares in hands of public; 28,165,2411 shares owned by company)	69,311,375.36
Five per cent. convertible debentures	50,917.00

Current Liabilities:

Bills payable a/c	
Liberty Bonds....	\$540,000.00
Preferred stock warrants	4,617.00
Common stock warrants	1,965.50
Accounts payable....	133,339.60
Interest and dividends payable	748.70
	680,670.80

Other Liabilities:

Advances from subsidiaries	\$8,598,693.75
*Contingent liability	1.00
	8,598,694.75

Surplus Earnings:

Contingent fund....	\$910,108.25
Stock surplus	4,692,164.00
Surplus reserve	3,390,221.16
Surplus	14,814,903.98
	23,807,397.39

Total liabilities\$134,571,519.30

*Guarantee of notes, bonds and stock as follows: \$10,000,000 Consolidated Cities Light, Power & Traction Company 5 per cent gold bonds, due 1962 (\$1,000,000 of which are deposited under the Cities Fuel & Power Company notes); \$12,737,000 Empire Gas & Fuel Company first mortgage and collateral trust sinking fund 6 per cent gold bonds, due May 1, 1926; \$2,000,000 Empire Gas & Fuel Company notes; \$10,000,000 Cities Fuel & Power Company 7 per cent secured gold notes, due December 1, 1919; and 5 per cent dividends on \$1,560,000 St. Joseph Railway, Light, Heat & Power Company preferred stock. The full liability of these issues is shown on the combined balance sheet of the subsidiary companies.

EARNINGS STATEMENT, DECEMBER 31.

	1917	1916
Gross earnings.....	\$19,252,492.84	\$10,110,342.90
Expenses	357,229.09	239,389.70
Net earnings	18,895,263.75	9,870,953.20
Interest on notes and debentures	2,861.74	258,960.44
Net to stock.....	18,892,402.01	9,611,992.76
Dividends preferred stock	3,712,695.15	2,409,690.92
Net to common stock and reserve	\$15,179,706.86	\$7,202,301.84
Contingent fund	910,108.25	
Surplus reserve	3,390,221.16	
Stock surplus	4,692,164.00	
Surplus	14,814,903.98	
Total surplus and reserve	\$23,807,397.39	

OFFICERS.—President, Henry L. Doherty; Vice-Presidents, E. Mackay Edgar, Frank W. Frueauff, Ernest H. Johnston, Thomas I. Carter; Secretary, Paul R. Jones; Treasurer, Louis F. Musil; Assistant Secretaries, T. W. Barnett (London), G. G. Brownell, G. C. Blankner, E. E. McWhiney; Assistant Treasurers, G. C. Blankner, G. G. Brownell and T. A. Wallace; General Counsel, Frueauff, Robinson & Sloan.

EXECUTIVE COMMITTEE.—Henry L. Doherty, Frank W. Frueauff, Leslie M. Shaw, Warren W. Foster, Holton H. Scott.

DIRECTORS.—Henry L. Doherty, Frank W. Frueauff, J. M. McDowell, Chas. A. Frueauff, Leslie M. Shaw, Warren W. Foster, George A. Archer, E. W. Rollins, Holton H. Scott, F. S. Terry, James Mitchell, Burton G. Tremaine, E. Mackay Edgar, Watson B. Robinson, Thos. I. Carter, Ernest H. Johnston, Thos. St. J. Bashford, Paul R. Jones, Louis F. Musil, George Williams, M. R. Bump, Franklin S. Terry.

Annual meeting, first Tuesday after first Monday in April.

COMMONWEALTH POWER, RAILWAY AND LIGHT COMPANY.

(Incorporated under the laws of Maine in February, 1910.)
New York office, 14 Wall Street.

The Company, through its constituent companies, viz.: Grand Rapids Railway Co., a Michigan corporation; Saginaw Bay City Railway Co., a Michigan corporation; Michigan Light Co., a Michigan corporation; Consumers Power Co., a Maine corporation, authorized to do business in Michigan; Union Railway, Gas & Electric Co., Michigan Railway Co., Manistee Railway Co., and Springfield Light, Heat & Power Co. (Ohio), owns and operates street and interurban properties in the

States of Michigan, Illinois, Wisconsin and Indiana; the gas properties in Jackson, Kalamazoo, Pontiac, Flint, Saginaw, Bay City, and Manistee, Mich.; Springfield, Peoria and Pekin, Ill., and Evansville, Ind.; electric light and power properties in Grand Rapids, Kalamazoo, Jackson, Flint, Saginaw, Bay City, Cadillac, Pontiac, Battle Creek, and intermediate cities and towns; the water business in Cadillac and Lowell; and owns hydro-electric generating stations and valuable water power property and



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



rights along the Grand, Kalamazoo, Muskegon, Au Sable and Manistee Rivers.

CAPITALIZATION.

Preferred stock, 6% cumulative.....\$17,953,000
Common stock 18,585,900

The preferred stock is preferred as to assets and also as to dividends at the rate of 6 per cent per annum, cumulative from February 1, 1910, and is redeemable at the option of the Company at 105 and accrued dividends.

Dividends on the preferred stock are payable quarterly on the first days of February, May, August and November, and have been paid regularly since the organization of the company. Dividends at the rate of 4 per cent have been paid on the common stock since May, 1, 1913.

The transfer agents of the preferred and common stocks are: Hodenpyl, Hardy & Co., Inc., New York City; E. W. Clark & Co., in Philadelphia; The Michigan Trust Co., in Grand Rapids; and Fidelity & Columbia Trust Co., in Louisville.

The registrars of the preferred and common stocks are: Bankers Trust Co., in New York City; Fidelity Trust Co., in Philadelphia; The Old National Bank, in Grand Rapids; and United States Trust Co., in Louisville.

FUNDED DEBT.—Bonds: 6 per cent convertible gold; authorized, \$10,000,000; outstanding, \$8,047,000. Dated May 1, 1913; due May 1, 1918. Interest payable May 1 and November 1, at the agency of company in New York and Philadelphia. Denominations, \$1,000, \$500 and \$100; coupon bonds, with privilege of registration as to principal only. Convertible at option of holder in amounts of \$1,000, into an equal amount of 6 per cent cumulative preferred stock of the Commonwealth Power Railway and Light Company at par, and in addition upon such conversion the bondholder will receive Commonwealth Power Railway and Light Company common stock at par value equal to 30 per cent of face amount of bonds so converted. Bankers Trust Co., New York, trustee.

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Securities and property owned....	\$44,139,187.37
Michigan Railway Co. five-year 6% note guaranty	1.00
Employees' stock purchase plan loan guaranty	1.00
Guaranty of usher obligations on West Virginia coal property....	1.00
Cash	577,863.02
Advances to subsidiary companies	5,718,803.70
Accounts receivable (subsidiary companies)	538,782.68
Interest receivable (subsidiary companies)	12,380.88
Debt discount (being amortized) ..	9,660.00
Total.....	\$50,996,680.65

Liabilities.

Preferred capital stock.....	\$17,953,000.00
Common capital stock.....	18,585,900.00
Common stock deliverable.....	2,414,100.00
Five-year 6% convertible bonds (due May 1, 1918).....	8,047,000.00
Loans payable	2,407,500.00
Guaranty of \$6,500,000 Michigan Ry. Co. five-year 6% gold notes	1.00
Guaranty of \$250,380.55 loan of trustees under employees' stock purchase plan	1.00
Guaranty of \$281,250 usher obligations on West Virginia coal property	1.00
Accrued accounts	285,474.25
Surplus	*1,303,703.40
Total.....	\$50,996,680.65

* Of the amounts standing to credit of surplus accounts of subsidiary companies there are accruing to the Commonwealth Power Railway and Light Company to December 31, 1917, undistributed earnings amounting to the sum of \$3,301,701.54.

CONDENSED EARNINGS STATEMENT FOR TWELVE MONTHS ENDING DECEMBER 31.

	1917	1916	1915
Earnings on stocks owned by this company in subsid. cos.	\$2,250,774.61	\$2,866,667.33	\$2,434,824.65
Interest and other earnings.....	790,355.50	592,061.94	647,031.96
Gross earnings	\$3,041,130.11	\$3,458,729.27	\$3,081,856.61
Expenses and taxes.....	189,923.80	151,080.33	143,858.63
Amortization of debt discount.....	28,932.00	28,932.00	28,932.00
Interest charges	672,649.73	626,974.47	613,478.61
Total deductions	\$891,505.53	\$806,986.80	\$786,269.24
Net income, available for dividends replacements, depre'tn	2,149,624.58	2,651,742.47	2,295,587.37
Dividends on preferred stock.....	1,077,010.00	1,019,170.00	960,000.00
Balance	\$1,072,614.58	\$1,632,572.47	\$1,335,587.37

OFFICERS.—President, Anton G. Hodenpyl; Vice-President, C. M. Clark; Vice-President, Geo. E. Hardy; Treasurer and Secretary, Jacob Hekma; Assistant Secretaries and Assistant Treasurers, C. A. Pearson, Jr., G. H. Bourne.

DIRECTORS.—John W. Barr, Jr., C. M. Clark, E. W. Clark, B. C. Cobb, W. M. Eaton, E. G. Filer, J. B. Foote, George E. Hardy, Anton G. Hodenpyl, Franz R. Huntington, Emerson McMillin, Charles H. May, Edwin C. Nichols, D. E.

Pomercy, N. S. Potter, Waldo S. Reed, James Richardson, H. D. Walbridge, F. Silliman, Jr., Lewis H. Withey, John C. Weadock.

The annual meeting is held at the principal office of the Company, 188 Middle Street, Portland, Maine, on the first Tuesday of August of each year at 11 o'clock A. M., or within 60 days thereafter upon date designated by Directors or President.

As manufacturers of large lines of Hydraulic Equipment for Steel Work, we are kept in constant touch with the most advanced practice of today.

R. D. WOOD & CO., PHILA., PA.



MICHIGAN LIGHT COMPANY.

(Incorporated under the laws of Michigan in January, 1914.)

The Michigan Light Company operates in the following cities: Jackson, Kalamazoo, Pontiac, Flint, Saginaw, Bay City, Manistee, Birmingham and Royal Oak.

The outstanding capitalization of the Michigan Light Co. is, preferred stock, \$2,750,000; common stock, \$3,175,900.

All of the common stock of the Michigan Light Co. is owned by the Commonwealth Power Railway and Light Co., a Maine corporation.

The preferred stock is preferred as to assets and dividends. The dividends are cumulative at the rate of 6 per cent, payable on the first days of January, April, July and October, and have been paid regularly since the organization of the Company.

The transfer agents of the stock are: Preferred—Hodenpyl, Hardy & Co., Inc., in New York City.

The registrars of the stocks are: Preferred—Bankers' Trust Co., in New York City.

The Company's funded debt outstanding in hands of the public is as follows:

Michigan Light Co. 1st ref. 5s.	\$1,888,000
Reserved to retire outstanding bonds as follows:	
Jackson Gas Co., 1st 5s, 1937, A. & O.	\$340,000
Kalamazoo Gas Co., 1st 5s,	

1920. J. & J.	388,000
Pontiac Light Co., 1st 5s,	
1927. J. & J.	179,000
Flint Gas Co., 1st 5s., 1924	
M. & N.	493,500
Bay City Gas Co General (now 1st) mtg. 5s. 1920. J. & D. ...	367,500

Michigan Light Co. first and refunding mortgage 5 per cent bonds are dated March 1, 1916; due March 1, 1946; interest payable March 1 and September 1. Coupon bonds, issued in denominations of \$1,000, \$500 and \$100, with privilege of registration as to principal only. Redeemable at 105 and accrued interest on any interest date, on thirty days' notice. Union Trust Co., Detroit, Mich., trustee.

The annual meeting is held at the principal office of the Company, Jackson, Mich., at 3 p. m. on the fourth Tuesday of January in each year or within 60 days thereafter as the Directors or President may designate.

Earnings for the years 1916 and 1917 were as follows:

	1917	1916
Gross earnings	\$2,393,410.54	\$1,769,699.38
Operating expenses and taxes	1,834,406.69	1,180,291.98
Net earnings	\$559,003.85	\$589,407.40
Fixed charges	155,175.13	162,816.43
Net profits	\$403,828.72	\$426,590.97

CONSOLIDATED GAS CO. OF NEW YORK.

General office: 130 East 15th Street.

Organized November 10, 1884, as a consolidation of the New York Gas, Municipal, Metropolitan, Harlem, Knickerbocker and Manhattan Gas Light Companies. Since 1899 acquired control of the New Amsterdam Gas, New York Edison (a consolidation of the New York Electric Light, Heat and Power Co. and the Edison Electric Illuminating Co.), Mutual Gas Light, Standard Gas Light and the United Electric Light and Power Companies, giving Consolidated Gas Co. entire control of the lighting and power supply of the Borough of Manhattan. Also secured control of the Westchester Lighting Co., supplying a large part of Westchester County with gas and electricity.

The Consolidated Gas Co. is the direct survivor, either by merger or purchase, of the following corporations organized to furnish gas to the citizens of New York:

New York Gas Light Co., 1823; Manhattan Gas Light Co., 1830; Harlem Gas Light Co., 1855; Metropolitan Gas Light Co., 1855; New York Mutual Gas Light Co., 1866; Municipal Oxygen Gas Co., 1874; Knickerbocker Gas Light Co., 1876; Consolidated Gas Co., a union of seven concerns at the beginning, 1884; Standard Gas Light Co., 1886; Northern Union Gas Co., 1897; Central Union Gas Co., 1897; Equitable Gas Light Co., 1882; East River Gas Co. of

Long Island City, 1890; New York and East River Gas Co., 1892; New Amsterdam Gas Co., which having been incorporated in 1897, absorbed the Equitable and New York and East River Cos. in 1898.

CAPITALIZATION.—Capital stock, authorized, \$125,000,000; outstanding, \$99,816,500; shares, 998,165—\$100 each.

Dividend on common stock, annual rate, 7 per cent, payable quarterly.

FUNDED DEBT.

Debenture bonds (6%)	Authorized	Outstanding
(not presented for redemption)		\$525.00
5-year 6% convertible debentures, issued Feb. 1, 1915; due Feb. 1, 1920.	\$25,000,000	\$24,846,247.50

Interest payable Feb. 1, May 1, Aug. 1, Nov. 1.

None of the Company's property was pledged or mortgaged as security for the debenture bonds or convertible debentures.

Principal and interest, when due, is payable at National City Bank, 55 Wall Street.

OFFICERS.—President, George B. Cortelyou; Vice-Presidents, W. R. Addicks, L. B. Gawtry, R. A. Carter; Secretary, R. A. Carter; Treas-

Williams' "AGRIPPA" Cutting-Off and Side-Tool Holder



a tool that performs both cutting off and side-work by the mere substitution of suitable cutters tells its own story of economy.

J. H. Williams & Co., 74 Richards St., B'klyn, N.Y.

urer, C. G. M. Thomas; Assistant Secretaries, H. M. Brundage, F. R. Barnitz; Assistant Treasurer, Benj. Whiteley.

TRUSTEES.—H. E. Gawtry, Wm. Rockefeller, George F. Baker, John W. Sterling, Walter P. Bliss, Louis M. Greer, Samuel Sloan, Moses Taylor, W. R. Addicks, F. A. Vanderlip, George B. Cortelyou, Donald G. Geddes, N. F. Brady.

Annual meeting of stockholders held Monday, January 24.

Company's fiscal year ends December 31.

(Extract from annual report for 1917.)

**CONDENSED STATEMENT OF ASSETS AND LIABILITIES,
DECEMBER 31, 1917.**

Assets.

Fixed assets, including land, plant and equipment	\$54,049,787.61
Bonds and stocks of and advances to, affiliated companies and other investments*	112,043,740.25
Bonds and mortgages.....	375,000.00
Cash	1,800,602.72
Accounts receivable	6,524,700.53
Material and supplies.....	1,197,985.43
	<hr/>
	\$175,991,816.54

Liabilities.

Capital stock	\$99,816,500.00
Convertible debentures	24,846,772.50
Accounts payable and accrued charges	4,754,809.48
Stock premiums	13,918,878.23
Renewal and reserve funds.....	12,764,417.10
Profit and loss.....	19,890,439.23
	<hr/>
	\$175,991,816.54

* Includes \$850,000.00 Par Value of United States Liberty Loan Bonds.

The figures, thus far available respecting the Company's operations for the calendar year, 1917 indicate that the earnings of the company from its gas business during the year (after deducting the reserve for plant withdrawn from service, but without deducting the reserve heretofore made for contingencies, the provision therefor having been made by a charge directly to profit and loss account, amounted to \$1,368,699.16.

For the purpose of determining the earnings applicable (in accordance with the decision of the United States Supreme Court) to the value of the tangible and intangible property (\$79,976,291.92), employed in the company's gas business, there should be added the net earnings of the Astoria Light, Heat & Power Co., from its gas business, after deducting therefrom the reserve for plant withdrawn from service, \$1,169,579.49, making the total earnings from the company's gas business for the year 1917, \$2,538,278.65.

This amount is equivalent to 3.17 per cent on the above stated value of the tangible and intangible property, employed in the manufacture and distribution of the gas sold by the Company.

Dividends were paid during the year on the

company's capital stock at the rate of 7 per cent per annum, amounting to \$6,987,155.00.

The dividends and interest applicable to the year 1917, received on stocks, bonds and other obligations and on advances made to affiliated gas and electric companies, operating in the boroughs of Manhattan, Queens and The Bronx and the County of Westchester (excluding interest and dividends received from the Astoria Light, Heat & Power Co., the earnings of that company from its gas business being included above, but including \$373,589.25 of interest received by the Astoria Company on loans and advances) amounted to \$6,695,956.91.

The interest which accrued during the year on funded and other debt, chargeable against earnings, amounted to \$1,493,158.80.

Surplus (including that of the Astoria Light, Heat & Power Co.) to be carried to profit and loss account for the year 1917, \$753,921.76.

The ultimate effect which the war with Germany will have upon the output of gas in the City of New York it is impossible to determine. Undoubtedly, the demand for gas as fuel, created by the activities of concerns engaged in the manufacture of munitions, equipment and supplies for the use of the armed forces of the United States and of our Allies, has added somewhat to the volume of sales of the Consolidated Gas Company and its affiliated gas companies. This, however, is likely to be a great deal more than offset by the effect of economies in the use of gas, imposed by reason of the necessity of conserving coal.

Other conditions, including the unprecedentedly low temperature in the month of December and the ever increasing use of gas for industrial purposes, contributed to an increase of 6.53 per cent in the gas output of the Consolidated Gas Company and its affiliated gas companies in the year 1917 over 1916.

Until December, 1917, the combined maximum day's output of the Consolidated Gas Company and its affiliated gas companies had amounted to 125,148,000 cu. ft. Beginning with December 15 the low temperature, coupled with the extraordinarily severe weather conditions, created a demand upon the company's manufacturing resources that was without parallel. On that date the output was 129,959,000 cu. ft. On December 28 it was 137,210,000 cu. ft. and on December 31, 155,006,000 cu. ft. The output for the last three days of December aggregated 460,613,000 cu. ft., an increase over the three corresponding days in 1916 of 134,297,000 cu. ft. or 41.16 per cent.

The maximum day's output in December, 1917 (155,006,000 cu. ft.), exceeded the maximum day's output prior to December, 1917 (125,148,000 cu. ft.), by 29,858,000 cu. ft. or 23.86 per cent. This increase in the maximum day's output was equal to the entire manufacturing capacity of the largest plant in the system, outside of the Astoria plant, the latter having a rated daily capacity of 40,000,000 cu. ft.

The scarcity of coal undoubtedly contributed largely to the increase in the output of gas and created an extraordinary demand for room-heating appliances, the daily sales of which exceeded all previous records, more than fourteen

RELIABLE
HOT SPOT
 COPPER REFLECTOR
 GAS HEATERS

Let the "HOT SPOT" heater intensify the rays of golden returns which the sun of gas heater popularity spreads over your fall sales campaign. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

hundred appliances of this character having been sold in a single day. In five days, five thousand and forty-four room-heating appliances were sold.

The effect of the war upon the output of electrical energy is already making itself felt and threatens to seriously impair the revenues of the electric companies.

The effect of the orders of the National Fuel Administrator now in operation will be very great. Show-window and interior display lighting represents a very large volume of the commercial business of the electric companies and the curtailment of this service as well as practically all outside illumination for six nights in the week, together with the closing down of all industries, trades and business for a fortnight of working days, will very seriously affect their revenues.

The restrictions placed upon the use of electrical energy, which became effective in 1917, occurred too late in the season to seriously affect the year's business. The combined output of the generating stations of the New York Edison Company and the United Electric Light and Power Company was 11.5 per cent greater in 1917 than in 1916.

The effect of the war upon the cost of producing and distributing gas and electrical energy has already been very disastrous and will be much greater during the present year than it was in 1917. It is estimated that the increase in the cost of gas-oil alone, approximately $1\frac{1}{2}$ cents a gallon, will add \$1,800,000 to the gas manufacturing cost of the Consolidated Gas Company and its affiliated gas companies.

The price of practically all the materials and supplies required in the production and distribution of gas and electricity increased very substantially in 1917. The same was true of labor. The price of boiler coal, used in generating electricity, increased 59.2 per cent and of anthracite and bituminous coal, used in gas manufacture, 11.3 per cent; the average increase in the price of all varieties of coal used amounting to 34.3 per cent. The price of gas-oil increased 66.2 per cent and has increased again this year 30 per cent; the increase in the price of gas-oil in 1918 over that of 1916 amounting to 116.6 per cent. The increase in the price of these items alone added \$4,530,600 to the cost during the year 1917 of manufacturing gas and generating electricity.

Coupled with the increase in the cost of coal has been the difficulty of obtaining it as well as a marked inferiority in its quality which caused an excessive consumption as well as an impairment of the capacity of the various plants.

It is estimated that the additional cost of producing and distributing gas and electricity, due to the increase in the price of labor and materials, amounted during the year to approximately \$4,838,355. The cost of labor was also greatly increased during the year by the obligation imposed upon the companies of protecting its gas and electric plants by maintaining at each of them a special force of guards at an expense for the period subsequent to the declaration of war against Germany of \$597,690.

Notwithstanding some improvement in the

revenue from the sale of residual products, credited to the cost of gas manufacture, the total increase in the combined operating expenses of the gas and electric companies amounted to \$9,336,003, including an increase (\$1,486,626) in taxes and an increase (\$2,413,332) due to the greater quantity of gas and electricity sold.

More than 1,050 employees of the Consolidated Gas Company and its affiliated gas and electric companies are now serving in the Army and Navy, representing every grade of employment from departmental superintendents to day laborers.

The technical and engineering departments were particularly affected in this respect, the demand for the services of men thus qualified and the inducements offered them to join the various branches of the service having caused a great many enlistments.

In the various clerical departments the difficulty of obtaining men to fill the vacancies caused by enlistment and conscription has resulted in the employment of many women, who are performing their duties in a very satisfactory manner.

The gas sales of the Consolidated Gas Company increased during 1917, as compared with the previous year, 595,937,500 cu. ft. or 3.66 per cent. In 1916 there had been an increase in gas sales of 3.92 per cent, as compared with the previous year.

Its gas sales and those of its affiliated gas companies in the Borough of Manhattan increased during the year 782,241,700 cu. ft. or 3.48 per cent, as compared with an increase of 3.83 per cent in 1916.

In the Borough of The Bronx the gain during 1917 in the volume of sales amounted to 285,270,000 cu. ft. or 6.61 per cent, as compared with a gain of 2.34 per cent in 1916 over the previous year.

The combined gas sales of the Consolidated Gas Company and its affiliated gas companies in the Boroughs of Manhattan, The Bronx and Queens and in Westchester county amounted to 1,407,202,100 cu. ft. more in 1917 than in 1916, a gain of 4.79 per cent, as compared with a gain of 4.01 per cent in 1916 over the previous year.

A comparison made between the amount of gas consumed in 1917 and 1916 by all classes of establishments, including dwellings, apartment houses, stores of various kinds, factories, hotels and restaurants, indicates that the increase has been quite general, the percentage of increase in the consumption of gas in the majority of the various classes of establishments differing not substantially from the average increases above shown in the various territories supplied by the Consolidated Gas Company and its affiliated gas companies: the exceptions being bakeries, delicatessen stores, laundries and saloons, which showed a decrease in their consumption of gas in 1917 as compared with 1916. In the case of the last two the consumption in 1916 showed a decrease as compared with 1915.

The policy of the city, adopted in 1915, of substituting nitrogen-filled electric streets lights for incandescent gas lamps resulted in a reduction in the consumption of gas for street lighting in

We will gladly send you any size or sizes of GOODMAN STOPPERS on trial.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

1915 of approximately 80,000,000 cu. ft., in 1916 of approximately 139,500,000 cu. ft., and in 1917 of 26,919,200 cu. ft. -On December 31, 1917, there were no incandescent gas street lamps in the territories, supplied by the Consolidated Gas Company and its affiliated gas companies in the City of New York, as against 16,653 on December 31, 1914.

The combined station output of the Consolidated Gas Company and its affiliated gas companies in 1917 showed an increase over the output for the preceding year of 6.53 per cent. The increase in the day output was 9.03 per cent and in the night output 3.73 per cent. From these figures it is apparent that the increase was largely due to an increase in the use of gas for industrial, commercial and domestic purposes rather than for illumination.

During the year the Consolidated Gas Company and its affiliated gas companies installed 205,074 appliances. There were surrendered to the companies 67,410, leaving a net increase of 137,664 in the number of appliances in use, which have been installed by the companies, as against the net increase in the previous year of 108,852 and in the years 1915 and 1914 of 90,396 and 61,570, respectively. The net increase in 1917 included 2,856 hotel and restaurant appliances, 3,888 industrial appliances, 3,197 gas-fired steam radiators and 28,382 miscellaneous gas-heating appliances.

The use of gas instead of coal for cooking in hotels, restaurants, clubs and miscellaneous institutions is becoming more and more general. In 1917, 6,217 linear feet (1 1/6 miles) of hotel ranges were installed, an increase of 1,011 feet or 33 per cent over the number of feet installed in 1916. On December 31, 1917, the Consolidated Gas Company and its affiliated gas companies had on rental to consumers 462,332 cooking appliances of various types, an increase of 13,521 over the number in use on December 31, 1916.

As the result of special effort last spring 7,316 water heaters were installed, including several large installations in restaurants, factories and office buildings.

In addition to the weekly meetings, at which many problems relating to the development of the utilization of gas in the various trades are discussed, the educational work of our Industrial Appliance Division is carried on through the medium of periodic bulletins, which are issued to our salesmen for the purpose of keeping them informed in regard to the latest appliances designed for the utilization of gas for industrial purposes.

Among the new industrial uses for gas developed in 1917 were the heating of china kilns by means of a new type of burner, gas in these installations being substituted for wood fires; the substitution of gas for steam in the heating of large steel drums, used in the manufacture of paper stock; the utilization of steam from a gas-steam boiler for refining varnish and for vacuum drying, including the drying of nuts, raisins, dates and figs; gas furnaces for melting the trimmings of electrotypers' copper-plates, which were formerly sold as junk and melted in crucibles, fired by coke, outside of New York;

the perfecting of a gas-consuming device for the use of preserving and canning companies; the employment of gas heaters in the drying of cloth for the government, by means of which 9,000 yards can be dried in a very simple manner in seven hours; the installation of a 25-horsepower steam boiler with complete paraphernalia for washing, bleaching and shaping Panama hats, and of a 10-horsepower steam boiler with the auxiliary paraphernalia for cloth sponging. These and other similar installations have been the result of the development of new types of burners or new methods for the utilization of gas, adapted to the requirements of the several trades and growing out of the special study made of these trades and of all their various heating requirements.

A new special type of burner designed for large industrial installations, which was developed by this department, has been installed in several large bake-oven plants and in large steam-heating systems, previously fired by coal, and has proved so satisfactory that a large number of similar installations will doubtless be made during the coming year.

The Utilization Department has also been active in designing and developing large house-heating and water-heating systems, using gas as fuel. Many successful installations have been made in churches, moving picture theatres, garages, stores, offices, private houses and in our new 57th street office building.

The Illumination Bureau of this department has secured several large special gas-lighting installations in factories, as well as in police stations and in the New York Post Office.

The Architectural Bureau of the Utilization Department, the function of which is to promote the utilization of gas by urging the importance of adequately and completely piping for gas all buildings in process of construction or undergoing alteration, accomplished a great deal along this line during the year.

The Utilization Department has been active in other promotive work, such as the preparation and publication of articles for the Popular Trade and Technical Press and has also co-operated with national gas associations in the preparation and publication of booklets on subjects relating to the use of gas.

In order to further promote the use of gas and gas appliances, lectures with appropriate lantern slides on a number of subjects relating to the use of gas have been prepared. Ten of these were delivered during the year before technical societies, gas associations, housewives' leagues and public schools.

The various departmental schools for the instruction and training of employees in the different branches of the gas business have been actively maintained during the year.

The new three-story office building on the south side of 57th street, between Broadway and Seventh avenue, has been completed and is now occupied by the branch office formerly located at 112 West 42d street. This building was designed not only to afford the maximum of facility in the transaction of business with the public and for the most effective display of the various types of domestic and industrial

Precision Orsats or Flue Gas Analyzers for either 50 or 100 CCs always in stock. Prices and Bulletins on request.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

appliances, but to furnish a practical demonstration of the availability of gas for heating as well as lighting.

Last fall it became perfectly apparent to the Consolidated Gas Company and its affiliated gas companies that the need of the government in its manufacture of high explosives for toluol, and possibly for benzol, was not only urgent but imperative, and that any delay, especially in the obtaining of the former of these two light oils, both of which could be recovered from manufactured gas, meant crippled artillery service and an altogether unnecessary sacrifice of our soldiers' lives. The government has ever since been making every preparation to recover toluol from the gas manufactured by our various gas companies. While such recovery may somewhat impair the illuminating quality of the gas, its value for heating purposes and its utilization in incandescent mantle burners will be rather improved than otherwise and if mantle burners are substituted for the open-flame burners consumers will obtain substantially better illumination at a considerably diminished cost, including the cost of the mantle.

It is expected that before the government is actually prepared to proceed with the recovery of toluol, the candlepower standard, which has been virtually abandoned throughout the world, will have been repealed and such calorific standard substituted as will permit the recovery of all of the toluol contained in the gas.

The Massachusetts Board of Gas and Electric Light Commissioners recently prescribed 528 British thermal units as the proper standard and stated that it would "permit the companies to recover for the government the toluol and benzol so imperatively needed." This standard was fixed after extensive practical tests, which demonstrated that a reduction in the British thermal units in the gas, even though considerable, really made no practical difference to the consumer when the gas distributed was of a uniform and stable quality and fixtures were properly adjusted.

There are still many miles of gas mains temporarily located above ground on account of the continued construction of rapid transit subways. As the gas in these mains is exposed to sudden variations of temperature it is extremely difficult to maintain at all times the statutory illuminating standard throughout the district.

Separate actions, brought in 1915 by the city against the Central Union Gas Company, the Northern Union Gas Company and the Westchester Lighting Company for the purpose of having it adjudged that these companies possessed no franchises which permitted them to occupy with their mains and pipes any of the streets in the Borough of The Bronx, in which they have been operating for more than fifty years, were tried in the Supreme Court in October, 1917, and in December a judgment was entered confirming the validity of the companies' perpetual rights to extend, lay and maintain their mains and pipes for conducting gas in and through the said streets. An appeal from this judgment has been taken by the city and is now pending.

When the first Liberty Loan 3½ per cent

bonds were issued the employes of the Consolidated Gas Company and its affiliated gas and electric companies were offered the privilege of subscribing to and of paying for the same in instalments of fifty equal weekly payments or twelve equal monthly payments, the bonds to be held in the meanwhile for their account by the respective companies. This privilege was availed of by 12,357 employes, who subscribed for an aggregate amount of \$847,700. Similar action was taken in respect of the second Liberty Loan 4 per cent bonds, and 7,478 employes subscribed thereto for an aggregate amount of \$511,750.

Under the agreement between the New York Edison Company, the United Electric Light and Power Company and the Public Service Commission, referred to in last year's report, the maximum price of electric current was reduced from 7½ cents to 7 cents per kilowatt hour on July 1, 1917, with the provision, however, that the privilege which the companies then had of restoring the rate to the one in effect prior to January 1, 1917, viz., 8 cents per kilowatt hour, in case conditions affecting the cost of generating and distributing electric current, due to the war, warranted such action on the part of the companies, was extended to January 1, 1918.

In December, 1917, upon the companies' representations to the commission as to the continued uncertainty of the effect upon their revenues of conditions growing out of the war, the privilege of restoring the 8-cent rate, if conditions warranted it, was further extended until July 1, 1918.

A building has been erected on the property purchased in 1916 by the New York Edison Company at 454 West 27th street, adjoining the company's West 27th street sub-station, and a 1,000 kilowatt rotary converter, formerly in service in the West 39th street sub-station, has been installed therein.

Another 1,000 kilowatt rotary converter, formerly in service in the 53d street station, has been installed in the Edison Company's East 103d street sub-station.

A storage battery, having a capacity of 1,000 kilowatts, which was removed from the West 39th street station, has also been installed in the East 103d street sub-station.

In order to meet the increasing requirements of the New York and Queens Electric Light and Power Company for the supply of electric current to its customers in the Borough of Queens, additional transformers and the necessary switching equipment were installed at the 201st street station of the United Electric Light and Power Company. A new high-tension (15,000 volts) feeder was also installed between this station and the Hamilton street station of the New York and Queens Company in Long Island City and a general rearrangement of the remaining transmission feeders between these stations was effected.

At the 45th street sub-station of the United Company an additional 2,500-kilowatt transformer, together with the necessary switching equipment for six additional out-going distributing circuits, is being installed. Two of the additional circuits were placed in service during

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road

and 29th Street

PHILADELPHIA, PA.

the year, making a total of ten circuits from this sub-station. Upon the completion of an additional transmission feeder (15,000 volts) between this sub-station and the Waterside generating station, now being installed, there will be four incoming feeders to this point. This station is now serving that section of Manhattan Island located between 27th and 87th streets.

The transportation facilities in that part of the Borough of Queens, in which the New York and Queens Electric Light and Power Company operates, have been materially increased during the past year.

The Jamaica Avenue Elevated Railway, which is a part of what is known as the dual subway system, has been extended to the center of Jamaica. Although now only operated to the Richmond Hill section, it will soon be operated to the center of Jamaica.

Operations of the Queens Borough Elevated Railway extensions from Long Island City to Astoria and to Corona began on February 1 and April 21, 1917, respectively.

The necessary installation for an elevated connection between the Bridge Plaza Station in Long Island City and the Second Avenue Elevated Railroad of Manhattan was completed, so that the Manhattan Elevated system extended its operation to Queens across the Queens Borough Bridge on July 1, 1917.

The tunnel which is being constructed under the East River for the extension of the Interborough and Brooklyn Rapid Transit operations in Queens Borough will be completed during the present year.

The two-story fireproof garage and storehouse of the New York and Queens Electric Light and Power Company at Maspeth, which was mentioned in last year's report, was placed in service in May, 1917.

A contract for the building of a two-story fireproof sub-station and storehouse on the New York and Queens Company's property at Flushing was made on October 24, 1917, and it is expected that the building will be placed in service by next July.

The Flushing commercial office was moved on August 1, 1917, from 68 Main street to 81 Main street, Flushing, of which property the New York and Queens Company has a ten-year lease.

Approximately 8½ acres, located on the east side of Trotting Course Lane and abutting on the north side of the Long Island Railroad right-of-way, were purchased in December for future central storeyard and sub-station purposes.

A fifteen foot strip of land, adjacent to the southwest side of the Astoria power plant property of the New York and Queens Company at Mills and Franklin streets, was purchased last September.

Additional demand for the New York and Queens Company's service during the year 1917 required the installation of approximately 780 poles, 275 miles of wire, 24 miles of subway conductors, 5,850 meters and 400 street lamps.

In December, 1917, the Public Service Commission for the Second District authorized the Peekskill Lighting and Railroad Company to increase the fares on its trolley line in the village of Peekskill to seven cents for straight cash fares and six and one-quarter cents for tickets to be purchased, four for twenty-five cents or in multiples of four at the same rate.

An important decision was rendered in October, 1917, by the Public Service Commission for the Second District upon the application of the Lawrence Park Heat, Light and Power Company for a certificate of public convenience and necessity, permitting it to exercise two alleged franchises for street lighting and commercial lighting, respectively, in the village of Bronxville. The commission denied the application on the ground that the evidence presented did not justify the issuing of such a certificate, involving as it would a duplication of the service, already being rendered in the village by the Westchester Lighting Company.

The municipal street lamps on the lines of the Consolidated Company and its affiliated gas and electric companies on December 31, 1917, consisted of 7,112 incandescent gas lamps, 201 open-flame gas lamps, 431 electric arc lamps and 65,335 electric incandescent lamps, a total of 72,648 street lamps.

The total number of gas meters in use at the end of 1917 was 964,098 and of electric meters 353,660.

The combined sales of gas of the various companies during the year were 30,778,670,800 cu. ft., an increase over the previous year of 4.79 per cent.

The sales of electric current during the year, including sales to the Third Avenue Railroad Company, the Brooklyn Rapid Transit Company and the New York, New Haven and Hartford Railroad Company, amounted to 749,827,761 kilowatt hours, an increase over the previous year of 11.37 per cent.

The taxes charged against the earnings of the Consolidated Company and its affiliated gas and electric companies during the year amounted to \$6,940,751, as compared with \$5,454,125.08 charged against the earnings of the previous year.

There was expended during the year for additions to and extensions of the producing and distributing plants of the various gas and electric companies the sum of \$5,200,455.22.

At a cost of \$4,924,834.82 for repairs and \$1,500,893.03 for renewals or a total cost of \$6,425,727.85, all of these gas and electric properties have been maintained at the highest possible point of operating efficiency, thus insuring a uniformly satisfactory quality of gas and electricity and their economical production and distribution.

THERMOMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

We carry in stock calorimeter, prover and condenser thermometers of the highest grade.

APPENDIX

EASTERN POWER & LIGHT CORPORATION, NEW YORK CITY.

Office: 50 Pine Street.

Incorporated March 12, 1913, in Virginia, for the purpose of acquiring, improving and developing electric light and power and gas properties, street and interurban railways, water and other

companies of similar character. Properties are now owned in the States of Vermont, New Hampshire, Pennsylvania and West Virginia.

At December 31, 1917, Company held securities of the undernoted companies:

	Bonds.	Stocks.
Reading Transit & Light Co. common stock.....		\$3,650,000
Reading Transit & Light 6% pfd. stock.....		1,511,500
West Virginia Traction & Electric Co., common stock.....		1,248,700
Claremont Ry & Lighting Co. (30-year first mortgage 5s)	\$150,000	.....
Claremont Ry. & Lighting Co., stock.....		144,300
Claremont Power Co. (30-year first mortgage 5s).....	395,000	.....
Claremont Power Co., common stock.....		600,000
Claremont Power Co., 6% pfd. stock.....		100,000
Colonial Power & Light Co. (30-year first mortgage 5s)	283,000	.....
Colonial Power & Light Co., common stock.....		260,500
Clarendon Power Co., capital stock.....		280,100
Total par value.....	\$828,000	\$7,795,100

The above securities constitute all those outstanding of each company, with the exception of the West Virginia Traction & Electric Co. (of which Eastern Power & Light Corporation has acquired practically all the common stock outstanding) and 157 shares of Claremont Ry. & Lighting Co. stock outstanding.

MANAGEMENT.—The Eastern Power & Light Corporation, and its controlled companies are under the management of The W. S. Barstow Management Association, New York.

CAPITAL STOCK.—Authorized, \$10,000,000 common and \$10,000,000 cumulative preferred; outstanding, \$5,000,000 common and \$2,350,000 preferred; par, \$100. Preferred stock is entitled to cumulative dividends at rate of 6 per cent per annum from March 1, 1913; and at rate of 7 per cent from March 1, 1916; it has preference for both assets and dividends and has equal voting power with the common. Preferred stock is subject to call after March 1, 1916, at \$125 per share and participates ratably with the common stock in all dividends which may be declared in any fiscal year in which the common stock has received dividends equal to the cumulative rate then paid on the preferred. Common stock is held under a ten-year voting trust agreement, with three voting trustees to be appointed by W. P. Bonbright & Co., Inc., and W. S. Barstow & Co., Inc. Transfer agent: Equitable Trust Co., New York. Registrar: Bankers Trust Co., New York. Preferred dividends payable quarterly. Initial payment June 16, 1913.

BONDED DEBT.—\$2,327,500 five-year convertible gold 5s; dated March 1, 1913, due March 1, 1918; interest, March 1 and September 1, at Equitable Trust Co., New York, trustee. Coupon, \$500 and \$1,000; principal may be registered. Subject to call at 101 on any interest date, upon thirty days' notice. Convertible at par at option of holder at any time on or after March 1, 1917, into 7 per cent cumulative preferred stock. Secured by pledge of all securities of controlled companies, except the preferred stock of the Reading Transit & Light Co. Bonds are exempt

from Federal income tax so far as individual holders are concerned.

BALANCE SHEET—DECEMBER 31, 1917.

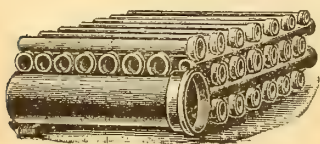
<i>Assets.</i>	
Securities owned	\$11,118,095.76
Cash	25,552.39
Loans to subsidiaries.....	1,128,850.64
Accounts receivable, including acc- ruals	55,837.80
Total.....	\$12,328,336.59
<i>Liabilities.</i>	
Capital stock—Preferred	\$2,350,000.00
Capital stock—Common	6,500,000.00
5% five-year convertible bonds, due March 1, 1918.....	2,327,500.00
Notes and accounts payable, in- cluding accruals	1,010,013.97
Surplus	140,822.62
Total.....	\$12,328,336.59

NOTE.—The corporation had contingent liabilities at December 31, 1917, on account of its guarantee of the par value of \$188,500 preferred stock of the Reading Transit and Light Company and dividends at the rate of 6 per cent per annum thereon; its guarantee of \$350,000 first mortgage bonds and \$150,000 6 per cent one year notes of the Eastern Utilities Coal Company, and its indorsement of \$85,426.33 notes of Reading Transit and Light Company, Metropolitan Edison Company, Colonial Power and Light Company, and Eastern Utilities Coal Company.

OFFICERS.—J. B. Taylor, President; W. S. Barstow, Vice-President; F. V. Henshaw, Vice-President; O. B. Wilcox, Chairman of Board; A. P. Taliaferro, Secretary and Treasurer, New York.

DIRECTORS.—W. S. Barstow, Joseph B. Taylor, F. V. Henshaw, L. A. Riley, Henry E. Cooper, O. B. Wilcox, G. H. Walbridge, M. W. Stroud, A. P. Taliaferro.

Annual meeting third Tuesday in February.



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO.
PHILADELPHIA, PA.

EASTERN STATES PUBLIC SERVICE COMPANY
115 Broadway, New York, N. Y.

The Eastern States Public Service Company was incorporated in February, 1917, under the laws of New York, and operates properties supplying gas and electricity in the following communities: Dover, Wharton, Lambertville and Newton, N. J., and New Hope, Pa., serving with gas and electricity a population in excess of 26,000.

FRANCHISES.—Perpetual as to Dover and Lambertville, and in Newton the gas franchise matures in 1940 and the electric in 1944.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 6% cum.	\$8,458,200	
Common stock		8,500,000

FUNDED DEBT.—Bonds, first lien sinking fund, 5% and 6%, authorized \$3,000,000; issued, \$220,000 6%, \$180,000 5%. Dated February 1, 1917; due, February 1, 1942. Interest payable February 1 and August 1. Denomination, \$100, \$500 and \$1,000. Coupon; principal may be registered. Callable on any interest date at 107 and interest for 6% bonds and 103 for 5% bonds. Trustee of bonds, Logan Trust Co. of Philadelphia.

This issue is secured by deposit with the trustee of all the bonds and all the stock of the Newton Electric & Gas Co., New Jersey Gas & Electric Co. (Dover), and Lambertville Public Service Co., excepting a very small amount of bonds of the two latter companies, against which bonds of this issue are being held by the trustee to be released as the bonds of the subsidiary companies are acquired.

Not over \$200,000 bonds beyond the proposed \$400,000 may be issued for improvements and betterments and acquisition of new properties on their bonds and stock, but only when the net earnings of the company and its subsidiaries, for six months period within the twelve months immediately preceding, are at the rate of one and one-half times the interest on all outstanding bonds, including those to be issued.

Additional bonds beyond those above men-

tioned may be brought out at the rate of not over 80% of the additional expenditures for improvements or acquisition of new properties or their bonds and stock only when the net earnings of the original properties, combined with those to be acquired or represented by bonds and stock, according to conservative accounting practice, have been for a period of not less than twelve months out of the fourteen months immediately preceding the date of issue, not less than twice the amount necessary to pay interest on all bonds outstanding hereunder and those to be issued. Under somewhat similar limitations, new bonds can be issued upon acquiring and bringing under this mortgage controlling interests in the stock and bonds of other public utility corporations, but only where at least 95% of the bonds and two-thirds of the stock of such corporations are acquired, or for the acquisition of public utility properties.

A sinking fund of 1% of outstanding bonds becomes operative February 1, 1922, and continues annually to and including February 1, 1931; thereafter a sinking fund of 1½% becomes operative on February 1 of each year until the maturity of the bonds. It is provided that said sinking fund must be used in the acquisition and cancellation of outstanding bonds of this issue, or to pay for additional property or extensions or improvements to present properties, the actual cash cost whereof is equal to not less than said percentum of its outstanding bonds.

The combined earnings of the Dover, Lambertville and Newton properties, as officially reported for the year ending December 31, 1916, are as follows:

Gross earnings	\$86,355.16
Operating expenses and taxes.....	51,478.29
Net earnings	\$34,876.87

MANAGEMENT.—The management of the company is in charge of expert engineers of the National Utilities Co., New York City.

ELECTRIC BOND AND SHARE CO.

Principal office: 71 Broadway, New York.

The Electric Bond and Share Co. was incorporated under the laws of the State of New York, February 28, 1905. All of its common stock is owned by the General Electric Co. The Company takes a financial interest in electric light and water power, gas and street railway enterprises; buys, holds and sells securities issued on such properties, and acts as fiscal agent for companies controlling and operating such properties. It furnishes the necessary capital and manages consolidations and reorganizations of properties of the above mentioned character.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 6% cum.	\$8,458,200	
Common stock		8,500,000

Shares, \$100. Registrars, Guaranty Trust Co. of New York.

Callable upon 90 days' notice on any dividend date at 110 and accrued dividend. Dividends payable quarterly February, May, August and November.

Dividends at the rate of 5 per cent per annum have been paid regularly on the preferred stock since organization up to October 31, 1911, at which time they were increased to 6 per cent. Dividends at the rate of 8 per cent per annum are being regularly paid on the common stock.

The amount of outstanding preferred stock can at no time exceed the outstanding common stock. No dividend can be paid upon the common stock unless, after such payment, there re-

FOR GAS HOLDERS IN EXPOSED POSITIONS

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for
Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York



mains a surplus equal to at least 18 per cent (or three years' dividend requirements) of the par value of the outstanding preferred stock.

No indebtedness shall ever be incurred in excess of the par value of the preferred stock without the affirmative vote, or consent in writing, of a majority of all outstanding stock.

The Company has no authorized or outstanding bonded indebtedness.

FINANCIAL STATEMENT, DECEMBER 31, 1917.

Current Assets:	Assets.
Cash on hand and in banks.....	\$2,768,567.09
Accounts receivable	241,644.77
Customers' securities and accounts	281,747.31
Notes receivable	6,311,105.53
Interest accrued, receivable.....	109,741.31
	<u>\$9,712,806.01</u>
Syndicate holdings, underwritings and advances	641,340.28
Investments:	
Stocks	\$9,747,399.00
Bonds and coupon note	5,416,026.11
	<u>15,163,425.11</u>
	<u>\$25,517,571.40</u>

Liabilities.

Current Liabilities:	
Notes payable	\$3,326,000.00
Accounts payable	8,911.34
Interest accrued, payable.....	21,623.34
Dividends accrued on preferred stock	84,582.00
	<u>\$3,441,116.68</u>
Syndicate and contingent liabilities	535,589.00
Reserves	189,000.00
Capital Stock:	
Preferred	\$8,458,200.00
Common	8,500,000.00
	<u>16,958,200.00</u>
Surplus:	
Surplus January 1, 1917	\$5,173,699.86
Net income for year 1917	933,790.43
	<u>\$6,107,490.29</u>
Less adjustments in value of securities and accounts	1,713,824.57
Surplus balance December 31, 1917	<u>4,393,665.72</u>
	<u>\$25,517,571.40</u>

COMPARATIVE INCOME STATEMENT, MARCH 15, 1905, TO DECEMBER 31, 1917.

	Gross Income	Net Income	Preferred Dividend	Common Dividend	Accumulated income
Mar. 15, 1905, to Jan. 31, 1906	\$284,358.87	\$236,126.41	\$87,500.00	.....	\$148,626.41
Year ended Jan. 31, 1907..	483,243.41	431,823.81	100,000.00	.....	480,450.22
Year ended Jan. 31, 1908..	328,873.39	243,412.63	100,000.00	.....	623,862.85
Year ended Jan. 31, 1909..	442,881.11	311,851.68	100,000.00	.....	835,714.53
Eleven months ended Dec. 31, 1909.....	737,759.32	593,719.72	91,666.67	\$80,000.00	1,257,767.58
Year ended Dec. 31, 1910..	691,404.31	507,418.38	100,000.00	160,000.00	1,505,185.96
Year ended Dec. 31, 1911..	966,257.36	707,211.76	103,333.33	160,000.00	1,949,064.39
Year ended Dec. 31, 1912..	1,566,978.86	1,226,657.26	160,932.36	225,333.33	2,789,455.93
Year ended Dec. 31, 1913..	1,554,403.63	1,129,395.65	277,990.41	1,863,000.00*	1,777,951.20
Year ended Dec. 31 1914..	1,558,520.65	1,137,041.69	298,391.67	400,000.00	2,216,601.22
Year ended Dec. 31, 1915..	1,820,337.11	1,401,084.95	344,646.77	433,777.78	2,839,261.62
Year ended Dec. 31, 1916..	2,170,915.12	1,566,932.44	375,557.52	1,458,222.22*	2,572,414.32
Year ended Dec. 31, 1917..	3,140,020.37	2,066,389.81	487,710.49	644,888.89	3,506,204.75
Total	\$15,745,953.51	\$11,559,066.19	\$2,627,639.22	\$5,425,222.22*	\$3,506,204.75
Surplus at beginning of business, March 15, 1905					440,599.40
Net changes in surplus during period of company's existence through reappraisal of securities and the creation of a reserve fund					446,861.57
Surplus and undivided profits at close of business December 31, 1917.....					<u>\$4,393,665.72</u>

* Special dividends on common stock (\$1,500,000 in 1913 and \$1,000,000 in 1916.)

OFFICERS.—President, S. Z. Mitchell; Vice-Presidents, Frederick A. Farrar, E. K. Hall, G. E. Claffin, C. E. Groesbeck, E. W. Hill, L. H. Parkhurst; Treasurer and Assistant Secretary, A. E. Smith; Secretary and Assistant Treasurer, H. M. Francis; Assistant Secretaries and Assistant Treasurers, E. P. Summerson and Wm. Reiser; Assistant Secretary, G. C. Hollister.

DIRECTORS.—Marsden J. Perry, A. C. Bedford, S. Reading Bertron, Charles A. Coffin, Frederick A. Farrar, Alex. J. Hemphill, Wm. C. Lane, S. Z. Mitchell, Felix T. Rosen, P. L. Saltonstall, Frederick Strauss, Edwin G. Merrill, E. K. Hall, Lewis E. Pierson, O. D. Young, E. W. Rice, Jr. Annual meeting third Wednesday in February.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ELECTRIC BOND DEPOSIT CO.

Principal office: 60 Wall Street, New York City.

The Electric Bond Deposit Co. is a holding company, organized under the laws of the State of Delaware, February, 1912, for the purpose of purchasing and holding underlying issues of electric and gas enterprises and selling such securities, when their market values have become established. The Company now owns the following securities: \$491,000 first mortgage 40 year 5 per cent bonds; \$500,000 6 per cent cumulative preferred stock and \$262,000 common stock of the Ozark Power and Water Co.

These securities have been issued to finance the first development of a 15,000 horsepower, hydro-electric plant on the White River near Forsyth, Mo., which was completed and put in operation on October 1, 1913, together with about 120 miles of high tension transmission lines and necessary feeders and substations to supply the traction, lighting and power requirements in Springfield, Mo., and adjacent territory, and to connect in and feed the excess

current to the Empire District Electric Co., at Joplin, Mo.

CAPITALIZATION (PAR \$100).

	Authorized	Outstanding
6% Cum. preferred.....	\$10,000,000	\$1,500,000
Common	5,000,000	1,500,000

DIVIDENDS.—A dividend at the rate of $\frac{1}{2}$ of 1% was paid monthly on the preferred stock from the date of organization to July 1, 1914. Dividends resumed June 1, 1915, at $\frac{3}{4}$ of 1 per cent to Jan. 1, 1917. Dividends since then at $\frac{1}{2}$ per month.

OFFICERS.—President, Henry L. Doherty; Vice-President, F. W. Frueauff; Secretary, E. E. McWhiney; Treasurer, T. A. Wallace.

DIRECTORS.—Henry L. Doherty, Frank W. Frueauff, H. H. Scott, W. P. Lehrer, T. A. Wallace, F. L. Blackburn, L. F. Musil, M. R. Bump, E. H. Johnston.

EMPIRE GAS AND FUEL COMPANY.

Office, 60 Wall Street, New York, N. Y.

Incorporated September 13, 1912, under the laws of the State of Delaware. It is a subsidiary of the Cities Service Co. and holds stock in the following Oklahoma, Kansas and Missouri gas properties, viz.: Quapaw Gas Co., Wichita Natural Gas Co. and Wichita Pipe Line Co.; also eleven oil properties (see parent companies).

Capital stock, common, authorized, outstanding \$12,500,000. Par, \$100.

BONDS.—First mortgage and collateral trust sinking fund 6% gold; authorized, \$14,000,000; outstanding, \$12,737,000; dated May 1, 1916; due May 1, 1926. Interest payable May 1 and November 1. Bankers Trust Co., trustee. Redeemable until May 1, 1920, at 102 and accrued in-

terest; thereafter to May 1, 1923, at 103 and accrued interest, and thereafter until maturity at 104 and accrued interest. Security: First lien.

OFFICERS.—President, J. C. McDowell; Vice-President, F. W. Frueauff, A. J. Diescher, H. R. Straight, T. I. Carter; General Manager, A. J. Diescher; Secretary, C. E. Murray; Treasurer, R. C. Russum; Assistant Secretary, E. E. McWhiney; Assistant Treasurer, T. A. Wallace.

DIRECTORS.—Frank W. Frueauff, Thomas I. Carter, H. L. Doherty, H. H. Scott, L. G. Coleman, M. R. Bump, J. C. McDowell, A. J. Diescher, R. C. Russum, H. R. Straight, J. E. Grattan.

FEDERAL LIGHT AND TRACTION CO.

General office: 60 Broadway, New York City.

Incorporated April 20, 1910, under laws of New York State. Controls, through ownership of nearly all of the outstanding stocks and bonds, the electric lighting properties in Albuquerque, Deming and Las Vegas, N. M.; Tucson, Ariz.; Aberdeen, Cosmopolis and Hoquiam, Wash.; Sheridan and Rawlins, Wyo.; Springfield, Mo.; Trinidad and Walsenburg, Col.; Hobart, Okla., and Hot Springs, Ark., also the gas properties in Albuquerque, Trinidad, Tucson, Hot Springs and Springfield, and the electric railway properties in Springfield, Trinidad, Las Vegas, Tucson and Aberdeen, Hoquiam and Cosmopolis and Hot Springs, and the water company in Hot Springs.

The companies in which a controlling interest has been acquired are as follows:

Albuquerque Gas and Electric Co.

Central Arkansas Railway and Light Corporation.

Citizens' Electric Co.

Consumers' Gas Co.

Deming Ice & Electric Co.

Grays Harbor Railway and Light Co.

Hobart Electric Co.

Hot Springs Street Railway Co.

Hot Springs Water Co.

Las Vegas Light and Power Co.

Las Vegas Transit Co.

Rawlins Electric Light and Fuel Co.

Sheridan County Electric Co.

Springfield Gas and Electric Co.

Springfield Railway and Light Co.

Springfield Traction Co.

Trinidad Electric Transmission Railway and Gas Co.

Tucson Gas, Electric Light and Power Co.

Tucson Rapid Transit Co.

In March, 1911, the Company acquired control of the Springfield Railway and Light Co., of Springfield, Mo. In September of same year,

HUNT INDUSTRIAL RAILWAYS for handling coal are built in a variety of special forms, for side or bottom dumping, or for emptying with minimum labor with shovels. Standard designs of cars, track, curves, switches, etc., can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

through its subsidiary, the Trinidad Electric Transmission, Railway and Gas Co., took over active control of the entire gas, traction and electric lighting and power business of Trinidad, Col., and nearby territory.

In 1912 the Company acquired all outstanding securities of the Deming (N. M.) Ice and Electric Co. and of the Walsenburg Light, Power & Ice Co., which Company has since been merged into the Trinidad Company.

As of March 1, 1913, this Company acquired the control of the Central Arkansas Railway & Light Corporation, which company, through its subsidiary Companies, owns and operates the street railway, gas, water, electric lighting and power business in the city of Hot Springs, Arkansas, and vicinity.

The entire outstanding common stock of the Central Arkansas Railway and Light Corporation is owned by this Company. The operations of the properties of the Central Arkansas Railway and Light Corporation were taken over March 1, 1913, but the earnings from the several Hot Springs subsidiary companies accrue to the Company from January 1, 1913.

The Federal Light and Traction Co. owns all the stock of its subsidiaries except \$86,050 of the \$500,000 stock of the Tucson Rapid Transit Co., and the entire \$1,200,000 preferred stock of the Central Arkansas Railway and Light Co., and \$567,000 preferred stock of the Springfield Railway and Light Co., and all the bonds of the subsidiaries except \$2,028,500 Springfield Railway and Light Co. first lien sinking fund gold 5s, due May 1, 1926; \$1,973,000 first lien 5 per cent bonds of Central Arkansas Railway and Light Corporation, and \$100 of Tucson Rapid Transit Co. bonds.

The controlled companies serve, practically without competition, a territory having a combined population of about 200,000. All the electric lighting, gas and traction properties in the various towns are controlled, except in Grays Harbor, where there is an independent gas plant, and in Albuquerque and Sheridan, where there are independent traction companies. The cities are enterprising, substantial in character, diversified as to location and interests, and are passing through a period of substantial growth and prosperity.

All of the properties have been modernized to an unusual extent, and the present management is bringing them up to a high standard of efficiency.

CAPITAL STOCK AND DIVIDENDS.—The authorized capital stock is \$11,000,000, consisting of \$5,500,000 common and \$5,500,000 6 per cent cumulative preferred. Outstanding: \$4,750,000 common and \$2,500,000 preferred; par of both issues, \$100. Preferred stock is subject to call at 110 and accrued dividends on 60 days' notice, and has preference for assets as well as to dividends. Transfer agents: Preferred and common stock, New York Trust Co., New York. Registrar for both stocks: National City Bank, New York.

Dividends on preferred were regularly paid quarterly March, from September, 1910, to September, 1914.

BONDS AND NOTES.—\$3,920,000 first mortgage 5 per cent sinking fund gold bonds, dated March 1, 1912, due March 1, 1942; interest M. & S. 1 in New York and London (coupon registered as to principal only); bonds may be fully registered. Columbia Trust Co., New York trustees. Authorized, \$50,000,000; unissued bonds reserved to cover.

SINKING FUND.—Annual Sinking Fund: March 1, 1913, to March 1, 1923, 1½ per cent; March 1, 1923, to March 1, 1933, 2 per cent; March 1, 1933, to maturity, 2½ per cent.

All bonds purchased for sinking fund to be canceled. Secured by all first mortgage bonds and stocks of 12 public utility companies together with a lien on the entire common stock (\$1,100,000) of the Springfield Railway and Light Co. Subject to call as a whole but not in part at 102 and interest.

\$1,500,000 10 year 6 per cent debentures, dated March 1, 1912, due March 1, 1922, convertible after March 1, 1913, into first mortgage 5 per cent sinking fund gold bonds at 90, provided net earnings have exceeded two and one-half times interest charges on all first mortgage bonds including bonds issuable against conversion.

\$1,440,000 Federal L. & T. Co. 10-year gold notes, 7 per cent, dated December 1, 1913, due December 1, 1923; interest June 1 and December 1 in New York; registered \$100; coupon, \$500, \$1,000; coupon bonds may be registered as to principal and interest Columbia Trust Co., New York. N. Y. Authorized, \$10,000,000; issued, \$725,000; proceeds to be used to retire present floating debt which was incurred for construction purposes, etc.; also has issued \$715,000 6 per cent gold notes; \$150,000 outstanding Dec. 31, 1917.

UNDERLYING BONDS.—\$2,028,500 Springfield Railway and Light first lien sinking fund gold 5s, dated May 1, 1911; due May 1, 1926; int. M. & N. in New York, Boston and Chicago. Coupon, \$500 and \$1,000; principal may be registered. Guaranty Trust Co., New York, trustee. Authorized, \$7,000,000; unissued bonds reserved to cover 80 per cent of cost of additions, extensions, improvements, etc., and issuable only when net earnings for the preceding 12 months have equaled twice the interest charges on all bonds issued and to be issued. Annual sinking fund, sufficient to retire 25 per cent of the total issue prior to maturity, begins March 1, 1913, to retire bonds at not exceeding 102 and interest; all bonds purchased for the sinking fund to be kept alive and interest thereon added to the fund. Secured on entire property rights, franchises, etc., and additionally by practically all the capital stocks, bonded debt and notes of the two subsidiary companies. Subject to call as a whole at 102 and interest on any interest date.

\$1,973,000 Central Arkansas Railway and Light Corporation first lien 15-year 5 per cent sinking fund gold bonds dated March 1, 1913, due March 1, 1928; interest March and September in New York, Boston, and Chicago. Coupon, \$100, \$500, \$1,000, principal may be registered, Columbia Trust Company, New York, N. Y. Authorized, \$7,000,000; unissued bonds reserved to cover 80 per cent of cost of additions, extensions, improvements, etc.; issuable



Tycos Temperature Instruments
 INDICATING—CONTROLLING—RECORDING
 Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester N. Y.



only when net earnings for preceding twelve months equal twice the interest charges of all bonds issued and to be issued. Annual sinking fund sufficient to retire 20 per cent of the total issue prior to maturity begins January 2, 1915, to retire bonds at not exceeding 102 per cent and interest; all bonds purchased for sinking fund to be kept alive and interest thereon added to the fund. Secured on entire property rights, franchises, etc., and additionally by all of the capital stocks, bonded debt and notes of the four subsidiary companies. Subject to call as a whole at 102 per cent and interest on any interest date.

OFFICERS.—President, E. N. Sanderson; First Vice-President, Francis Blossom; Second Vice-President, Craig Colgate; Secretary, J. B. Marsh; Treasurer, J. Dunhill; Assistant Treasurer, Richmond Talbot; General Superintendent, C. H. Nichols.

DIRECTORS.—James C. Colgate, John Dunhill, Francis Blossom, R. R. Colgate, Craig Colgate, Edwin N. Sanderson, Guy E. Tripp, Calvert

Towney, H. Hobart Porter, Chas. A. Reynolds, New York; Joseph J. Bodell, L. C. Gerry, Providence, R. I.; Jerry Crary, Warren, Pa.; Guy B. Gannett, Augusta, Me.; Samuel Insull, Chicago.

**CONSOLIDATED STATEMENT OF PROFIT AND LOSS OF
FEDERAL LIGHT AND TRACTION COMPANY AND OF
ITS SUBSIDIARY COMPANIES FOR TWELVE MONTHS
ENDED DECEMBER 31, 1917.**

Gross earnings	\$2,867,310
Operating, administrative expenses and taxes	2,010,464
Total income	\$856,846
Interest charges	594,454
Central Arkansas Railway and Light Corporation dividend	84,000
Springfield Railway and Light Co. dividend	39,290

Balance \$139,102

NOTE.—Inter-company earnings, expenses and interest charges not included in above.

FEDERAL UTILITIES (INCORPORATED), NEW YORK CITY.
General Office, 60 Broadway, New York City.

Federal Utilities (Inc.) was incorporated in 1911, in Virginia, for the purpose of acquiring, selling and dealing in bonds, stocks and other securities and properties of electric power, electric lighting, gas and other public service companies or other enterprises.

CAPITALIZATION.

Preferred stock, 6% cumulative	Authorized \$3,000,000	Outstanding \$1,000,000
Common stock	3,000,000	2,000,000

Preferred stock has preference both as to principal and dividends.

Shares, \$100. Transfer agent, Guaranty Trust Co., New York. Registrar, Columbia Trust Co.

OFFICERS.—President, George T. Ordway. Vice-President and Secretary, Edward S. Blagden.

DIRECTORS.—Russel Armstrong, Edward S. Blagden, Anson W. Burchard, Lewis B. Franklin, Harvey D. Gibson, Charles E. Mitchell, George T. Ordway, Thomas A. Reynolds, Harrison Williams.

GAS & ELECTRIC SECURITIES COMPANY, NEW YORK CITY.
Principal Office, 60 Wall Street, New York City.

Organized July 15, 1910, under the laws of Delaware. This company is a developing and holding company for gas, electric and other public utilities companies.

CAPITAL STOCK.—Authorized and outstanding seven per cent cumulative preferred, \$1,000,000; common, \$1,000,000; total, \$2,000,000. Shares, \$100. Monthly dividends at the rate of 7 per cent per annum were paid on the preferred stock to Aug. 1, 1914. Dividend of 14% paid July 1, 1916, for accumulated dividends. Dividends paid since at rate of 7/12 of 1% monthly. Dividends monthly at the rate of 6 per cent per annum were paid on the common stock from January 1, 1913, to July 1, 1914, inclusive. Dividend 12% paid July 1, 1916, for cumulative dividends.

Dividends paid at rate of 1/2 of 1% monthly since. Transfer agents, Henry L. Doherty & Co., New York, N. Y. Registrar, Bankers Trust Co., New York, N. Y. Listed on the Columbus Stock Exchange. No bonds.

OFFICERS.—President, Henry L. Doherty; Vice-President, Frank W. Frueauff; Secretary, T. A. Wallace; Treasurer, L. F. Musil; Assistant Secretary, E. E. McWhiney; Assistant Treasurer, T. A. Wallace, E. E. McWhiney.

DIRECTORS.—Henry L. Doherty, Frank W. Frueauff, M. R. Bump, Holton H. Scott, L. F. Musil.

Annual meeting, first Tuesday after first Monday in January.

GAS SECURITIES COMPANY, NEW YORK CITY.
Principal Office, 60 Wall Street, New York City.

Organized January 8, 1906, under the laws of the State of New York. This Company is a developing and holding company for gas, electric and other public utilities companies.

CAPITAL STOCK.—Authorized: Preferred, \$1-

000,000; common, \$500,000; total, \$1,500,000. Outstanding December 1, 1916: Preferred, \$487,800; common, \$365,000; total, \$852,800. Shares, \$100. Monthly dividends at the rate of 6 per cent per annum were paid on both common and



**Coal Gas Plants, Water and Gas Works Appliances, Hydraulic
Machinery, Pumping Engines and Purifiers**

R. D. WOOD & CO., PHILA., PA.



preferred stock to August 1, 1914. Dividend of 12 per cent paid for accumulative dividends on each class of stock. Dividends paid since at rate of $\frac{1}{2}$ of 1 per cent monthly. On April 1, 1911, a stock dividend of 25 per cent was declared on the common stock.

OFFICERS.—President, Henry L. Doherty; Vice-President, F. W. Frueauff; Secretary and Treas-

urer, Louis F. Musil; Assistant Secretaries, E. E. McWhiney and Thos. I. Carter; Assistant Treasurer, T. A. Wallace.

DIRECTORS.—Henry L. Doherty, Louis F. Musil, F. W. Frueauff.

Annual meeting of stockholders held third Wednesday in January at New York City.

Company's fiscal year ends December 31.

THE GENERAL GAS & ELECTRIC COMPANY OF MAINE.

Principal Office, 50 Pine Street, New York City.

Incorporated July 3, 1912, in Maine as a holding company. The following is a list of the controlled and affiliated companies.

Rutland (Vt.) Railway Light & Power Co.
Pittsford Power Co.
Western Vermont Power & Light Co.
Northwestern Ohio Railway & Power Co.
Port Clinton (Ohio) Elec. Light & Power Co.
Sandusky (Ohio) Gas & Elec. Co.
Binghamton (N. Y.) Light, Heat & Pwr. Co.
Sayre (Pa.) Electric Co.
Interurban Gas Co., Nazareth, Pa.
Jersey Corporation.
New Jersey Power & Light Co.
Waverly Electric Light & Power Co., Waverly, N. Y.

CAPITAL STOCK.—Authorized, common \$10,000,000; authorized preferred, \$10,000,000; total \$20,000,000. Outstanding December 31, 1917, common, \$4,500,000; cumulative preferred, \$2,500,000; convertible preferred, \$2,600,000; total \$9,600,000; shares, \$100. Dividends on preferred stock are cumulative at 7 per cent from July 1, 1915, participating with common after preferred has received 7 per cent and convertible 6 per cent. The convertible preferred is preferred as to assets and dividends over the common at the rate of 6 per cent, and is convertible into common stock at par at any time.

TRANSFER AGENT, ETC.—Transfer agent, the Equitable Trust Co., New York, N. Y. Registrar of stock, Columbia Trust Co., New York, N. Y.

Dividends paid on cumulative preferred $1\frac{1}{2}$ per cent quarterly from October 1, 1912, the initial payment, to July 1, 1915; $1\frac{3}{4}$ per cent thereafter. Last dividend paid on cumulative preferred April 2, 1917.

FUNDED DEBT.—Outstanding December 31, 1917, \$1,693,000 1st mortgage 5 per cent 20-year convertible gold bonds, due July 1, 1932, interest January 1 and July 1 at office or agency of the company, New York, N. Y. Authorized, \$20,000,000. Coupon and registered bonds, \$1,000. Subject to call at 105 and accrued interest on any interest day on 30 days' notice by trustee. On or at any time after January 1, 1915, and prior

to the maturity thereof, the holder, or if registered, the registered owner of bonds, may convert same at par into full paid non-assessable cumulative capital stock of the company by surrendering said bonds, together with all unmatured coupons. Secured by deposit of \$1,293,000 1st mortgage 5 per cent sinking fund gold bonds on the Northwestern Ohio Railway and Power Co.: \$400,000 1st mortgage 5 per cent sinking fund gold bonds of the Western Vermont Power and Light Co., and by not less than 80 per cent of the total outstanding stock of the Rutland Railway Light and Power Co.

BONDS: Authorized, \$1,411,000, 5 per cent 10-year gold bonds; outstanding, \$872,000. Dated January 1, 1915; due January 1, 1925. Interest payable January 1 and July 1 at office of company or agency in New York. Trustee, Guaranty Trust Co. Redeemable all or any on 40 days' notice at par and accrued interest.

NOTES.—2 year 5 per cent secured gold notes outstanding, \$525,000; dated Nov. 1, 1916; due Nov. 1, 1918. Interest payable April 1 and October 1 at agency of company or company's office. Trustee, Guaranty Trust Co., New York City. Redeemable all or any on 40 days' notice at 101 and accrued interest.

6 per cent secured gold notes, dated July 1, 1917, due January 1, 1919. Interest payable January 1 and July 1 at agency of company or company's office. Trustee, the Equitable Trust Company of New York. Redeemable, all or any, on 40 days' notice at 101 $\frac{1}{2}$ and accrued interest.

OFFICERS.—W. S. Barstow, President; Joseph B. Taylor, Vice-President; O. Clement Swenson, Secretary and Treasurer; Wm. J. Reast, Assistant Secretary and Assistant Treasurer.

DIRECTORS.—W. S. Barstow, Jos. B. Taylor, L. H. Tyng, Geo. C. Lee, Wm. B. Dinsmore, G. Tracey Rogers, J. F. B. Mitchell, Geo. K. Reilly, Herbert Nash, Jr., John F. Moors, E. Howard George.

Annual meeting of stockholders held Monday preceding fourth Wednesday in February. Company's fiscal year ends December 31.



Williams' "Vulcan" Chain Pipe Vise

Portable—Broadly Adjustable—Attachable Anywhere

J. H. WILLIAMS, 74 Richards St., Brooklyn, N. Y.

APPENDIX

673

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Securities owned	\$11,809,867.53
Sabin, Newhall, Cotton, Committee—5,000 shares of common stock of the Bing-	
hamton Light, Heat & Power Co., par value \$100 each.....	500,000.00
Treasury securities:	
6% secured gold notes, due January 1, 1919:	
Loaned to Pennsylvania Utilities Co.....	\$44,000.00
Pledged	153,000.00
Unpledged	3,000.00
Total treasury securities.....	200,000.00
Current assets:	
Cash on deposit—Current account	\$1,983.06
Cash on deposit—Dividend account	519.70
Cash on deposit—Coupon account.....	24,925.00
Special deposit—Guaranty Trust Co.....	846.91
Notes receivable	429,900.00
Accrued interest on bonds owned.....	43,087.50
Accrued interest on notes receivable.....	7,024.68
Material and supplies.....	50.00
Total current assets.....	508,336.85
Due from subsidiary companies:	
Notes receivable	\$418,582.53
Accrued interest on notes receivable.....	11,077.31
Accounts receivable	8,404.41
Total due from subsidiary companies	438,064.25
Machinery—Leased to Pennsylvania Utilities Co.	40,000.00
Deferred debit items:	
Unamortized discount and expense on securities	\$44,667.44
Taxes, interest and fees paid in advance.....	1,213.98
Total deferred debit items.....	45,881.42
Total.....	\$13,542,150.05

Liabilities.

Preferred 7% cumulative capital stock—25,000 shares of \$100 each.....	\$2,500,000.00
Convertible preferred capital stock—26,000 shares of \$100 each.....	2,600,000.00
Common capital stock—45,000 shares of \$100 each	4,500,000.00
Ten-year 5% gold bonds, due January 1, 1925.....	872,000.00
First lien 5% convertible gold bonds, due July 1, 1932	1,693,000.00
Two-year 5% secured gold bonds, due November 1, 1918.....	525,000.00
6% secured gold notes, due January 1, 1919.....	200,000.00
Current liabilities:	
Notes payable	\$350,250.00
Accounts payable	3,232.87
Dividend payable on fractional shares.....	519.70
Unpresented bond and note coupons.....	24,925.00
Accrued accounts:	
Interest on bonds.....	42,325.00
Interest on secured gold notes.....	4,375.00
Interest on notes payable.....	1,344.63
Taxes	2,150.63
Total current liabilities.....	429,122.83
Due to subsidiary companies:	
Notes payable	\$100,250.00
Accounts payable	17,500.00
Interest on notes and accounts payable.....	2,909.27
Total due to subsidiary companies.....	120,659.27
Reserve for acquiring minority stock of subsidiary company	10,700.00
Profit and loss surplus, per exhibit "B".....	91,667.95
Total.....	\$13,542,150.05

RELIABLE

ANGLIRON

RANGES

They are giving satisfactory service to thousands of housewives, and gas companies sell them with SUCCESS, PROFIT AND SATISFACTION. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

APPENDIX

NOTE.—By the terms of an agreement with Bonbright & Co., Inc., the General Gas & Electric Co. had a liability at December 31, 1917, of approximately \$10,600 which is not included above. The company has the following contingent liabilities: Guarantee of principal and interest on first mortgage sinking fund 5 per cent gold bonds of the Pittsford Power Co., due November 1, 1933 (\$263,000 outstanding at December 31, 1917). Guarantee of dividends at 6 per cent per annum on \$200,000 preferred capital stock of the Pittsford Power Co. Agreement to purchase from General Electric Co. at par and accrued interest on or before May 1, 1918, \$100,000 of Pennsylvania Utilities Co. 10-year 6 per cent secured gold notes. Agreement to purchase from Fidelity Trust Co. of Newark at 90 and accrued interest, \$240,000 of 10-year notes of Pennsylvania Utilities Co.—\$80,000 on May 25, 1917, \$80,000 on May 25, 1918, and \$80,000 on May 25, 1919 (of these, notes in the amount of \$77,000 have been purchased to December 31, 1917). Guarantee of principal and interest of Sayre Electric Co.'s one year notes, dated October 1, 1917, to an amount of \$50,000 (\$13,000 outstanding at December 31, 1917). Guarantee of principal and interest of one year 6 per cent notes of the New Jersey Power & Light Co., dated April 3, 1917, not exceeding \$50,000 (\$50,000 outstanding December 31, 1917). Indorser on various notes aggregating \$161,444.

STATEMENT OF INCOME AND PROFIT AND LOSS FOR THE YEAR ENDED DECEMBER 31, 1917.

Revenue:		
Dividends on stocks owned.....	\$126,521.25	
Interest on bonds owned.....	88,975.00	
Interest on notes receivable and bank balances	57,479.55	
Total.....		\$272,975.80
Expenses and charges:		
Registration and transfer expenses.....	\$1,414.40	
Franchise tax	1,025.00	
Federal income tax.....	1,759.82	
2% normal income tax paid on bond coupons	575.00	
Federal capital stock tax.....	946.02	
New York state franchise tax.....	414.97	
Salaries	4,208.33	
Legal	6,511.48	
Traveling	1,237.21	
Advertising	382.96	
Stationery and printing.....	585.90	
Directors' fees	1,210.00	
Coupon expense	448.52	
General office expense.....	505.58	
Total.....		21,225.19
Net revenue		\$251,750.61
Other income credit—appreciation in value of bonds owned		3,010.20
Gross income		\$254,760.81
Income charges:		
Interest on bonds.....	\$128,250.00	
Interest on secured gold notes.....	31,479.17	
Interest on notes payable.....	10,567.41	
Amortization of debt discount and expense.....	3,351.48	
Total.....		173,648.06
Net income for the year.....		\$81,112.75
Profit and loss credits:		
Surplus at beginning of year.....	\$60,985.74	
Less dividends accrued for the year 1916 not collected..	7,996.33	
	\$52,989.41	
Discount on purchase of \$150,000 par value of 2-year 5% secured gold bonds	2,250.00	
Total.....		55,239.41
Profit and loss gross surplus.....		\$136,352.16
Profit and loss charges:		
Dividend on cumulative preferred stock.....	\$43,750.00	
New York state license tax—applicable to prior period	934.21	
Total.....		44,684.21
Profit and loss surplus, December 31, 1917.....		\$91,667.95

Progressive companies use the GOODMAN STOPPER. It does its bit and does it well.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

LANCASTER COUNTY RAILWAY AND LIGHT COMPANY.

Principal Office, 40 Wall Street, New York City.

The Lancaster County Railway & Light Co. was incorporated in June, 1901, under the laws of New Jersey, and owns practically all stock of Conestoga Traction Co. and all stock of Lancaster Gas, Light & Fuel Co., Edison Electric Co. and Conestoga Realty Co.

CAPITALIZATION:

	Authorized	Outstanding
Preferred stock	\$1,750,000	\$1,248,100
Common stock	2,000,000	1,600,000

Shares, \$50. Transfer agent, Lancaster Trust Co. Registrar, J. M. Groff, Lancaster, Pa.
Dividend on preferred stock, annual rate 5 per cent, payable quarterly.

FUNDED DEBT.—Bonds: First collateral trust 5s, authorized, \$1,000,000; issued, \$1,000,000; dated July 1, 1901; due July 1, 1951. Interest payable January 1 and July at Lancaster Trust Co. Denominations, \$1,000 and \$500; coupon;

may be registered as to principal. Not redeemable. Trustee of bonds, Lancaster Trust Co.

SECURITY.—Stock of above named companies deposited under mortgage.

OFFICERS.—President, W. W. Griest; Vice-President, George Bullock; Secretary and Assistant Treasurer, J. A. McKenna; Treasurer, A. L. Linn, Jr.; Assistant Secretary and Assistant Treasurer, J. M. Groff.

DIRECTORS.—W. W. Griest, George Bullock, R. E. Griscom, R. S. Storrs, John Hertzler, S. R. Bertron, P. E. Slaymaker, John Gribbel, T. C. Detwiler, S. F. Houston, M. J. Dodge, M. W. Dodge, J. S. Jenks, Jr., E. G. Connette, F. T. Homer.

Annual meeting of stockholders held third Wednesday in October at 15 Exchange place, Jersey City, N. J.

Company's fiscal year ends December 31.

NEW AMSTERDAM GAS COMPANY.

Principal Office, 130 East 15th Street, New York City.

This Company was incorporated in March, 1898, under the laws of New York State, and is a consolidation of New Amsterdam Gas Co., New York & East River Gas Co. and Equitable Gas Light Co.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$10,000,000	\$9,000,000
Common stock.....	13,000,000	12,165,000

Shares, \$100. Registrars, Central Trust Co., 54 Wall street, New York.

FUNDED DEBT.

	Authorized.	Issued.
New Amsterdam Gas Co., first consolidated mortgage 5 per cent gold bonds, interest due January 1 and July 1	\$20,000,000.00	\$10,635,000.00
Equitable Gas Light Co. first consolidated mortgage 5 per cent bonds, interest due March 1 and September 1	4,000,000.00	3,500,000.00
The New York & East River Gas Co. first mortgage 5 per cent gold bonds, interest due January 1 and July 1	3,500,000.00	3,500,000.00
The New York & East River Gas Co. first consolidated mortgage 5 per cent gold bonds, interest due January 1 and July 1.	5,000,000.00	1,500,000.00
	<u>\$32,500,000.00</u>	<u>\$19,135,000.00</u>
Equitable Gas Light Co., P. M. 4½ per cent.		78,000.00
		<u>\$19,213,000.00</u>

New Amsterdam Gas Co., dated January 1, 1898; due January 1, 1948; denomination, \$1,000; coupon; trustee under the mortgage, Central Trust Co.; principal and interest payable at the office of National City Bank, 55 Wall Street, New York.

Equitable Gas Light Co., dated March 1, 1892; due March 1, 1932; denomination, \$1,000; coupon; trustee under the mortgage, Central Trust Co.; principal and interest payable at the office of Central Trust Co., 54 Wall Street, New York.

The New York & East River Gas Co., dated February 15, 1894; due January 1, 1944; denomination, \$1,000; coupon; trustee under the mortgage, New York Guaranty & Ind. Co.; principal and interest payable at the office of Guaranty Trust Co., 30 Nassau street, New York.

The New York & East River Gas Co., dated January 1, 1895; due January 1, 1945; denomination, \$1,000; coupon; trustee under the mortgage, Knickerbocker Trust Co.; principal and interest payable at the office of National City Bank, 55 Wall Street.

OFFICERS.—President, Geo. W. Doane; Vice-President, Geo. H. Church; Secretary, M. M. Graham; Treasurer, M. M. Graham.

DIRECTORS.—Geo. B. Cortelyou, J. W. Sterling, E. S. Marston, George H. Church, W. A. Simonson, J. C. Brady, J. C. Tomlinson, Geo. W. Doane, Edgar Palmer.

Annual meeting of stockholders held on the first Thursday in March at 130 East 15th Street, New York City. Company's fiscal year ends December 31.

Metropolitan No. 2 Argand Burners, specified for candlepower test use by the London Gas Referee. The only burner which approaches perfect combustion of any kind of gas, whether coal gas, enriched coal gas or coal gas mixed with carburetted water gas. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

THE NEW YORK MUTUAL GAS LIGHT CO.

Principal office: 142 East 15th Street, New York City.

This Company was incorporated in April, 1866, by special charter in New York State.

CAPITALIZATION.—Common capital stock, authorized, \$3,500,000; outstanding, \$3,409,700. Shares, 34,097. Transfer agents, the Company's officers. Registrars, Farmers Loan and Trust Co.

No funded debt.

OFFICERS.—Vice-Pres., J. H. E. Gawtry; Vice-President and Secretary, Geo. W. Parkhurst;

Treasurer, W. C. Besson; Assistant Secretary and Purchasing Agent, E. S. Young.

DIRECTORS.—Geo. F. Baker, N. F. Brady, George B. Cortelyou, Jas. B. Ford, John W. Sterling, Lewis B. Gawtry, Jas. N. Jarvie, Edwin S. Marston, Donald G. Geddes, Wm. Rockefeller, Wm. G. Rockefeller.

Annual meeting of stockholders held on second Tuesday in May at 142 East 15th Street, New York City. Company's fiscal year ends December 31.

THE NORTH AMERICAN COMPANY, NEW YORK CITY.

General Office, 30 Broad Street. Main Office, 9 Clinton Street, Newark, N. J.

The North American Co. was incorporated in 1890, under the laws of the State of New Jersey, acquiring the property and business of the Oregon and Transcontinental Co. The Company is engaged in the financing and control of street railway, electric light and power, and gas properties. It controls or is interested in:

The Wisconsin Edison Company, which controls The Milwaukee Electric Railway and Light Co.; Milwaukee Light, Heat and Traction Co.; Wisconsin Gas and Electric Co.; North Milwaukee Light and Power Co.; Wells Power Co.

Union Electric Light and Power Company.

American Light and Power Co.

The St. Louis County Gas Company.

United Railways Co. of St. Louis.

West Kentucky Coal Co.

Detroit Edison Co.

Capital stock, authorized, \$30,000,000; issued, \$29,793,300.

DIVIDENDS.—In 1903 The North American Co. paid 4 per cent. From 1904 to September, 1907, 5 per cent. In 1908, a panic year, no dividend was paid. In 1909, dividends were resumed at the rate of 5 per cent per annum, which rate since then has been paid without interruption.

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Stocks	\$26,023,591.53
Bonds	3,901,540.00
Loans and advances	6,063,933.48
Accounts receivable	546,492.58
Office furniture and miscellaneous property	1.00
Interest paid in advance	7,750.00
Cash	1,345,279.62
	<u>\$37,888,588.21</u>

Liabilities.

Capital stock authorized	\$30,000,000.00
Less unissued stock	206,700.00
	<u>\$29,793,300.00</u>
Notes payable	3,900,000.00
Deposits: Funds of subsidiary companies	329,965.53
Accounts payable	68,628.00
Dividends accrued, payable January 2, 1918	372,416.25
Dividends unclaimed	10,536.20
Reserves	60,000.00
Undivided profits	3,353,742.23
	<u>\$37,888,588.21</u>

INCOME ACCOUNT FOR YEAR ENDED
DECEMBER 31, 1917.

Salaries, legal expenses, net rentals and all other expenses of administration	\$100,212.41
Taxes	87,506.42
Interest paid or accrued	108,007.16
Balance, to undivided profits	<u>1,803,567.65</u>
	\$2,099,293.64
Interest received or accrued	\$493,852.02
Dividends received or accrued	1,571,674.91
Profits and compensat'n for services	<u>33,766.71</u>
	\$2,099,293.64

UNDIVIDED PROFITS ACCOUNT.

Dividends declared during year ..	\$1,489,665.00
Balance, as per balance sheet at December 31, 1917	<u>3,353,742.23</u>
	\$4,843,407.23
Balance as at January 1, 1917	\$3,039,839.58
Net income for year to December 31, 1917	<u>1,803,567.65</u>
	\$4,843,407.23

OFFICERS.—George R. Sheldon, Chairman of Board; James D. Mortimer, President; Edwin Gruhl, Assistant to President; Henry H. Pierce, Vice-President; Geo. R. Sheldon, Treasurer; James F. Fogarty, Secretary and Assistant Treasurer; Robert Sealy, Assistant Treasurer; F. H. Piske, Assistant Secretary; Robert Randall, Assistant Secretary.

DIRECTORS.—John I. Beggs, Edwin M. Bulkley, E. G. Burkham, Festus J. Wade, Charles A. Coffin, Wm. Nelson Cromwell, William J. Curtis, Alex. Dow, Bayard Dominick, Morton Jourdan, H. S. Priest, Edward Q. Keasbey, James D. Mortimer, Charles F. Pfister, Henry H. Pierce, George R. Sheldon, Francis S. Smithers, Fred Vogel, Jr.

EXECUTIVE COMMITTEE.—George R. Sheldon, John I. Beggs, Edwin M. Bulkley, C. A. Coffin, Bayard Dominick, Alex. Dow, H. H. Pierce, James D. Mortimer, Francis S. Smithers, Festus J. Wade.

Annual meeting of stockholders held third Wednesday in March.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO.

Gray's Ferry Road
and 29th Street

PHILADELPHIA, PA.

OHIO UTILITIES COMPANY, NEW YORK

Principal address, 115 Broadway, New York City.

The Ohio Utilities Company was incorporated in 1916 under the laws of New York and furnishes without competition the cities of Circleville, Gallipolis, Delaware and Hillsboro, Ohio, with electric light, power and, in the case of the Hillsboro Company, with gas and artificial ice. The population served is approximately 33,000.

FRANCHISES.—All perpetual except Gallipolis, which expires in 1927.

CAPITALIZATION.

	Authorized	Issued
Common	\$2,500,000	\$500,000
Preferred 7% cumulative..	2,500,000	200,000

BONDED DEBT.—First lien 5 and 6 per cent bonds, authorized, \$5,000,000; issued, \$140,000 5 per cent, \$400,000 6 per cent. First lien sinking fund 5 and 6 per cent gold bonds, due June 1, 1946. Trustee, Republic Trust Company of Philadelphia, Pa. Registrar, P. W. Brooks & Co., Inc. Callable 6 per cent at 107, 5 per cent at 103, on any interest date. Sinking fund, 1 per cent per annum of bonds issued 1921-1930, 1½ per cent 1931-1946. Interest payable first day of June and December. Interest payable without deduction for the normal income tax. Pennsylvania tax refunded.

SECURITY.—This issue is secured, in counsel's opinion, by an absolute first lien through deposit with the trustee of all of the stock and all of the bonds of the Circleville Light and Power Company, the Delaware Electric Light, Heat and Power Company, the Hillsboro Light and Fuel Company and the Hillsboro Ice and Coal Company, and all right, title and interest in and to

the property and franchises of the Gallipolis Electric and Power Company.

SINKING FUND.—The mortgage requires that the Company pay to the trustee for the creation of a sinking fund 1 per cent of the principal amount of all bonds outstanding on September 1, 1921, to September 1, 1930, inclusive; 1½ per cent of the principal amount of all bonds outstanding from September 1, 1931, until the maturity of the bonds. The bonds are subject to call, those bearing 6 per cent interest at 107 per cent, those bearing 5 per cent interest at 103 per cent, and the sinking fund may be invested in them if they can be secured at a figure not to exceed these call prices.

INCOME ACCOUNT, YEAR ENDING DECEMBER 31, 1916.

Gross	\$159,742.33
Operating expenses, including taxes..	87,036.14
Net	\$72,706.19
Interest	31,000.00

Surplus \$41,706.19

OFFICERS.—President and Assistant Treasurer, L. M. Symmes; Vice-President and Assistant Secretary, A. F. Beringer; Secretary and Treasurer, E. H. Van Wyck.

DIRECTORS.—E. Hawley Van Wyck, A. A. Bridgham, L. M. Symmes, A. F. Beringer, W. E. McClintock.

Date of annual meeting first Monday in January.

General office address, 115 Broadway, New York City.

THE STANDARD GAS LIGHT CO. OF THE CITY OF NEW YORK.

Principal address: 130 East 15th St., New York City.

This Company was incorporated in April, 1886, under the laws of New York State.

CAPITALIZATION.

	Authorized	Outstanding
Preferred capital stock.	\$5,000,000	\$4,295,700
Common capital stock...	5,000,000	4,985,700

Shares, \$100. Transfer agents, the Company's officers. Registrars, Farmers Loan and Trust Co.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold bonds, authorized, \$1,500,000; issued, \$1,195,000. Dated May 1, 1890; due May 1, 1930. Interest payable May 1 and November 1 at the office of The Bankers Trust Co. Denomination.

\$1,000; coupon. Redeemable at par at maturity. Trustee of bonds, Mercantile Trust Co., 120 Broadway, New York.

OFFICERS.—President, W. Greeley Hoyt; Vice-President, Benj. Whiteley; Secretary, John E. Sanborn; Treasurer, Benj. Whiteley.

DIRECTORS.—James McAlpin Pyle, Augustus V. Heely, Geo. F. Dominick, John W. Sterling, Wm. P. Hardenbergh, Wm. J. Nevius, Alex. S. Webb, Geo. B. Cortelyou, W. Greeley Hoyt.

Annual meeting of stockholders held on second Wednesday in May at 130 East 15th St., New York City. Company's fiscal year ends December 31.

UNION RAILWAY, GAS AND ELECTRIC CO.

New York office: 14 Wall Street.

(Incorporated under the laws of New Jersey in June, 1909.)

The Company owns all or practically all of the preferred and common stocks of the following companies:

Springfield Consolidated Rwy. Co., Springfield Gas & Electric Co. (both Illinois corporations); Central Illinois Light Co., an Illinois corpora-

tion; Public Utilities Co., an Indiana corporation; Rockford and Interurban Railway Co., an Illinois corporation; Janesville Traction Co., a Wisconsin corporation, and De Kalb, Sycamore and Interurban Traction Co., an Illinois corporation.

PHOTOMETERS Among the standard bar photometers which we manufacture are the Sugg-Letheby, the American Meter Company Improved Type B and the Portable Type.

American Meter Company

561 W. 47th St., New York, N. Y.

The capitalization of the Union Railway, Gas & Electric Co., is as follows:

	Authorized	Outstanding
Common stock	\$6,000,000	\$6,000,000
Preferred stock	12,000,000	5,250,000
Nearly all the common and preferred stock is owned by the Commonwealth Power, Railway and Light Co.		
Col. Trust 5% gold bonds, due 1939		5,200,000
Three year 5% notes, due 1919.....		3,000,000
Springfield Ry. & Lt. Co. bonds	5,000,000	3,075,000

In addition to the above collateral trust bonds of the Company, there are outstanding in the hands of the public bond issues of constituent companies, of which descriptions will be found under the titles of the issuing company.

The preferred stock is preferred as to assets, and also as to dividends, at the rate of 6 per cent per annum, cumulative from July 1, 1909, and is redeemable, at the option of the Company, at 105 per cent and accrued dividends, upon sixty days' previous notice.

Dividends on the preferred stock are payable quarterly, on the first days of January, April, July and October, and have been paid regularly since the organization of the Company.

Dividends on the common stock were paid from April, 1913, at the rate of 4 per cent up to the time of acquisition by the Commonwealth Power, Railway and Light Co.

The transfer agents of the preferred and common stocks are E. W. Clark & Co. in Philadelphia, and Fidelity Columbia Trust Co. in Louisville.

The registrars of preferred and common stocks are Commercial Trust Co. in Philadelphia, and United States Trust Co. in Louisville.

The bonds are secured by indenture of collateral trust to Commercial Trust Company, of Philadelphia, Pa., trustee, under which is deposited the stocks of the companies named; are dated as of July 1, 1909, and are due July 1, 1939; bear interest at 5 per cent per annum, payable Jan. 1 and July 1, at the office of Hoenpfl, Hardy & Co., Inc., New York, and E. W. Clark & Co., Philadelphia. They are coupon bonds in denominations of \$1,000 and \$500; may be registered as to principal only at the office of Commercial Trust Company, Philadelphia; are redeemable at par and accrued interest on any interest payment date, upon 60 days' previous notice.

Additional bonds may be issued to retire bonds of constituent companies, and for not to exceed 75 per cent of the actual cash cost of additional property, etc., and then only when the net revenue for the twelve months preceding shall have been not less than one and one-half times the annual interest charge on all bonds outstanding, including those sought to be issued.

The notes are dated April 1, 1916; due April 1, 1919; interest payable April 1 and October 1, at office or agency of the company, New York City; coupon, \$1,000; with privilege of registration as to principal. Redeemable at 100½%

and interest on April 1 or October 1, 1918. Bankers' Trust Co., trustee.

The Springfield Railway & Light Co. bonds are secured by indenture of collateral trust to Fidelity and Columbia Trust Co. of Louisville, Ky., trustee, under which indenture is deposited all the outstanding securities, excepting directors' qualifying shares of the Constituent Companies above named, and excepting the \$750,000 of underlying bonds mentioned; are dated June 1, 1903; are due June 1, 1933; bear interest at 5 per cent, payable June 1 and December 1, at Fidelity and Columbia Trust Co., Louisville, Ky.; E. W. Clark & Co., Philadelphia, Pa., and Hoenpfl, Hardy & Co., Inc., New York City; are redeemable at 107½ on any interest payment date upon 60 days' previous notice.

Additional bonds may be issued to the amount of \$750,000 to retire a like amount of Springfield Consolidated Railway Co. bonds outstanding, and to the amount of \$75,000 for 85 per cent of the actual cash cost of additional property constructed or acquired.

OFFICERS.—President, Geo. E. Hardy; Vice-President, C. M. Clark; Vice-President, B. C. Cobb; Secretary and Treasurer, Jacob Hekma; Assistant Secretary and Assistant Treasurer, C. A. Pearson, Jr.

DIRECTORS.—C. M. Clark, E. W. Clark, Geo. E. Hardy, John W. Barr, Jr., James Richardson, B. C. Cobb, J. C. Weadock.

The annual meeting is held at the principal office of the Company, No. 243 Washington street, Jersey City, N. J., on the first Tuesday of February of each year at 11 o'clock a. m. Fiscal year ends December 31.

SPRINGFIELD GAS & ELECTRIC COMPANY.

(Organized under the laws of Illinois.)

This company was formerly the Springfield Gas Co. In April, 1913, the name was changed and the company then acquired the Springfield Light, Heat and Power Co.

The company does all the gas, electric, steam heat and hot water business for Springfield, Ill.

CENTRAL ILLINOIS LIGHT COMPANY.

(Incorporated under the laws of Illinois in April, 1913.)

This company was formed by the purchase and consolidation of the following companies: Peoria Gas & Electric Co., Farmington Light & Power Co., Electric Service System, Washington Light & Power Co., Elmwood Electric Light Co. and Citizens Gas & Electric Co.

The company does all the gas and electric business in Peoria and Pekin, Ill., and a number of surrounding towns. The property of the Pekin Light, Heat & Power Co. is leased and its entire stock is owned by this company.

BONDS.—Central Illinois Light Co. first and refunding mortgage 5 per cent gold; dated April 1, 1913; due April 1, 1943; authorized, \$15,000,000; outstanding, \$4,266,000; interest payable April 1 and October 1. Coupon bonds, denominations, \$1,000, \$500 and \$100, with privilege of registration as to principal. Subject to redemption at 105 and interest on any interest day at

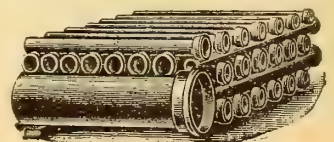
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



sixty days' notice. Sinking fund of $\frac{1}{2}$ per cent per annum of total bonds of this issue and underlying bonds outstanding, beginning April 1, 1917. Bankers Trust Co., New York, Trustee.

There are outstanding in the hands of the public \$2,500,000 Peoria Gas & Electric Co. first mortgage 5 per cent bonds, due 1923. The bonds are secured by a first mortgage on the property of the company to the Bankers Trust Co. of New York. The mortgage provides for a sinking fund on 5 per cent of the annual gross earnings beginning January 1, 1910. Bonds are dated January 1, 1903; due January 1, 1923; interest payable in January and July at offices of Hoenpyl, Hardy & Co., Inc., New York City; redeemable at 105; denomination, \$1,000.

There are also \$4,000 Citizens Gas & Electric Co. first mortgage 5 per cent bonds, due 1922, outstanding. Bonds are secured by the first mortgage to the Merchants Loan & Trust Co. and Leon L. Loehr, trustees, of Chicago, Ill. Interest payable February and August at the offices of the corporate trustee; redeemable at 105 and interest.

PUBLIC UTILITIES CO.

	Authorized	Issued
Capital stock, common..	\$3,000,000	\$3,000,000
5 per cent cum. pref.	3,000,000	2,520,000
Funded debt outstanding as of December 31, 1917, was as follows:		

Public Utilities first and refunding

5 per cent bonds, due 1947.....	\$1,284,000
Evansville Electric Ry. Co. 4s.....	1,200,000
Evansville & Princeton Trac. Co. 5s	300,000
*The Evansville Gas & Elec. Lt. Co. 5s	1,200,000

*The bonds are secured by a first mortgage on all the property of the Company to the Continental and Commercial Trust and Savings Bank of Chicago, Illinois, which mortgage provides that the Company shall call in and pay \$10,000 of the bonds at 105 and interest on June 1, in each of the years 1913 to and including 1922, and \$15,000 on June 1, 1923, to and including 1932, such bonds to be determined by lot; are dated June 1, 1902; are due June 1, 1932; bear interest at 5 per cent, payable semi-annually on the first days of June and December at the Continental and Commercial Trust & Savings Bank, Chicago, Illinois, and First National Bank, New York; are redeemable at 105 and accrued interest on any interest payment date after June 1, 1912, upon sixty days' previous notice; are issued in denominations of \$1,000 each; are coupon bonds with privilege of registration as to principal at the office of the Company.

The Public Utilities Co. owns and operates gas and electric plants in the city of Evansville, Ind.

The Public Utilities Co. also operates a street railways system in Evansville and a line between Evansville, Princeton and Patoka, Ind.

UNITED GAS AND ELECTRIC COMPANY.

Principal address: 61 Broadway, New York City.

The United Gas and Electric Co. was incorporated in December, 1901, under the laws of New Jersey.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 5% cum.	\$1,500,000	\$1,195,800
Common stock	4,000,000	3,621,000

Shares, \$100. Transfer agents, Bertron, Griscom & Co., Land Title Building, Philadelphia, Pa.

Dividend on preferred stock, annual rate 5 per cent, payable semi-annually.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$3,000,000; o/s, \$443,500. Dated January 1, 1902; due January 1, 1922. Interest payable January 1 and July 1 at The New York Trust Co. Denomination, \$1,000 and \$500. Coupon bonds. Registerable as to principal. Not redeemable. Trustee of bonds, The New York Trust Co.

SECURITY.—First mortgage on stock of subsidiary companies.

SINKING FUND.—After the payment of 5 per cent on the preferred stock and 4 per cent on common stock and before the payment of any additional dividends on the common stock, a sinking fund of 4 per cent of the bonds outstanding is set up.

OFFICERS.—President, George Bullock; First Vice-President, R. E. Griscom; Second Vice-President, E. G. Connette; Secretary and Assistant Treasurer, J. A. McKenna; Treasurer and Assistant Secretary, A. L. Linn, Jr.

DIRECTORS.—George Bullock, R. S. Storrs, R. E. Griscom, S. F. Houston, Edward Bailey, J. S. Jenks, Jr., S. R. Bertron, E. G. Connette, F. T. Homer.

Annual meeting of stockholders held third Tuesday of December at 15 Exchange Place, Jersey City, N. J. Company's fiscal year ends December 31.

THE UNITED GAS AND ELECTRIC CORPORATION.

Principal address: 61 Broadway, New York City.

The United Gas and Electric Corporation was incorporated in June, 1912, under the laws of Connecticut and is a consolidation of Susquehanna Railway, Light and Power Co. and The United Gas and Electric Corporation. (For companies controlled, see "Parent Companies.")

CAPITALIZATION.

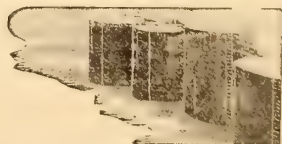
	Authorized	Outstanding
First preferred stock,	\$25,000,000	\$9,284,800
Second preferred stock...	12,500,000	11,663,500
Common stock	20,000,000	12,250,820
Shares, \$100. Transfer agents, Girard Trust		

USE SPECIFICATION PAINTS

manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for
Review of Technical Paints.

Cheesman & Elliot, 100 William St., New York



APPENDIX

Co. Registrars, Pennsylvania Co. for Insurance on Lives and Granting Annuities.

Dividend on preferred stock, annual rate 6 per cent. payable semi-annually.

BONDS.—Six per cent 30-year collateral trust sinking fund gold bonds; dated April 1, 1915; due April 1, 1945; callable on four weeks' notice as a whole or in part at 102½ and interest. In interest payable April 1 and October 1 at Guar-

anty Trust Company of New York, trustee, and at Pennsylvania Company for Insurance on Lives and Granting Annuities, Philadelphia. Coupon bonds, \$1,000 and \$100 denomination. May be registered as to principal. Tax refund in Pennsylvania. Normal federal income tax paid by corporation. Authorized issue, \$15,000,000; in hands of public, \$9,300,000 (\$1,111,000 owned by a subsidiary company, \$700,000 in treasury.)

THE UNITED GAS & ELECTRIC CORPORATION AND UNITED GAS & ELECTRIC ENGINEERING CORPORATION,
CONSOLIDATED BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Investments	\$42,566,373
Office fixtures, supplies, etc.....	17,512
Due from sub. cos.....	1,747,704
Miscellaneous accounts receivable....	284,639
Deferred charges	1,616,466
Cash	249,579
	<u>\$46,482,273</u>

<i>Liabilities.</i>	
Capital stock outstanding:	
1st preferred.....	\$9,284,800
2d preferred.....	11,663,500
Common	12,250,820
	<u>\$33,199,120</u>
Funded debt—coll. 6% bonds o/s....	9,300,000
7% purchase money ctf's of indebted-	
ness o/s	1,925,800
Notes payable	643,500
Accrued interest	122,835
Due to sub. cos.....	59,073
Reserve for income tax.....	23,539
Misc., including accrued items.....	371,829
Disc. on treasury stock.....	33,501
Surplus	803,076
	<u>\$46,482,273</u>

<i>CONSOLIDATED SURPLUS ACCOUNT.</i>	
DECEMBER 31, 1917.	
Balance surplus, Jan. 1, 1917....	\$625,027.84
Earnings for the year:	
Dividends of subsidiary com-	
panies actually declared dur-	
ing the year and miscellane-	
ous direct earnings, after de-	
ducting expenses..	\$1,228,458.69
Less interest and	
amortization	738,819.63
	<u>\$489,639.06</u>
Appreciation of prop-	
erties, etc.	106,224.97
	<u>\$595,864.03</u>
Total	<u>\$1,220,891.87</u>
Deduct dividends on first pre-	
ferred stock declared during	
year, 4½%	417,816.00
Balance of surplus at Dec. 31, 1917,	
as per balance sheet.....	<u>\$803,075.87</u>

STATEMENT OF EARNINGS FROM ALL SOURCES FOR THE YEAR ENDED DECEMBER 31, 1917, INCLUDING EQUITY IN NET EARNINGS FROM SUBSIDIARY COMPANIES (EXCLUSIVE OF AMERICAN CITIES COMPANY AND ITS SUBSIDIARIES) WHETHER ACTUALLY RECEIVED IN THE FORM OF DIVIDENDS OR NOT.

Direct earnings (less expenses) of the United Gas and Electric Corporation and net earnings of its subsidiary companies (exclusive of American Cities Company and its subsidiaries) after reduction of dividends on their preferred stocks, including the equity of the direct subsidiary companies in the operations of their respective subsidiary companies, calculated on the basis of their holdings at the end of the period.....	\$1,417,832.54
Add: Appreciation in value of certain property still held by the corporation or its subsidiaries	106,224.97
Deduct:	<u>\$1,524,057.31</u>
Interest on 7% purchase money certificates of indebtedness	\$102,517.08
Interest on bonds	542,447.71
Amortization for year of debt discount and expense	54,500.00
Interest on notes payable.....	39,354.84
	<u>738,819.63</u>
Deduct also: Dividends on first preferred stock of the United Gas and Electric Corporation accrued and declared during the year.....	417,816.00
Balance available for division among second preferred stockholders after providing for amortization and all fixed charges.....	<u>\$367,421.68</u>

NOTE.—The amount of preferred dividends which accrued but were not declared) during the year, was \$232,120, and of second preferred, was \$583,175. The result of the operations of the American Cities Company and its subsidiaries (which are not included above) show a current deficit after providing for the balance of their preferred dividends not declared.

Carried forward \$367,421.68



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Auto Owners.

Because of its records in service, and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Balance, brought forward.....	\$367,421.68
Which consists of:	
Amount added to surplus of subsidiary companies, not declared as dividends	189,373.65
NOTE.—Out of the accumulations of surplus of the subsidiary companies (exclusive of the American Cities Company and its subsidiaries) there were charged during the year various amounts on account of extraordinary expenditures not directly applicable to the operations for the year, of which the proportion corresponding to the holdings of this corporation is \$90,700.49.	
Addition to surplus of the United Gas and Electric Corporation arising from current operations.....	595,864.03
	<u>\$785,237.68</u>
Less: Dividends on first preferred stock, as above.....	417,816.00
	<u>\$367,421.68</u>
Balance, as above.....	\$367,421.68

OFFICERS.—Chairman, George Bullock; President, E. G. Connette; Vice-President, Francis T. Homer; Treasurer and Assistant Secretary, A. L. Linn, Jr.; Secretary and Assistant Treasurer, J. A. McKenna; Assistant Treasurer, M. D. Evans; Auditor, G. F. Bauer.

DIRECTORS.—S. R. Bertron, George Bullock E. G. Connette, J. A. Cauldwell, Murray W. Dodge, M. J. Dodge, F. R. Ford, John Gribbel, W. W. Griest, R. E. Griscom, Frank B. Hayne, A. J.

Hemphill, Francis T. Homer, John S. Jenks, Jr., Wm. B. Joyce, F. M. Kirby, Louis J. Kolb, Sidney Z. Mitchell, J. A. McKenna, F. M. Potts, H. J. Pritchard, George K. Reilly, Lucius F. Robinson, Frank A. Sayles, Edward R. Tinker.

TRANSFER AGENTS.—Girard Trust Co., Philadelphia, Pa.

REGISTRARS OF STOCK.—The Pennsylvania Company for Insurances on Lives and Granting Annuities, Philadelphia, Pa.

UNITED UTILITIES CO., NEW YORK CITY.

Principal office: Portland, Me. Business office: 25 Nassau Street.

Incorporated December 12, 1910, under the laws of Maine with broad powers to acquire, sell and deal in bonds, stocks and other securities and properties of electric power, electric lighting, gas and other public service companies or enterprises.

Preferred stock	Authorized \$5,000,000	Outstanding \$1,000,000
Common stock	5,000,000	5,000,000

PREFERRED STOCK.—7 per cent cumulative from January 1, 1911. Par value, \$100. Dividends payable January, April, July and October 1. Repurchasable or redeemable at the Company's option on thirty days' notice at \$120. Preferred both as to principal and dividends. Has equal voting power.

COMMON STOCK.—Par value, \$100. After payment of, or provision for, all cumulative dividends on the preferred stock and non-cumulative dividends on the common stock up to five (5) per cent in any calendar year, any additional dividends paid or declared for that year shall be at the same rate on all shares of both preferred and common stock outstanding.

DIVIDEND RECORD.—Dividends of 7 per cent annually have been paid on preferred stock since 1911.

REGISTRAR.—Corporation Trust Co., Jersey City, N. J.

TRANSFER AGENT.—Registrar and Transfer Co., Jersey City, N. J.

FUNDED DEBT.—Bonds: First Collateral Trust 6 per cent Convertible 30-year gold bonds. Dated

January 1, 1913. Due January 1, 1943. Callable at 105 and interest on January 1, 1918, or any interest date thereafter. Outstanding, \$800,000.

Are payable as to principal and interest in sterling at the offices of William P. Bonbright & Co., or other agency of the company in London, England, at the fixed rate of exchange £1 (\$4.86 2/3), or at the holder's option in United States currency at the offices of Bonbright & Co., Inc., or other agency of the company in New York City.

Interest payable January and July 1 without deduction for income tax.

Denominations, \$500 (£102 15s), \$100 (£20 11s) with provisions for registration as to principal.

TRUSTEE.—Old Colony Trust Co., Boston, Mass.

SECURITY.—The bonds are secured by a trust deed whereby a specific first charge is created on certain stocks, bonds and other securities securing the due payment of the bonds and interest. The trust deed provides that such securities must be of a value to the satisfaction of the trustee of at least 125 per cent of the amount of bonds outstanding.

RESTRICTIONS OF ISSUE.—At a meeting of the Board of Directors held on May 16, 1916, a resolution was passed limiting the issue to \$800,000, being the amount of bonds now outstanding.

CONVERSION PRIVILEGE.—On January 1, 1918, or on any interest date thereafter, the bonds are

HUNT COAL AND COKE VALVES are made in a variety of forms—simplex, duplex, Seaton or "S," Briggs, etc.—in designs and materials especially adapted to gas works and coke oven requirements. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

convertible, at the option of the holder, into the 7 per cent preferred stock of the company, on the basis of \$100 of bonds accompanied by \$15 in cash (£3 1s 8d) for \$100 par value of the said stock. Subject to the conversion privilege the company reserves the right to redeem all or any of the bonds at 105 and accrued interest on January 1, 1918, or on any interest date thereafter.

BALANCE SHEET, DECEMBER 31, 1917

Assets.

Contracts, options and discount....	\$4,419,401.00
Securities Owned—At Cost:	
Bonds, notes, etc....	\$895,325.50
Stocks	2,181,520.32
	3,076,845.82
Cash	38,081.24
Interest and dividends accrued on securities owned.....	39,219.53
Prepaid accounts	705.75
Syndicate profits receivable.....	3,625.00
Total assets	\$7,577,878.34

Liabilities.

Capital stock, common.....	\$5,000,000.00
Capital stock, preferred....	1,000,000.00
First collateral trust 6% conv. 30 yr. gold bonds, due Jan. 1, 1943.....	800,000.00
Notes payable and interest accrued thereon	229,154.15
Accounts payable and accruals.....	140,920.02
Interest and dividends received in advance	5,604.53
Profit and loss, surplus.....	402,199.64
Total liabilities	\$7,577,878.34

Note.—Securities under contract for delivery to us, also securities under option and the contra items of purchase price not yet due, are not included above.

STATEMENT OF INCOME AND PROFIT AND LOSS FOR THE YEAR ENDED DECEMBER 31, 1917.

Income from Interest and Dividends:	
On securities owned	\$162,743.03
Int. on bank balances	1,570.66
	\$164,313.69
Expenses	8,893.00
Excess of income over expenses....	\$155,420.69
Deductions from Income:	
Interest on borrowed money	\$9,510.42
Interest on bonds.....	48,000.00
	57,510.42
Net income	\$97,910.27
Net profit on sales of securities....	2,381.20
Other profit and loss credits.....	5,294.23
Surplus at beginning of year.....	366,613.94
Gross surplus	\$472,199.64
Dividends on preferred stock.....	70,000.00
Profit and loss—Surplus, Dec. 31..	\$402,199.64

SECURITIES OWNED—DECEMBER 31, 1917.

Bonds, Notes, Etc.	Par Value.
Appalachian Power Co., first mtg, sinking fund, 5s, 1941.....	\$110,000
Appalachian Power Co., 7% notes, 1918.	50,000
Appalachian Power Co., 7% promissory note, 1920	1,750
Appalachian Power Co., 7% unsecured note, 1920	12,888
Arizona Power Co., first mtg, sinking fund, 6s, 1933.....	55,000
Arizona Power Co. 8% notes, 1919.....	35,000
Central Mexico Light & Power Co., first mtg., sinking fund, 6s, 1940.....	100,000
Eastern Power & Light Corporation, first mtg, convertible 5s, 1918.....	50,000
Excelsior Springs Water, Gas & Electric Co., first mtg, 6s, 1932.....	12,500
Glenville Syndicate, participation.....	12,500
Great Western Power Co., first mtg., sinking fund, 5s, 1946.....	15,000
Mountain States Power Co., first mtg. 5s	30,000
Northern Ontario Light & Power Co., Ltd, first mtg, sinking fund, 6s, 1931..	101,000
Prescott Gas & Electric Co., first mtg., sinking fund, 6s, 1940.....	93,000
Standard Gas & Electric Co., 6% notes, 1935	50,000
United Light & Railway Co., first and refunding mtg., 5s, 1932.....	15,000
U. S. Public Service Corp., first mtg. 6s, 1927	175,000
Van Swerigen Co. 6s, 1921.....	10,000
Yadkin River Power Co., first mtg., 5s, 1941	50,000

Stocks.	Shares	Com
American Cities Co.....	150	
American Power & Light Co., option warrants		500
American Power & Light Co.....	300	1,000
American Utilities Co.....	100	
Appalachian Power Co.....	750	1,000
Arizona Power Co., The.....	400	4,000
California Electric Generating Co...	200	
Central Mexico Light & Power Co...	800	
Central States Electric Corporation.	400	
Colorado Power Co.....		500
Commonwealth Power, Ry. & Lt. Co.	125	375
Continental Motors Corp (\$10 par)		13,500
Eastern Power & Light Corporation.	1,000	1,262
Electric Utilities Corporation.....		4,000
General Elec. Co. (capital stock)...		510
Guanajuato Power & Electric Co...	350	1,400
Mobile Electric Co.....	300	
Mountain States Power Co.....	100	725
Northern Ontario Lt. & Pr. Co., Ltd.	1,200	2,300
Northern States Power Co.....	1,500	500
Northwestern Power Co.....	325	500
Oklahoma Gas & El. Co.....	250	
Pacific Gas & Electric Co. of Arizona	205	
Pacific Gas & Electric Co.....		4,000
Republic Railway & Light Co.....	200	
Securities Exchange Co. (\$50 par)...	500	
Southern California Edison Co.....		1,600
Southwestern Power & Light Co....	200	
Sprague Safety Control & Signal Corporation, 30% paid	300	375
Standard Gas & Elec. Co. (\$50 par)	4,000	1,800



Tycos Temperature Instruments for Gas Works

H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



Stocks.	Pref. Shares	Com.
Tennessee Railway, Light & Power Co.	800	1,000
Texas Electric Railway.....	144	776
Union Carbide & Carbon Corp.....	..	800
Utah Securities Corporation.....	..	800
Western Power Co.....	2,000	3,300
Western States Gas & Electric Co...	400	300
Wisconsin Edison Co.....	..	250

The forgoing securities are carried on the books at \$3,076,845.82, as shown by the balance sheet.

ROCKLAND LIGHT AND POWER COMPANY, NYACK, N. Y.
Boston office, 201 Devonshire Street.

The Rockland Light and Power Co. was incorporated in 1899 under the laws of New York and is a consolidation of Nyack Electric Light and Power Co. and Nyack Gas Light and Fuel Co., Nyack; Haverstraw Electric Light, Heat and Power Co., Haverstraw, N. Y.; Spring Valley Gas and Electric Co., Spring Valley, N. Y.; Rockland Electric Co. of New York.

FRANCHISES.—Mostly perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$100,000	.....
Common stock	900,000	900,000

Shares, \$100. Transfer agents, Rockland Light and Power Co., Nyack, N. Y. Registrars, American Trust Co., Boston. Dividends of 6% per annum have been paid on preferred stock since 1904; on common 6% semi-annually since 1908; in 1914, 9% of which 6% on \$237,000 and 3% on \$700,000; in 1915, 6% on \$700,000; in 1916, 3¼% on \$700,000; 1¾% on \$856,800 and 1¾% on \$879,900; in 1917, 1¾% on \$882,700, 5¼% on \$900,000.

FUNDED DEBT.—Bonds: First mtg. 5%, authorized, \$1,000,000; issued, \$655,000; dated November 2, 1908; due November 1, 1938. Interest payable May 1 and November 1 at Guaranty Trust Co., of New York. Denomination, \$1,000; coupon; may be registered. Trustee of bonds, Guaranty Trust Co. of New York.

SECURITY.—First mortgage. Secured on entire property and franchises; subject only to under-noted Nyack Gas Light First 5s. Interest paid without deduction for normal income tax.

Nyack Gas Light and Fuel Co. first mortgage 5 per cent gold bonds: Dated, April 1, 1898; due April 1, 1918; authorized, \$50,000; issued, \$50,000; less \$5,000 reacquired; \$45,000 outstanding. Interest, April 1 and October 1, at Central Trust Co., New York. Denomination, \$1,000. Coupon may be registered. Normal income tax deducted from interest.

Rockland Electric Co. of New York first mortgage bonds: Dated April 1, 1903; due April 1, 1953, at 5 per cent. Interest April 1 and October 1: authorized, \$230,000 and issued; \$61,400 retired; outstanding \$168,600. Interest payable at Bloomfield Trust Co., New Jersey. Denominations, \$1,000 and \$100; coupon. Normal income tax deducted from interest.

OFFICERS.—President, William P. Bonbright; Vice-Presidents, Lord Fairfax, F. C. Walcott, O. B. Willcox, A. H. Lockett; Treasurer and Secretary, A. P. Taliaferro; Assistant Secretary and Assistant Treasurer, A. E. Widli.

DIRECTORS.—William P. Bonbright, Irving W. Bonbright, Starling W. Childs, Charles A. Coffin, Lord Fairfax, Frederick V. Henshaw, Arthur H. Lockett, Robert A. Manning, Landon K. Thorne, Parmely W. Herrick, Frederic C. Walcott, Orlando B. Willcox.

Annual stockholders' meeting second Wednesday in March.

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Fixed capital	\$1,962,816
Securities owned	133,248
Materials and supplies	85,895
Cash	55,654
Bills receivable	10,000
Current assets	57,411
Other assets	93,190
Total	\$2,398,217

<i>Liabilities.</i>	
Capital stock	\$1,000,000
Bonded debt	868,600
Notes payable	175,000
Current liabilities	41,558
Accrued liabilities	18,811
Reserve for depreciation	180,243
Profit and loss	114,003
Total	\$2,398,217

COMPARATIVE STATEMENT OF OPERATIONS.

	1917	1916
Gross earnings	\$337,026.00	\$306,155.00
Less operating expenses ..	215,819.00	184,134.00
Gross earnings from operations	\$121,207.00	\$122,021.00
Other income	14,400.00	8,175.00
Total gross income....	\$135,607.00	\$130,195.89
Less income deductions..	58,736.00	58,348.00
Net income	\$76,871.00	\$71,847.99
Less dividends	68,697.00	59,142.00
Surplus for year	\$8,174.00	\$12,706.00

OFFICERS.—Chairman Board of Directors, Charles H. Tenney; President, D. Edgar Manson; First Vice-President, A. B. Tenney; Secretary, H. P. Wood; Treasurer, E. A. Bradley; Assistant Treasurer, H. F. Peirce; Auditor, H. A. Gidney; Manager, E. C. Peebles.

DIRECTORS.—Chas. H. Tenney, D. Edgar Manson, Edw. M. Bradley, Horace P. Wood, H. C. Warren, Albert B. Tenney, Geo. L. Chapman, Samuel A. York, Bernon E. Helme, I. S. Hall.

Annual meeting of stockholders held third Wednesday in March at place stated in notice of meeting.

Company's fiscal year ends December 31.

We erected the first five million foot or larger holder on the
Atlantic Coast, on the Pacific Coast and in the Gulf States.

R. D. WOOD & CO., PHILA., PA.



ADIRONDACK ELECTRIC POWER CORPORATION, ONEIDA, N. Y.
General Office, Glens Falls, N. Y.

The Adirondack Electric Power Corporation was organized under the laws of the State of New York December 27, 1911, and has taken over the properties, franchises and rights of the Hudson River Water Power Co. and its seven affiliated corporations.

The Company does an electric light and power business in various cities and towns in Northern New York State, including Amsterdam, Glens Falls, Watervliet, Saratoga Springs, Canastota, Oneida, Ballston Spa and Lake George; sells power in wholesale quantities in Albany, Troy, Utica, Mechanicsville, and does a gas business in Saratoga Springs and Oneida. The company owns and operates water powers on the Hudson and Schoharie rivers, and a steam plant at Utica. The electricity generated is largely produced by water power, which is supplemented by steam stations.

FRANCHISES.—In the opinion of counsel the franchises under which the Company operates contain no burdensome restrictions, and in a great majority of instances are perpetual. The Company operates under the supervision of the Public Service Commission, Second District, of the State of New York.

CAPITALIZATION.

Capital Stock.	Authorized.	Issued.
Preferred, 6% cumulative after December 27, 1916.	\$2,500,000	\$2,500,000
Common	9,500,000	9,500,000

BONDED DEBT.—First mortgage 5s, authorized, \$10,000,000; issued, \$5,000,000; dated January 1, 1912; due January 1, 1962. Optional at 107½ and interest on any interest payment date from January 1, 1917, to January 1, 1921, and at 105 and interest on July 1, 1921, or on any interest payment date thereafter. Interest payable January 1 and July 1. Coupon bonds in the denomination of \$1,000 with the privilege of registration as to principal. Bonds may be registered as to both principal and interest in the denomination of \$1,000, \$5,000 and \$10,000. Coupon and registered bonds interchangeable. The New England Trust Co., Boston, trustee.

The \$5,000,000 of first mortgage 5 per cent bonds held in escrow can only be issued for 80 per cent of the cost of additions and extensions to the property, and then only with the approval of the Public Service Commission, Second District, of the State of New York.

Proposed basis of purchase of the plants and properties of the following companies (Dec. 24, 1917): Schenectady Illuminating Co., Mohawk Gas Co., Schenectady Power Co., East Creek Electric Light and Power Co., Edison Electric Light and Power Co. of Amsterdam.

It is proposed that the deposit agreement and plan of January 27, 1917, be changed in the following particulars, otherwise its financial details to remain as originally put out.

The Adirondack Electric Power Corporation is to join the above-mentioned properties with its own for the following consideration, subject to the reservation herein stated:

\$6,500,000 5% bonds.
4,100,000 7% cumulative preferred stock.
4,750,000 common stock.

Of the above preferred stock, which will be of the same class as the present outstanding preferred stock of the Adirondack Company, \$2,300,000 par value is to be returned to the treasury of the company for future use and sale by it as the subsequent demands of its business may require. This has the practical effect of substituting \$1,800,000 par value of preferred stock for the larger amount tabulated above. This means by comparison with the original plan, as laid before you January 27 last, that the preferred dividend demands on the net earnings of the enlarged company will be less by \$144,000 (the difference between 6 per cent on the \$4,500,000 preferred of the original plan and 7 per cent on the \$1,800,000 preferred above), thus improving by that sum the margin available for dividends on both the preferred and common stock outstanding.

The holders of the present \$2,500,000 6 per cent preferred stock of the Adirondack Electric Power Corporation are to have a six months' option from the date of their issue, to exchange par for par for \$2,500,000 of the enlarged company's 5 per cent debenture bonds (new ten-year issue), payable on or before ten years from date of issue; the holders of such bonds are to have the further privilege of exchange, par for par, into 7 per cent stock of the same issue as the above, such privilege of exchange to begin two years and end three years from the date of issue of such bonds, or for an earlier period of not less than one year if that can be lawfully done; or the exchange into 7 per cent preferred stock may be made direct by the 6 per cent preferred stockholders.

As set forward in the earlier plan, the common stock will be changed from a par of \$100 to a par of \$50, and each stockholder will then retain his present number of shares of the changed par value, but in a company with largely increased assets and business.

Should the unification be completed and the new stock and bonds be authorized and issued as planned, the total issues in the hands of the public would be as follows:

	To go to the owners of the above group of properties.	Adirondack securities at present in the hands of the public.	Total on combined properties.
Bonds	\$6,500,000 5%	\$5,000,000 5%	*\$11,500,000
Preferred stock	1,800,000 7%	2,500,000 6%	4,300,000
Common stock (par val. \$50)	4,750,000	†4,750,000	9,500,000
Totals	\$13,050,000	\$12,250,000	\$25,300,000

* The aggregate of bonds is \$11,500,000, though the division between the two issues may vary slightly from the above.
† One-half, in par value, of the \$9,500,000 of common now held by Adirondack shareholders.



WILLIAMS' "VULCAN" CHAIN PIPE VISE

3 sizes. Capacities ½" to 8". Stocked by Dealers.

THE RIGHT TOOL FOR SERVICE CARTS

J. H. WILLIAMS & CO., 74 Richards Street, Brooklyn, N. Y.

OFFICERS.—President, James R. Hooper; Vice-President, Elmer J. West, Glens Falls; Assistant Treasurer, J. M. Levy, Glens Falls, N. Y.; General Manager, Walter S. Wyman.

DIRECTORS.—James R. Hooper, Charles E. Willock, Wilson A. Shaw, Elmer J. West, Cornelius D. Scully, Roger W. Babson, Walter S. Wyman, Francis E. Frothingham.

EXECUTIVE COMMITTEE.—Francis E. Frothingham, Chairman; Roger W. Babson, Secretary; W. S. Wyman (General Manager), Cornelius D. Scully.

Against the above capitalization, a comparison of the twelve months' operating figures of the Adirondack Electric Power Corporation, as reported, and of corresponding figures for the combined group, with certain adjustments to make the latter figures reasonably comparable, but not reflecting the economies of operation

which, in the judgment of the board, will result from combined effort, show:

	Year ended Oct 31, 1917. A. E. P. C. as reported.	Combined Group adjusted.
Gross	\$1,612,154	\$3,399,734
Oper. exp. and taxes	1,164,070	2,286,123
Net	\$448,084	\$1,113,611
Bonded interest....	250,000	575,000
	\$198,084	\$538,611
Preferred dividend..	150,000	†276,000
Balance	\$48,084	\$262,611

† Assuming that the present Adirondack 6% preferred stockholders exchange for Debenture Bonds and 7% preferred in amounts which will make an aggregate interest charge equal to the 6% on the present Adirondack preferred.

NORTHERN WESTCHESTER LIGHTING COMPANY, OSSINING, N. Y.

This Company was incorporated in May, 1903, under the laws of New York State, and is a consolidation of the Northern Westchester Light and Power Co., Ossining Heat, Light and Power Co., and Briarcliff Manor Light and Power Co.

CAPITALIZATION.—Common stock, authorized, \$1,000,000; outstanding, \$804,000. Shares, \$100 each.

Northern Westchester Lighting Co., bonds

June 1, 1905; due June 1, 1955; denomination, \$1,000; coupon; trustee under mortgage, Colonial Trust Co.; principal and interest payable at the office of Equitable Trust Co., New York.

Sing Sing Electric Lighting Co., dated February 1, 1896; due February 1, 1926; denomination, \$1,000; coupon; trustee under mortgage, Geo. H. Lewars; principal and interest payable at office of Columbia Trust Co., New York.

FUNDED DEBT.

Name of Company and Title of Bonds.	Authorized.	Outst'd'g.
Northern Westchester Lighting Co. first consolidated 5% mortgage bonds; interest payable June 1 and December 1.....	\$1,000,000	\$618,000
Sing Sing Electric Lighting Co. general mortgage 5 per cent gold bonds; interest payable February 1 and August 1.....	25,000	25,000
	\$1,025,000	\$643,000

OFFICERS.—President, F. A. Stratton; Vice-President, Stuart Wilder; Secretary, B. W. Stilwell; Treasurer, R. A. Carter; Assistant Treasurers, O. G. Bennett, H. D. Swain; Manager, Stuart Wilder; Asst. Gen'l Mgr., I. M. Beatty.

DIRECTORS.—George B. Cortelyou, W. R. Ad-

dicks, John W. Sterling, Wm. Rockefeller, F. A. Vanderlip, F. A. Stratton, H. E. Gawtry, L. B. Gawtry, Thomas E. Murray.

Annual meeting of stockholders held first Monday in May.

Company's fiscal year ends December 31.

PEOPLES GAS & ELECTRIC CO. OF OSWEGO, N. Y.

The Peoples Gas & Electric Co. of Oswego was incorporated April 28, 1900, under the laws of New York, and is a consolidation of The Oswego Gas Light Co., The Home Electric Co., Peoples Electric Light & Power Co., all of Oswego. Citizens Lighting Co. merged in April, 1910.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$1,000,000; outstanding, \$604,200; office, Oswego, N. Y. Registrar, Old Colony Trust Co., Boston, Mass. Dividend on common stock, annual rate, 5 per cent, payable quarterly.

FUNDED DEBT.—Bonds, first mortgage 5 per cent gold bonds, authorized \$450,000; issued, \$450,000; outstanding, \$370,000; dated May 1,

1900; due May 1, 1930. Interest payable May 1 and November 1, at New York Trust Co., New York. Denomination, \$1,000 coupon. Redeemable at 105 and interest after April 30, 1920.

Secured upon entire property. Normal income tax deducted from interest.

SINKING FUND.—\$10,000 per annum, began May 1, 1910, to purchase bonds.

Bonds: 5 per cent convertible gold bonds, authorized, \$400,000; issued, \$295,800; dated Dec. 1, 1913; due Dec. 1, 1933. Interest payable June 1 and Dec. 1. American Trust Co., trustee. Denomination, \$1,000 coupon; \$100 registered. Redeemable at par and accrued interest on any interest date after Dec. 1, 1925.

RELIABLE

ANGLIRON

RANGES

Wherever you find them, "ANGLIRON" owners are always enthusiastic—always contented—always completely satisfied. What more do you want a range to do? Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>		<i>Liabilities.</i>	
Plant and equipment.....	\$1,550,235	Capital stock	\$604,200
Investments	12,410	Bonded debt	664,800
Materials and supplies.....	57,618	Other mortgage debt.....	15,000
Cash on hand.....	22,308	Current liabilities	18,198
Accounts receivable	30,135	Bills payable	215,000
Prepaid accounts	4,651	Accrued liabilities	9,685
Unadjusted debits.....	37,440	Reserves	21,577
Deferred debit items.....	28,340	Profit and loss.....	204,676
Total.....	\$1,753,139	Total.....	\$1,753,139

STATEMENT OF INCOME, YEAR ENDING DEC. 31.

	1916	1917
Operating revenues.....	\$231,907.00	\$246,733
Operating exp., taxes, etc..	157,565.00	167,316
Operating income.....	\$74,342.00	\$79,417
Non-operating income.....	*220.00	*393
Gross corporate income....	\$74,122.00	\$79,024
Deductions from income (interest, etc.).....	43,929.00	47,474
Net corporate income.....	\$30,193.00	\$31,550
Dividends	30,075.00	30,182
Surplus for year.....	\$119.00	\$1,368

* Loss.

OFFICERS.—President, A. B. Tenney; Chairman Board of Directors, C. H. Tenney; 1st Vice-President, D. E. Manson; 2d Vice-President, H. T. Sands; Secretary, H. P. Wood; Treasurer, E. A. Bradley; Assistant Treasurer, Isaac S. Hall; General Manager, Charles H. Tenney & Co.; Auditor, H. A. Gidney.

DIRECTORS.—C. H. Tenney, Springfield, Mass.; A. B. Tenney, D. E. Manson, H. P. Wood, Boston, Mass.; S. A. York, H. C. Warren, E. M. Bradley, New Haven, Ct.; J. T. Mott, Oswego, N. Y.; I. S. Hall, Boston, Mass.

Annual meeting of stockholders held third Thursday in March at Oswego, N. Y.

Company's fiscal year ends December 31.

CENTRAL HUDSON GAS AND ELECTRIC COMPANY, POUGHKEEPSIE, N. Y.

The Central Hudson Gas and Electric Co. was incorporated April 27, 1911, under the laws of New York, and is a consolidation of Poughkeepsie Light, Heat and Power Co., Poughkeepsie, N. Y.; Newburgh Light, Heat and Power Co., Newburgh, N. Y., and Hudson Counties Gas and Electric Co., Cornwall, N. Y.

FRANCHISES.—Perpetual franchises in towns of Newburgh, New Windsor, Marlboro, Shawangunk, Cornwall, Gardiner, Blooming Grove, Montgomery, Poughkeepsie, Hyde Park, Lloyd, Plattekill, Highland, Hamptonburgh, Pleasant Valley and Washington, and cities of Poughkeepsie and Newburgh, also town of Wappingers.

CAPITALIZATION.—Capital stock, authorized, \$2,500,000; outstanding, \$1,735,700. Shares, \$100. Transfer agent and registrar, Secretary of the Company.

Dividend paid in 1912, 1913, 1914, 1915, 1916 and 1917 on common stock, annual rate 8%, payable quarterly.

FUNDED DEBT.—Outstanding, December 31, 1917, consists of the following issues (total \$2,694,600).

\$700,000 (authorized, \$750,000) Newburgh Light, Heat and Power Co. first mortgage 5 per cent 20-year \$500 gold coupon bonds, due February 1, 1921; interest payable February 1 and August 1 at office of the trustee, Equitable Trust Co., New York, N. Y. Secured by an absolute first mortgage on entire property, rights, franchise, etc., formerly of the Newburgh Light, Heat and Power Co.

\$297,000 (authorized, \$330,000) Newburg Light, Heat and Power Co. 8 per cent 10-year \$1,000 coupon convertible debentures, due June 1, 1918; interest payable June and December at office of the company, Newburgh, N. Y., or at Columbia Trust Co., New York. Convertible into stock of the company at par on any first day of June between 1910 and 1918, inclusive, on thirty days' notice.

\$22,600 Poughkeepsie Light, Heat and Power Co. 6 per cent 20-year \$25, \$100, \$500 and \$1,000 coupon convertible debentures, due July 1, 1926; interest payable quarterly, January, etc., at office of the Company, Poughkeepsie, N. Y. Convertible into stock of the Company at par at any time between July 1, 1908, and July 1, 1918.

\$1,175,000 first and refunding mortgage 5 per cent 30-year \$500 and \$1,000 coupon bonds, due June 1, 1941; interest payable June and December at office of the trustee, Columbia Trust Co., New York, N. Y. Closed mortgage.

\$500,000 Central Hudson Gas and Electric Co. 6 per cent 10-year, \$100, \$500 and \$1,000 coupon convertible debentures, due Oct. 1, 1925; interest payable April and Oct., at office of the company, Poughkeepsie, N. Y., or at Columbia Trust Co., New York, N. Y. Convertible into stock of the company at par, Oct. 1, 1918, or on any interest date thereafter. Company reserves right to redeem the above bonds upon any interest day on or after the 1st day of April, 1921, if not previously converted, at a premium of 5 per cent of the par value.

The Public Service Commission of New York

It is made in the greatest city in the world, and used in almost every part of the world. THE GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

State placed a value on the Company's property and assets as of December 31, 1910, of \$3,533,781, which has been increased to about \$5,681,678.65 December 31, 1917. The \$1,175,000 outstanding Central Hudson Gas and Electric Co. first and refunding 5 per cent bonds are secured by a mortgage on this entire property, being secured by a first mortgage on property having an estimated value of \$600,000, and by a lien, subject to \$700,000 bonds, on property having an estimated value of over \$4,500,000. There is, therefore, a total property value over and above all underlying liens of about \$3,800,000 to secure the \$1,175,000 bonds of this issue.

As the total interest charge on the \$1,875,000 mortgage debt now outstanding amounts to only \$93,750 per annum, the net earnings in 1917 available for interest and depreciation were about three and one-half times the required amount.

In addition to the usual amounts included in operating expenses for repairs and renewals, there has been charged out of earnings for depreciation during the past ten years a total of \$727,690.

The combined earnings of the constituent companies for past two years have been as follows:

YEAR ENDED DECEMBER 31.		
	1917	1916
Gross earnings	\$1,149,168	\$1,001,579
Operating expenses, including taxes and depreciation	\$44,517	681,282
Net earnings	\$304,651	\$320,297
Other income	28,910	13,896
Net income availbl for interest	\$333,561	\$334,193

OFFICERS.—President, T. R. Beal; Vice-President, J. L. Wilkie; Secretary, P. A. Burnes; Treasurer, Wm. Schickle; Manager, T. R. Beal.

DIRECTORS.—T. R. Beal, J. L. Wilkie, E. E. Perkins, G. A. Voorhees, R. A. Davidson, F. N. Bain, A. R. Beal, H. M. Beugler, Harris S. Reynolds and S. R. Bradley.

Annual meeting of stockholders held fourth Tuesday in January at Poughkeepsie, N. Y.

Company's fiscal year ends December 31.

ROCHESTER RAILWAY AND LIGHT COMPANY, ROCHESTER, N. Y.

Office, 34 Clinton Avenue, North.

The Rochester Railway & Light Company was incorporated in July, 1904, under the laws of New York, and is a consolidation of Rochester Gas & Electric Co. and Rochester Light & Power Company.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Preferred stock, authorized, \$3,000,000; outstanding, \$2,997,800. Common stock, authorized, \$7,250,000; outstanding, \$7,248,200. Shares, \$100. Transfer agents, M. S. Barger, Registrars, Guaranty Trust Co., 28 Nassau St., New York City. Dividend on preferred stock, annual rate, 5 per cent payable quarterly; dividend on common stock, annual rate, 7 per cent payable quarterly.

FUNDED DEBT.—Bonds: Rochester Railway & Light Co. gold mtg. bonds, issued, \$10,881,000, dated July 1, 1904; due July 1, 1954; rate, 5 per cent; interest date, January 1 and July 1; payable at M. S. Barger, Treasurer, Security Trust Co.

Rochester G. & E. Co. Imp. bonds, issued, \$700,000; dated, July 1, 1901; due, July 1, 1921; rate, 4½ per cent; interest date, January 1 and July 1; payable at M. S. Barger, Treasurer, New York, N. Y.

Rochester G. & E. Co. 2nd Cons. mortgage bonds, issued, \$972,000; dated March 15, 1900; due March 15, 1920; rate, 4½ per cent; interest date March 15 and September 15; payable at Security Trust Co., Rochester, N. Y.

Municipal G. & E. Co. 1st mortgage bonds, issued, \$1,400,000; dated, April 1, 1902; due, April 1, 1942; rate, 4½ per cent; interest date, April 1 and October 1; payable at Central Trust Co., New York, N. Y.

Canandaigua Elec. Lt. & Ry. Co. 1st mtg.

bonds issued, \$143,500; dated June 30, 1897; due June 30, 1927; rate 3½ per cent; interest due January 1 and July 1, payable at Citizens Central National Bank, New York.

Canandaigua Elec. Lt. & Ry. Co. 1st mtg. bonds issued, \$35,000; dated June 30, 1897; due June 30, 1927; rate 6 per cent; interest due January 1 and July 1, payable at Citizens Central National Bank, New York.

Note.—Mortgages prior to 1904 are underlying mortgages. Bonds are reserved under Rochester Railway & Light Company 5 per cent. mortgage to retire them as they become due.

GENERAL BALANCE SHEET, DEC. 31, 1917.

<i>Assets.</i>	
Plant and equipment.....	\$24,693,308
Material and supplies.....	453,391
Bills receivable	30,000
Current accounts	890,732
Investments	60,355
Other assets	3,933,549
Unamortized replacement account...	1,200,000
	\$31,261,335
<i>Liabilities.</i>	
Preferred stock	\$2,997,800
Common stock	7,248,200
Funded debt	14,142,000
Bills payable	3,685,000
Current liabilities	1,400,551
Taxes accrued	71,462
Interest	348,820
Accrued replacement reserve.....	806,191
Surplus	561,311
	\$31,261,335

Precision 3-in-1 Gauges for forced-draught indications are of the dead-beat type, and give concentrated control of draught conditions by showing in one instrument conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

APPENDIX

EARNINGS AND EXPENSES, YEAR 1917.

Electric earnings	\$2,815,015
Gas earnings	2,006,046
Steam department	150,203
Total earnings	\$4,971,264
Expenses, electric	1,588,601
Expenses, gas	1,307,709
Expenses, steam	126,986
Total expenses	\$3,023,296
Net earnings	1,947,968
Total taxes, etc.	426,223
Income less operating taxes.....	\$1,521,745
Non-operating revenue balance.....	64,944
Gross income	\$1,586,689
Income deductions	756,998
Balance available for dividends.....	\$829,691
Dividends, preferred	149,899
Balance	\$679,801
Dividends, common	481,124
Surplus	\$198,677

NEW YORK AND RICHMOND GAS COMPANY, STAPLETON, STATEN ISLAND, N. Y.

The New York and Richmond Gas Co. was incorporated in June, 1901, under the laws of New York, and is a consolidation of Richmond County Gas Light Co. and New York and Richmond Gas Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$1,500,000; outstanding, \$1,500,000. Shares, \$100. Registrars, Central Trust Co. of New York.

Dividend on common stock: 1% February, 1904; 2% per annum from 1905 to 1909 inclusive; 3% each in 1910 and 1911; 4% in 1912; 1% in 1913; no dividend 1914; 1% in 1915; 3% in 1916; 4% in 1917.

FUNDED DEBT.—Bonds: First mortgage gold, authorized, \$1,500,000; issued, \$1,500,000; dated June 17, 1901; due May 1, 1921. Interest payable May and November at Seaboard National Bank. Denomination, \$1,000, coupon, with privilege of registration. Redeemable at \$1,100 and accrued interest on any interest date on three months' notice. Trustee of bonds, Central Trust Co.

SECURITY.—First mortgage.

ASSETS AND LIABILITIES, DECEMBER 31, 1917.

<i>Assets.</i>	
Plant and equipment.....	\$3,393,922.69
Deferred charges	20,840.25
Current assets, cash.....	\$39,792.61
Liberty Bond advances	5,100.00
Accounts receivable.....	98,341.04
Materials and supplies.....	90,390.61
	233,624.26
	\$3,648,387.20

Liabilities.

Capital stock	\$1,500,000.00
Bonds	1,500,000.00
	\$3,000,000.00
Surplus	360,468.98
Reserves for amortization, insurance, etc.	100,064.46
Accrued interest, wages, taxes, etc.	26,616.35
Accounts payable	111,237.41
Bills payable	50,000.00
	\$3,648,387.20

STATEMENT OF EARNINGS FOR THE YEAR ENDING DECEMBER 31, 1917.

Total earnings	\$490,105.57
Operating expenses, incl. amortization	351,099.16
Net earnings from operation.....	\$139,006.41
Int. on bonds and float, indebtedness	78,513.48
Net profit	\$60,492.93

OFFICERS.—Wm. J. Welsh, President and General Manager; Jos. H. Maloy and Wm. B. Walter, Vice-Presidents; John Kohout, Secretary and Treasurer; Geo. F. Goodnow, Engineer.

DIRECTORS.—B. G. Dawes, F. S. Heath, Columbus, Ohio; Geo. F. Goodnow, Wm. B. Walter, Chicago, Ill.; A. B. Hatcher, F. H. Innes, J. C. Muma, Wm. J. Welsh, J. H. Maloy and H. M. Work, New York, N. Y.

Annual meeting of stockholders held first Monday in February at 691 Bay Street, Stapleton, New York City.

Company's fiscal year ends December 31.

THE SYRACUSE LIGHT AND POWER CO.

Principal office: Bridgeport, Conn.

Incorporated April 15, 1907, under the laws of Connecticut, as a holding company.

CAPITAL STOCK.—Authorized, \$1,000,000; outstanding, \$578,400. Shares, \$100. Annual meeting, second Wednesday in April.

FUNDED DEBT consists of \$7,039,740 collateral trust sinking fund 5 per cent gold bonds dated July 1, 1907, due July 1, 1954, but subject to call at 105 and interest on any interest date on six weeks' notice for sinking fund purposes only.

WE BUY SPENT OXIDE FROM COAL GAS WORKS
SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

Interest payable January 1 and July 1 at office of the trustee, Equitable Trust Co., New York. Coupon bonds, \$100, \$500 and \$1,000 each; registerable as to principal. Authorized amount \$10,000,000; the remainder of the bonds being reserved for (a) acquiring preferred or common stock hereafter issued by the Syracuse Lighting Co.; the bonds to be issued at a rate not exceeding \$1,000 bonds for each 10 shares of preferred or common stock; provided, however, that if any stock issued at any rate in excess at par, an amount at par of bonds may be issued therefor equal to the issue price of such stock, and (b) for acquiring mortgage bonds, debentures, notes, or other indebtedness of the Syracuse Lighting Co. issued by it to provide for improvements, construction, etc., to its plant; or for the acquisition of property; or for mortgage bonds of other light, heat or power companies guaranteed by the Syracuse Lighting Co.; bonds of the Syracuse Light and Power Co. to be issued at not to exceed par for par of the securities so

acquired, unless any such securities shall be issued at a rate in excess of par, in which event an amount at par of bonds may be issued therefor equal to the issue price thereof. Secured by deposit of 9,754 of the 10,000 shares of preferred and 29,628 of the 30,000 shares of common stock of the Syracuse Lighting Co., \$1,000,000 debenture 6 per cent bonds due 1927, and \$2,004,000 6 per cent 10-year extension and improvement mortgage bonds of that company. The bonds were issued to acquire the securities of the Syracuse Lighting Co. A sinking fund of 1 per cent of bonds outstanding (including those held in the fund) began July 1, 1915, bonds to be drawn by lot and called as described above; all bonds to be kept alive and interest thereon added to the fund.

OFFICERS.—President, Randal Morgan; Secretary, I. W. Morris; Treasurer, James Ball.

DIRECTORS.—W. H. Marshall, Randal Morgan, C. A. Warden.

SYRACUSE LIGHTING COMPANY, SYRACUSE, N. Y.

Syracuse Lighting Company was incorporated May 28, 1901, in the State of New York, as a consolidation of the Electric Light and Power Company of Syracuse, and the Underground Electric Wire Company. On July 1, 1902, absorbed the Syracuse Gas Company.

FRANCHISE.—Perpetual.

CAPITAL STOCK.—Preferred, authorized and outstanding, \$1,000,000; common, authorized and outstanding, \$3,000,000. Shares, \$100. The preferred stock has priority over the common stock for non-cumulative dividends at the rate of 5 per cent per annum and is entitled to its pro rata share with common stock in any dividends in excess of 5 per cent per annum on both classes, and is preferred as to capital in the distribution of assets.

FUNDED DEBT.—\$2,500,000 (entire issue) Syracuse Gas Company 1st mortgage 50-year gold 5s due January 1, 1946, interest January 1 and July 1, at Guaranty Trust Co., New York, N. Y.

Guaranteed by the Syracuse Lighting Company.

\$2,500,000 (entire issue) 1st mortgage 50-year gold 5s due June 1, 1951, interest June 1 and

December 1 at office of Redmond & Co., New York, N. Y.; at the Company's agency in New York, N. Y., and in Philadelphia, Pa. Coupon bonds \$1,000, registerable as to principal. Secured upon all property and franchises of the Company now owned or hereafter acquired. Trustee, Equitable Trust Co., New York, N. Y. Listed on the New York Stock Exchange.

\$2,004,000 extension and improvement mortgage 10-year gold 6s; due March 1, 1919; interest, March and September 1st. Denomination \$1,000; redeemable on any interest day at 105 and interest. Authorized, \$2,500,000. Trustee, Bankers Trust Co., New York City, N. Y. \$1,000,000 (entire issue) 6 per cent 20-year gold debentures; due May 27, 1927; convertible on any interest day into common or preferred stock.

OFFICERS.—President, J. C. DeLong; Vice-Presidents, Walton Clark and Lewis Lillie; Secretary, G. W. Curran; Treasurer, A. D. Dudley.

DIRECTORS.—John J. Cummins, Stephen Peabody, Henry Seligman, S. T. Bodine, Walton Clark, G. W. Curran, James C. DeLong, Paul Thompson, Lewis Lillie.

Annual meeting first Tuesday in April.

UTICA GAS AND ELECTRIC CO., UTICA, NEW YORK.

The Utica Gas and Electric Co. does the entire gas business, and the entire electric light and manufacturing power business, in Utica, Little Falls, Herkimer, Mohawk, Ilion, Frankfort, and other municipalities located in the rapidly growing Mohawk Valley, the total population served being in excess of 150,000, and supplies the Rome Gas, Electric Light and Power Co. with all its electric current. The Company owns large and valuable water powers (developed and to be developed) capable of operation and development at low cost and within a short distance of the market to be supplied. Practically all the franchises of the Company are, in the opinion of counsel, unlimited in duration.

CAPITALIZATION.

Capital stock (authorized and issued), \$2,000,000. Dividends are being paid at the rate of 10 per cent per annum. Bonds: The Utica Gas and Electric Co. refunding and extension mortgage bonds, due July 1, 1957 (authorized, \$5,000,000), issued \$3,350,000. Underlying bonds of constituent companies (closed mortgages), \$2,237,000. Total bonds outstanding, \$5,574,000.

The \$1,650,000 refunding and extension mortgage bonds unissued are reserved either for retirement of certain underlying bonds, or for permanent extensions, etc., to the property up to 75 per cent of the cash cost thereof, but upon

CALORIMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

The American-Junkers' Calorimeter has been greatly improved and accessories added until it has been made what we consider the most advanced type of instrument for this purpose now in use. This is confirmed by the numerous orders we are constantly receiving for it from all parts of the country and that it has been furnished to all the large syndicates, State Public Utilities Commissions and the City Gas Inspectors, the Public Utilities Commission at Washington, D. C., the U. S. Bureau of Standards, and the U. S. Department of War.

conditions that the Company shall, for the 12 months immediately preceding their issuance, have earned net at least 9 per cent (nearly twice fixed charges) on all bonds outstanding, together with those proposed to be issued; and, moreover, the issue of additional bonds must have the approval of the Public Service Commission of the State of New York.

EQUITY.

According to the Vice-President of the Company, over \$3,000,000 has been put into the property from surplus earnings for extensions and additions since 1902. The equity at present is largely in excess of all outstanding bonds, including the refunding and extension mortgage 5s.

WATER POWERS.

At Trenton Falls, on the West Canada Creek, the Company has one of the most economically installed and efficient hydro-electric developments in the United States. The capacity of this station is approximately 8,000 horsepower, but when addition now under construction is completed will be 22,000-horsepower maximum, the water at this station being under a static head of 266 feet, that at Niagara being but 149 feet.

At Dolgeville on the East Canada Creek, the Company has a stone and steel hydro-electric plant of approximately 2,400 horsepower capacity, which operates under a head of 75 feet, and in both of the above developments no expense has been spared in endeavoring to construct and equip the most substantial and efficient type of hydro-electric generating stations. At Little Falls the Company has recently acquired an

additional power site on the Mohawk River and has built a power station of a capacity of 2,000 horsepower. This new plant was put in service about June 1, 1911. Also in the City of Little Falls, the Company controls a small 400 horsepower hydro-electric development. It also has at Prospect, on the West Canada Creek, an undeveloped water power site of approximately 10,000 horsepower, and on Fish Creek, about eight miles from Rome, it owns land covering two sites which can be developed so as to produce about 8,000 horsepower.

In addition to the 11,800 hydro-electric horsepower developed, the Company has two steam stations in Utica with a combined capacity of 12,500 horsepower. High tension transmission lines aggregating 76 miles (nearly all of which are on private right of way) connect all of the hydro-electric and steam developments with one another, and with the several cities and towns.

The gas plant in Utica is, in all respects, thoroughly modern and efficient, having been practically rebuilt during the past few years. Its generating capacity is over 4,000,000 cu. ft. of gas per day.

OFFICERS.—President, James C. Brady; Vice-President, W. E. Lewis; Secretary, M. J. Brayton; Treasurer, G. H. Stack; Auditor, W. J. McSorley; General Manager of Gas Department, W. J. Cahill; General Manager of Electrical Department, W. J. D. Porter.

DIRECTORS.—J. C. Brady, N. F. Brady, W. I. Taber, C. S. Symonds, W. T. Baker, W. E. Lewis, M. J. Brayton, C. B. Rogers, S. A. Beardsley.

Annual meeting, first Monday in April.

NORTHERN NEW YORK UTILITIES, INC., WATERTOWN, N. Y.

Northern New York Utilities, Inc., was incorporated May 12, 1913, under the laws of the state of New York, for the purpose of manufacturing and supplying gas and electricity for light, heat and power purposes in the counties of Jefferson, Lewis, Oneida, Oswego and St. Lawrence, New York, and is now serving without competition Watertown, Carthage, West Carthage, Natural Bridge, Sackett's Harbor, Dexter, Brownville, Clayton, Chaumont, Cape Vincent, Evans Mills, Great Bend, Felts Mills Glen Park and Alexandria Bay, New York, and

sells power at wholesale to the local distributing companies in Adams, Adams Center, Edwards and South Edwards.

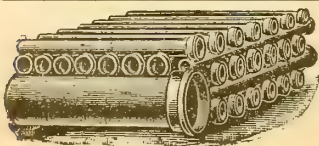
The Watertown Light and Power Company, which did the entire electric light, power and gas business in Watertown, was merged into the Northern New York Utilities, Inc., in 1914. The Carthage Electric Light and Power Co., Chaumont Electric Light Co., Thousand Islands Electric Light and Power Co. have also been merged.

Franchises perpetual.

	CAPITAL.	Authorized	Outstanding
Preferred stock 7% cumulative.....		\$2,000,000	\$669,000
Common stock		2,000,000	729,700
Par, \$100.			

Preferred stock has preference for assets and is subject to call at 110. Transfer agent, F. H. Bassett, Watertown, N. Y. Registrar, Columbia Trust Co., New York. Preferred dividends at rate of 7 per cent per annum are paid semi-annually February and August, and dividends of 8 per cent on common are paid quarterly January, April, July and October.

The common has been authorized by the Public Service Commission to issue a total of \$840,300 par value of its 7 per cent cumulative preferred stock, and this stock is being sold by the Company to its customers at par and accrued dividends to date of sale. The local banks are accepting such stock as collateral for its face value.



CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

BONDED DEBT.

	Authorized	Outstanding
Watertown Light & Power Co., first mortgage 5% bonds due 1959 (closed mortgage).....	\$2,000,000	\$1,654,500
Northern New York Utilities, Inc., first mortgage and refunding 5% bonds due 1963.....	10,000,000	1,037,500
Northern New York Utilities, Inc. 2½-year 6% collateral trust notes, due May 1, 1920.....	381,600	376,600

(These notes are secured by \$477,000 first and refunding 5% bonds, 1963, of Northern New York Utilities, Inc.)

\$1,654,500 (closed mortgage) Watertown Light and Power Co. first gold 5s; dated January 1, 1909; due January 1, 1959; interest, January 1 and July 1, at Empire Trust Co., New York, trustee. Coupon, \$500 and \$1,000; principal may be registered. Subject to call on and after January 1, 1920, at 105 and interest. Sinking fund, beginning January 1, 1919, to January 1, 1925, ½ per cent of outstanding bonds; thereafter 1 per cent. Secured by first mortgage on entire property of the Company. Authorized issue, \$2,000,000; balance limited to 75 per cent of cost of permanent extensions and improvements, and then only when net earnings for preceding year amount to at least 150 per cent of all interest on bonds outstanding and to be issued, except with the consent of 75 per cent of all bondholders. First publicly offered (\$1,157,500) in July, 1909, at 99 and interest. Interest paid without deduction for normal income tax.

FUNDED DEBT.—Bonds: 1st mortgage and refund, 5 per cent; authorized, \$10,000,000; outstanding, \$1,037,500; dated July 1, 1913; due July 1, 1963. Interest payable January 1 and July 1 at First National Bank, New York City, or The Northern N. Y. Trust Co., Watertown, N. Y. Coupon, \$500 and \$1,000; principal may be registered. Optional at 105 and accrued interest on any interest payment date. Columbia Trust Co., New York, trustee of bonds.

Collateral trust notes may be exchanged for bonds as follows:

During first year for bonds at 90 per cent.
During second year for bonds at 91 per cent.
During third year for bonds at 92 per cent.

Of the remaining bonds, \$1,654,500 are reserved to retire an equal amount of Watertown Light & Power Company, first mortgage bonds; the remainder may only be issued for not exceeding in par value 80 per cent of the cash cost of betterments, extensions and additions to the property, provided the net earnings for the preceding twelve months have been at least one and three-quarters times the annual interest on all bonds outstanding, including those to be issued.

SINKING FUND AND MAINTENANCE PROVISIONS.—The deed of trust provides a sinking fund equal to ½ per cent annually to the total outstanding bonds of this issue from July 1, 1916, to July 1, 1938, inclusive, and 1 per cent annually thereafter to maturity, said fund to be applied to the purchase or redemption of bonds of this issue at not exceeding 105 and interest.

The deed of trust also provides that at least 7 per cent of gross earnings annually shall be expended on the maintenance of the property or shall be used in the purchase of new property which shall not be made the basis for the certification of additional bonds of this issue.

Secured by first lien on 8,200 developed hydro-electric horsepower, on approximately 118 miles of transmission lines, on distributing systems and on undeveloped water power sites, owned by the Company in fee, which will be developed to cover future needs and growth of the Company. These bonds are also a direct lien on the property formerly owned by the Watertown Light and Power Co., subject only to the latter Company's mortgage, which is now closed. First publicly offered (\$678,000) in March, 1915, at 94 and interest. Interest paid without deduction for normal income tax.

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

Assets.		Liabilities.	
Fixed capital	\$4,167,905.83	Capital stock, common.....	\$729,700.00
Other investments	212,653.29	Capital stock, first preferred 7%..	669,000.00
Materials and supplies.....	107,620.55	Bonded debt	2,692,000.00
Cash	62,882.00	Bills payable	226,700.00
Bills receivable	254,487.61	Current liabilities	67,956.21
Current accounts	113,661.29	Accrued interest and taxes.....	22,414.52
Other assets	3,074.04	Other liabilities	19,044.84
Deferred debit items.....	10,064.12	Accrued amortization of capital....	266,763.55
Unamortized debt disc. and exp....	273,399.53	Other reserves	40,605.77
Other intan. capital to be amortized	16,000.08	Corporate surplus	137,670.60
Sinking fund deposit.....	26,707.15	Collateral trust notes 6%.....	376,600.00
Total.....	\$5,248,455.49	Total.....	\$5,248,455.49

**HOLDER PAINTS:—**

Our line includes No. 31 Williamsport Red.

The standard holder paint of many of the largest companies. No. 1908 Green on holder frames makes a pleasing contrast.

Write for
REVIEW OF TECHNICAL PAINTS. CHBESMAN & ELLIOT, 100 William St., New York

INCOME ACCOUNT, YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$718,658.93
Operating expenses and taxes	401,632.01
Net earnings	\$317,026.92
Bond and other interest ..	\$148,829.78
Reserve for depreciation ..	56,007.77
Dividends	113,259.58
	<hr/>
	318,097.13
Surplus	\$1,070.21

OFFICERS.—J. B. Taylor, President; F. A. Rogers, Vice-President; S. F. Smith, Secretary; F. H. Bassett, Treasurer; H. G. Davis, Manager Elec. Dept.; Peter Young, Manager Gas Dept.

DIRECTORS.—J. B. Taylor, Peter Young, H. G. Davis, F. A. Rogers, F. H. Taylor, F. H. Bassett, G. A. Dunn, Watertown, N. Y.; G. de B. Greene, New York.

Annual meeting first Tuesday in May.

General office, Watertown, N. Y.

THE BRONX GAS AND ELECTRIC COMPANY, WESTCHESTER, NEW YORK.

This Company was incorporated 1893 under the laws of New York.

FRANCHISES, covering eastern section of Bronx Borough, perpetual.

CAPITALIZATION.—Common stock, authorized, \$500,000; outstanding, \$486,500. Shares, \$100. Transfer agents and Registrars, The Bronx Gas and Electric Company. Dividend on common stock, annual rate 6 per cent.

FUNDED DEBT.—Bonds: First and refunding mortgage, authorized, \$1,500,000; issued, \$1,171,000; due 1960; interest payable January 1 and July 1 at Columbia-Knickerbocker Trust Company, trustee. Denomination, \$1,000. Coupon.

Redeemable on any interest date at option of Company in 1920.

SECURITY.—First and refunding general mortgage.

SINKING FUND.—To retire bonds asked for discount.

OFFICERS.—President, Eugene H. Rosenquest; Vice-President, A. B. Cruikshank; Secretary, John M. Butler; Treasurer, John M. Butler; Manager, E. H. Rosenquest.

Annual meeting of stockholders held third Tuesday in January at Westchester, New York City.

Company's fiscal year ends December 31.

CENTRAL OHIO GAS AND ELECTRIC CO.,
Principal office, 60 Wall St., New York, N. Y.

The Central Ohio Gas and Electric Co. was incorporated in 1914 under the laws of Delaware and is a holding company. It is a subsidiary of the Cities Service Co., and holds stock in the following Ohio properties: Buckeye State Gas & Fuel Co., Columbus Natural Gas Co., Coshocton Gas Co., Mansfield Gas Light Co., Mansfield Electric Light & Power Co., and Medina Gas & Fuel Co.

CAPITALIZATION.—Capital stock, authorized, \$2,500,000; outstanding, \$2,500,000. Shares, 100.

FUNDED DEBT.

Bonds, first lien 5-year 6 per cent S. F. gold bonds; authorized, \$1,000,000; issued, \$400,000. Dated Sept. 1, 1914; due Sept. 1, 1919. Interest payable, March 1 and September 1 at Equitable Trust Co. of New York. Denomination, \$1,000.

May be registered. Redeemable at any interest date at \$102 and accrued interest.

SECURITY.—First lien.

SINKING FUND.—Commencing March 1, 1915, and on first day of March and September each year; pay trustee sum equal to principal amount of 100 bonds, accrued interest for six months, with premium of \$2,000.

OFFICERS.—President, H. L. Doherty; Vice-Presidents, F. W. Frueauff, R. G. Griswold; Secretary and Treasurer, L. G. Coleman.

DIRECTORS.—H. L. Doherty, F. W. Frueauff, R. G. Griswold, J. C. McDowell, L. G. Coleman, M. R. Bump, H. H. Scott.

Annual meeting of stockholders held second Tuesday in September at Dover, Delaware.

ASHEVILLE POWER AND LIGHT CO., ASHEVILLE, N. C.

This Company was incorporated March 25, 1912, under the laws of North Carolina and is successor to Asheville Electric Co.

FRANCHISES.—Without time limit, except one covering short length track in a suburb, which expires in 1952.

Asheville Power and Light Company does the commercial and municipal electric lighting business and the gas and street railway business in Asheville, North Carolina, and suburbs, serving a total population of approximately 29,000.

Although the Asheville Power and Light Co.

owns and maintains its own electric generating plants, it purchases power under a favorable contract from the North Carolina Electrical Power Co. The contract extends to April 1, 1918, and may be renewed for a further period of ten years at the option of the Asheville Power and Light Co.

The total number of customers served by the Asheville Power and Light Co. and the output and physical equipment of its properties as of December 31, 1917, as compared with the two previous years, follow:



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

	1917	1916	1915
Electric customers	4,011	3,808	3,353
Gas customers	1,377	1,272	1,133
Total customers	5,388	5,080	4,486
Number of street railway passengers carried for twelve months	5,566,567	5,165,627	5,147,685
Kilowatt generating capacity*	\$50	\$50	\$50
Kilowatt-hour feeder output for twelve months	6,606,000	6,255,705	5,927,000
Miles of electric distributing lines in service... ..	75	70	68
Gas holder capacity (cubic feet)	100,000	100,000	100,000
Gas output (cubic feet) for twelve months.....	34,333,000	26,929,000	23,635,000
Miles of street railway track in operation.....	19.2	19.2	19.2
Miles of gas mains.....	25	25	23

* Company purchases power.

CAPITALIZATION.		
	Authorized	Outstanding
Preferred stock	\$1,000,000	\$639,700
Common stock	1,000,000	1,000,000

Shares, \$100. Transfer agents, Commonwealth Trust Co., Boston. Registrar, The First National Bank of Boston.

All of the common stock is owned by the Carolina Power & Light Co.

The preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum, and dividends at this rate have been paid regularly since the date of issue. Dividend payments are made quarterly, on January 1, April 1, July 1 and October 1. The preferred stock is entitled to preference as to assets in case of liquidation. It is subject to redemption on any dividend date at 115 per cent and accrued dividends. The Commonwealth Trust Company, Boston, Mass., is transfer agent, and the First National Bank of Boston, Boston, Mass., is registrar for the stock.

During 1912 three dividends of 1 per cent each were paid on the common stock. During 1913 a total of 5 per cent was paid in dividends on the common stock, the dividend rate having been made 5 per cent per annum.

FUNDED DEBT.—Bonds: First mortgage 30 year gold, authorized, \$5,000,000; issued, \$1,220,000. Dated April 1, 1912; due April 1, 1942. Interest payable April 1 and October 1 at United States Mortgage and Trust Co. Denomination, \$1,000; coupon, but principal may be registered. Redeemable at 105 per cent on any interest date. Trustee of bonds, United States Mortgage and Trust Co., New York City.

SECURITY.—First lien.

SINKING FUND.—½ per cent, 1917-1922; 1 per cent, 1923-1927; 1½ per cent, 1928-1932; 2 per cent, 1933-1941.

EARNINGS FOR THE YEAR ENDED DECEMBER 31			
	1917	1916	1915
Gross earnings from operation	\$497,959	\$456,947	\$440,285
Operating expenses, incl. taxes.....	282,244	269,775	243,758
Net earnings from operation	215,715	187,172	196,527
Other income.....	3,766	4,802	3,536
Total income.....	219,481	191,974	200,063
Inter. on bonds.....	57,942	55,000	55,000

Earnings (cont'd)	1917	1916	1915
Other interest and deductions	1,002	401	681
Balance	160,537	136,573	144,382
Pfd. stock dividends..	37,539	36,520	35,000
Balance	122,998	100,053	109,382
Com. stock dividends	60,000	60,000	60,000
Balance	62,998	40,053	49,382
Depreciation	35,000	35,000	35,000
Balance after depreciation	\$27,998	\$5,053	\$14,382

BALANCE SHEET, DECEMBER 31, 1917.

Assets.	
Plant account	\$2,899,902.07
Securities owned	30,502.00
Current assets:	
Cash	\$43,921.83
Notes and loans receivable	89,591.96
Accounts receivable....	17,803.52
Material and supplies..	56,721.37
Prepaid accounts.....	3,122.09
Total current assets.....	211,160.77
Bond discount and expense.....	15,169.83
Other assets	2,662.35
Total.....	\$3,159,397.02

Liabilities.	
Capital stock:	
Preferred 7%	*\$639,700.00
Common	1,000,000.00
Bonds, 1st mortgage 5s, due April 1, 1942	1,220,000.00
Current liabilities:	
Accounts payable.....	\$16,344.02
Dividends payable....	11,194.75
Customers' deposits....	7,187.81
Sundry	3,651.72
Total current liabilities.....	38,378.30
Accrued accounts	23,207.09
Reserve accounts:	
General reserve and depreciation	\$73,492.66
Sundry	32,479.89
Total reserve accounts.....	105,972.55
Surplus	132,139.68
Total.....	\$3,159,397.02

* \$639,700 preferred stock in hands of public.

HUNT INDUSTRIAL RAILWAYS are particularly adapted to handling quenched coke from the quenching bins to storage cars, tracks, curves, switches in standard designs and sizes can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

OFFICERS.—President, C. E. Johnson; Vice-Presidents, H. W. Plummer, H. H. Carr, Wm. Darbee, D. F. McGee; Secretary and Treasurer, E. P. Summerson; Assistant Secretary and Assistant Treasurer, L. W. Osborne; Assistant Treasurer, B. M. Jones.

DIRECTORS.—R. E. Breed, A. W. Burchard, C. E. Johnson, C. N. Mason, S. Z. Mitchell, G. E. Claflin, Philip Stockton.

Annual meeting of stockholders held third Wednesday in January at Asheville.

SOUTHERN PUBLIC UTILITIES CO., CHARLOTTE, N. C.

This Company was incorporated in March, 1913, under the laws of Maine, for the purpose of owning and operating electric, gas and water plants and street railway systems in North and South Carolina.

CAPITAL STOCK.—Authorized and outstanding, \$5,000,000.

BONDS.—First and refunding 5s; dated July 1, 1913; due July 1, 1943; \$30,000,000 authorized, \$3,953,000 outstanding. Interest January and July at Farmers' Loan and Trust Co., New York, trustee. Subject to call at 105 and interest on and after July 1, 1916.

UNDERLYING.

Charlotte Electric Railway, Light and Power Co. first mortgage 5s; dated 1899; due July 1, 1929; \$500,000 authorized, \$325,000 outstanding. Interest January and July at Mercantile Trust and Deposit Co., Baltimore, trustee. Refunding and extension mortgage 5s; dated 1906; due April 1, 1936; \$2,000,000 authorized, \$462,000

outstanding. Interest April 1 and Oct. 1 at Mercantile Trust & Deposit Co., Baltimore, trustee.

Anderson Water, Light and Power Co. first refunding and extension mortgage 6s; dated March 1, 1902; due March 1, 1922; \$500,000 authorized, \$250,500 outstanding. Interest March and September at Guaranty Trust Co., New York, trustee.

Fries Manufacturing and Power Co. first mortgage 5s; dated January 1, 1900; due January 1, 1940; \$500,000 authorized, \$476,000 outstanding. Interest January and July at Equitable Trust Co., New York, trustee.

Winston-Salem Power Co. first mortgage 6s; dated January 1, 1906; due January 1, 1936; \$150,000 authorized, \$54,000 outstanding. Interest January and July at Wachovia Bank and Trust Co., Winston-Salem, N. C., trustee.

OFFICERS.—Z. V. Taylor, President; A. V. Harrill, Vice-President; E. C. Marshall, Treasurer; W. C. Parker, Secretary; J. R. Cherry, Assistant Secretary; E. F. Taylor, General Superintendent.

CAROLINA POWER AND LIGHT CO., DURHAM AND RALEIGH, N. C.

The Carolina Power & Light Company was incorporated under the laws of North Carolina, February 19, 1908, under the name of The Central Carolina Power Company. The present title of the Company was adopted as of July 13, 1908, and the change approved by the Secretary of State of North Carolina. In addition to the properties owned and directly operated, the Company owns the entire common stock, except directors' shares, of the Yadkin River Power Company and the Asheville Power and Light Company. The Yadkin River Power Co. owns all the preferred and common stock of the Carolina Gas & Electric Company.

This Company does the entire street railway, gas and electric light and power business in Raleigh, the capital of the state, the gas business in Durham, the electric light and power business

in Henderson, Oxford, Sanford, Goldsboro and Jonesboro, and the electric light and power business for manufacturing purposes in Fayetteville, Smithfield, Selma, Franklinton, Pine Level, Cumberland, Roxboro and Wake Forest. The Company also supplies under contract the entire requirements of the municipal electric light and power systems in Fayetteville, Smithfield, Selma, Wake Forest, Clayton and Cary, and of the privately owned electric light and power systems in Franklinton, Pine Level and Roxboro. The total population served is estimated at 100,000.

The total number of customers served by the Carolina Power and Light Company and the output and physical equipment of the properties operated, as of December 31, 1917, as compared with the two previous years, follow:

	1917	1916	1915
Electric customers	7,211	6,473	6,043
Gas customers	3,797	3,621	3,542
Total customers	11,008	10,094	9,585
Street railway passengers carried for twelve months	2,411,319	2,212,162	2,207,084
Kilowatt generating capacity	7,650	7,650	7,650
Kilowatt-hour feeder output for twelve months	45,452,351	39,812,023	32,718,826
Miles of electric distributing lines in service....	181	169	158
Miles of high voltage transmission lines in operation	216	215	215
Gas holder capacity (cubic feet)	400,000	400,000	400,000
Gas output (cubic feet) for twelve months....	104,991,300	94,941,500	91,112,400
Miles of street railway track in operation	13.6	13.6	13.6
Miles of gas mains	62	61	57

Of the company's total developed electric power capacity of 7,650 kw., 2,500 kw. is generated by hydro-electric power plants. Carolina Power & Light Co. also purchases power from its subsidiary, the Yadkin River Power Co.

"U" Tube Gauges of all sizes and ranges of pressure for every gas works service. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 7% cum.	\$2,500,000	\$1,861,300*
Common stock	5,000,000	4,787,500

* \$1,794,800 preferred stock in hands of public.

The preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum, and dividends at this rate have been paid regularly since January 1, 1911. Prior to January 1, 1911, the stock was entitled to cumulative dividends at the rate of 6 per cent per annum, and dividends at this rate were regularly paid. Dividend payments are made quarterly, on January 1, April 1, July 1 and October 1. The preferred stock is entitled to preference as to assets in case of liquidation. It is subject to redemption on any dividend date at 110 per cent and accrued dividends. The Registrar & Transfer Company, Jersey City, N. J., is transfer agent, and The Corporation Trust Company, Jersey City, N. J., is registrar for the stock.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold, authorized, \$5,000,000; issued, \$3,212,500. Dated August 1, 1908; due August 1, 1938. Interest payable February 1 and August 1 in New York. Redeemable as a whole on and after August 1, 1913, at 105 and interest. Denominations, \$500 and \$1,000; principal may be registered. Trustee, Guaranty Trust Co. of New York.

SINKING FUND.—The mortgage provides for sinking fund payments of 1 per cent of the total amount of bonds outstanding each year from August 1, 1913, to August 1, 1922, and 1½ per cent each year thereafter to maturity, the trustee to invest such funds in these bonds at a price not exceeding 105 and accrued interest. The bonds may be called by lot at 105 and accrued interest if not obtainable in the market at that price.

BALANCE SHEET AS OF DECEMBER 31, 1917.

Assets.

Plant account	\$5,479,561.87
Securities owned	4,148,016.19
Treasury stock	9,200.00
Current assets:	
Cash	\$64,493.56
Notes and loans receivable	232,625.00
Accounts receivable	183,211.60
Material and supplies	166,719.98
Prepaid accounts	5,396.05
Total current assets	652,446.19
Bond sinking fund deposit	879.83
Bond discount and expense	257,938.89
Other assets	3,631.57
Total	\$10,551,674.54

Liabilities.

Capital stock:

Preferred, 7%	*\$1,861,300.00
Common	4,787,500.00
Bonds, 1st mortgage 5s, due Aug. 1, 1938	3,212,500.00

Current liabilities:

Notes and loans payable	\$20,000.00
Accounts payable	68,524.39
Dividends payable	56,349.25
Customers' deposits	10,967.31
Sundry	523.32

Total current liabilities..... 156,364.27

Accrued accounts..... 74,955.05

Reserve accounts:

Depreciation	\$195,844.50
Sundry	27,725.75

Total reserve accounts..... 223,570.25

Surplus 235,484.97

Total.....\$10,551,674.54

* \$1,794,800 preferred stock in hands of public.

EARNINGS FOR THE YEAR ENDED DECEMBER 31

	1917	1916	1915
Gross earnings from operation	\$915,401	\$786,916	\$701,079
Operating expenses, incl. taxes	582,117	506,963	440,495
Net earnings from operation	333,284	279,953	260,584
Other income	138,443	102,814	60,859
Total income	471,727	382,767	321,443
Interest on bonds	161,426	150,368	131,300
Other interest and deductions	14,185	28,319	44,571
Balance	296,116	204,080	145,572
Pfd. stock dividends	107,634	82,512	56,591
Balance	188,482	121,568	88,981
Com. stock dividends	93,495	21,750	.....
Balance	94,987	99,818	88,981
Depreciation	60,000	60,000	50,000
Balance after depreciation	34,987	39,818	38,981

OFFICERS.—President, Charles E. Johnson; Vice-Presidents, Wm. Darbee, H. H. Carr and D. F. McGee; Secretary and Treasurer, E. P. Summerson; Assistant Secretary and Assistant Treasurer, L. W. Osborne.

DIRECTORS.—R. E. Breed, A. W. Burchard, Wm. Darbee, H. H. Carr, Chas. E. Johnson, G. E. Claffin, C. N. Mason, S. Z. Mitchell, Philip Stockton.

NORTH CAROLINA PUBLIC SERVICE CO., GREENSBORO, N. C.

The North Carolina Public Service Co. was incorporated February 4, 1909, under the laws of North Carolina, and is a consolidation of Greensboro Electric Co. and the High Point Electric Power Co.

FRANCHISES.—The Company operates under most favorable franchises, as follows: 30 year

franchise in Greensboro—approximately 26 years to run; 60 year franchise in High Point (including gas franchise)—56 years to run; 30 year franchise in Guilford County and townships; 60 year franchise in Salisbury, Spencer, East Spencer and Concord (55 years to run).

CAPITALIZATION.—Capital stock, authorized, \$3,500,000; outstanding, \$3,322,900. Shares,



Tycos Temperature Instruments are the result

of more than 50 years of experience—as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



\$100. Transfer agents. Hole Bros., 85 Cedar street, New York.

FUNDED DEBT.—Bonds: First and refunding mortgage, authorized, \$3,500,000; in hands of investors, \$2,250,900; to retire underlying bonds, \$201,000; in treasury for corporate purposes, \$79,400. Dated April 1, 1909; due April 1, 1934. Interest payable April and October at Equitable Trust Co. of New York. Denominations, \$100, \$500 and \$1,000; coupon, with privilege of registration. Redeemable at 105 on any interest date. Trustee of bonds, Equitable Trust Co. of New York.

SECURITY.—First and refunding mortgage.

SINKING FUND.—1 per cent gross income, July, 1915, increasing gradually to 2 per cent. Improvements, extensions, betterments and acquisition of other property.

OFFICERS.—President, Chas. B. Hole; Vice-President, Wescott Roberson, High Point; Secretary and Treasurer, L. H. Hole, Jr.; General Manager, R. J. Hole.

TIDE WATER POWER CO., WILMINGTON, N. C.

The Tide Water Power Co. was chartered February, 1907, and has acquired through construction and purchase all the property used in furnishing electric light and power, gas and street railway service in Wilmington, N. C., and vicinity. In April, 1917, it acquired all the property of the Consolidated Railways, Light and Power Company, formerly controlled by stock ownership and leased.

FRANCHISE.—Without time limit.

CAPITALIZATION.

	Authorized	Outstanding
Common stock	\$600,000	\$600,000
Preferred stock, 5% cum.	600,000	595,900

Bonds:

Tide Water Power Co.,		
1st 5s, 1949.....	2,000,000	839,000
Consolidated Rys. Lt. &		
Pr. Co. 1st 5s, 1932..	Closed	476,600
*3-year general mtg. 6s.		
1920	500,000	350,000

Dividends on the preferred stock at the annual rate of 5 per cent were paid in the years 1907 to 1912, inclusive, with 1 per cent extra paid in the years 1908 to 1912, inclusive. Dividends at the annual rate of 6 per cent have been paid beginning with the year 1913 to June 30, 1917.

On the common stock a dividend of 4 per cent in 1910 and of 3 per cent in 1911 was paid in treasury preferred stock. A cash dividend of 3 per cent was paid in 1911 and at the annual rate of 7 per cent to June 30, 1917.

*Bonds, 6 per cent general mortgage gold, authorized, \$500,000; issued, \$350,000; dated

DIRECTORS.—Wescott Roberson, L. H. Hole, Jr., Chas. B. Hole, F. R. Williamson, R. J. Hole, Harry E. Kohn, A. L. Brooks, T. H. Vanderfort, Stahle Linn.

COMPARATIVE STATEMENT OF EARNINGS.

	1915	1916	1917
Gross	\$488,029.23	\$513,391.00	\$580,491.69
Opr. and taxes	298,777.48	295,527.00	339,109.51
Net income.	\$189,251.75	\$217,864.00	\$241,382.18
Interest	113,455.00	152,828.00	159,506.62

Surplus \$75,796.75 \$65,036.00 \$81,875.56

Note.—Operating charges include all taxes and the interest on the Salisbury and Spencer Railway Co. bonds, which property is controlled under a fifty year lease and by stock ownership.

Annual meeting of stockholders held third Tuesday in January at Greensboro, N. C. Company's fiscal year ends March 31.

August 1, 1917; due August 1, 1920; interest payable August 1 and February 1 at New York, without deduction for normal Federal income tax. Denomination, \$1,000, coupon bonds, registerable as to principal. Redeemable at 101 and interest at any time, on sixty days' notice. Guaranty Trust Company of New York, trustee.

SECURITY.—First maturing obligation of the company, and secured by a mortgage on all its property, subject to \$1,315,600 prior liens.

The company covenants that no prior lien bonds exceeding in amount \$200,000, and that no new mortgage having equal or prior lien to the lien of this mortgage, will be created while these bonds are outstanding and unpaid.

TWELVE MONTHS ENDED OCTOBER 31, 1917.

Gross earnings	\$513,242.21
Operating expenses and taxes.....	307,723.19

Net earnings	\$205,519.02
Bond interest (prior liens).....	67,908.33

Balance

OFFICERS.—President, Hugh MacRae; Secretary, H. Woolcott; Treasurer, R. J. Jones; Manager, A. B. Skelding.

DIRECTORS.—Hugh MacRae, M. F. H. Gouverneur, Junius Davis, J. V. Grainger, Oscar Pear-sall, C. W. Worth, W. B. Cooper, G. A. Smith, Jurgen Haar, J. G. L. Gieschen, E. Ahrens, M. J. Corbett, Walker Taylor, B. H. Bridges, C. E. Taylor, Jr., H. C. McQueen.

Annual meeting of stockholders held in April at Wilmington, N. C.

WINSTON-SALEM GAS CO., WINSTON-SALEM, N. C.

The Winston-Salem Gas Co. does the entire gas business of the city of Winston-Salem, N. C., serving a combined population of 32,850, including adjacent districts.

FRANCHISES.—The franchises under which the Company operates extend beyond the maturity of the bonds. They are very broad in their

terms and are satisfactory from a business standpoint.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$50,000	\$33,000
Common stock	300,000	300,000

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold, issued, \$296,000. Dated July 1, 1912;

HOLDERS, WATER AND GAS WORKS APPLIANCES, PIPE

R. D. WOOD & CO., PHILA., PA.



due July 1, 1932. Interest payable January 1 and July 1 at Union Trust Co., Detroit, or Guaranty Trust Co., New York City. Denomination, \$1,000; principal may be registered. Optional at 102½ and interest on any interest date after July 1, 1917. Trustee of bonds, Union Trust Co., Detroit.

SECURITY.—First mortgage on the entire property.

OFFICERS.—President, J. W. Thompson; Vice-President, E. B. Jones; Treasurer, W. E. Moss; Secretary, B. O. Tippy; Manager, J. B. Smith; General Manager, B. O. Tippy.

ALLIANCE GAS AND POWER CO., ALLIANCE, OHIO.

(Incorporated July 27, 1907, under the laws of the State of Ohio.)

This Company owns the entire gas and electric light properties in the thriving City of Alliance, Ohio, located 57 miles from Cleveland and 83 miles from Pittsburg, on the Pennsylvania railroad.

Franchises are perpetual, for both gas and electricity.

Alliance is a division point on the Pennsylvania R. R. and the shops of the Company are located there as well as many other large manufacturing concerns.

	Authorized	Outstanding
Capital stock	\$550,000	\$550,000
Bonds	500,000	432,500

Bonds are first and refunding 5 per cent bonds, due June, 1932; interest payable June 1 and December 1, in New York. Denomination, \$500. Coupon bond may be registered as to principal; may be redeemed on any interest date at 107½ per cent and accrued interest. Sinking fund 2½ per cent of outstanding bonds commencing with June 1, 1913. In lieu of cash payment, bonds secured hereby. Additional bonds may be drawn for 75 per cent of improvements. Tax exempt. The Guardian Savings & Trust Company, Cleveland, O., Trustee. \$135,000 of this issue set aside to

retire the Alliance Gas & Electric Co.'s issue, dated December 1, 1899.

Underlying bonds: Alliance Gas & Electric Co.; first mortgage 5 per cent gold bonds, authorized, \$135,000; outstanding, \$57,500, of which \$52,500 are in sinking fund; dated December 1, 1899; due December 1, 1929, at office of trustee. Interest, 5 per cent, payable June 1 and December 1, at office of trustee, or National Bank of the Republic, New York. Denomination, \$500. May be redeemed on any interest date at 105 and accrued interest. Sinking fund to commence September 1, 1909, by the payment of \$6,000 a year. Bonds to be kept alive in the sinking fund. Additional bonds may be drawn for 75 per cent of improvements. Tax exempt. Savings and Trust Company, Cleveland, O., Trustee.

OFFICERS.—President, H. L. Doherty; First Vice-President, F. W. Frueauff; Second Vice-President, G. W. York; Secretary, Wm. P. Morton; General Manager and Treasurer, H. G. Bonner.

DIRECTORS.—Edward Bower, M. C. Harvey, H. G. Bonner, W. B. Drum, F. W. Frueauff, G. W. York, H. L. Doherty.

Annual meeting, second Tuesday in June.

OHIO AND WESTERN UTILITIES CO., CHILLICOTHE, OHIO.

Principal address: 115 Broadway, New York City.

The Company was incorporated in November, 1914, under the laws of Delaware and controls and operates, through local companies, public utility properties located in Chillicothe, O., and Nevada, Mo., and Fort Scott, Kan., serving a population estimated at over 34,000.

FRANCHISES.

The electric light and power franchise of the Chillicothe Company is without limitation of time.

The Deerfield gas franchise runs until October, 1932.

The Bronson gas franchise runs until May, 1931.

The Moran gas franchise runs until May, 1930.

The Nevada water franchise runs until January, 1933.

The Nevada natural gas franchise runs until September, 1930.

CAPITALIZATION.

Preferred stock, authorized \$2,500,000, outstanding \$168,400; common stock, authorized, \$5,000,000, outstanding \$1,000,000.

Dividends paid, preferred stock, 7%.

Transfer agent, Logan Trust Co., Philadelphia, Pa.

FUNDED DEBT.—Bonds: First lien collateral trust authorized \$5,000,000, issued \$609,000 (6 per cent), \$64,000 (5 per cent), dated November 16, 1914; due August 1, 1929. Interest payable May 1 and November 1 in New York City or Chicago. Denominations, \$100, \$500 and \$1,000. Coupon principal may be registered. Callable on any interest date at (5 per cent bonds) 103 and (6 per cent bonds) 105. Logan Trust Company of Philadelphia, trustee.

SECURITY.—The bonds of the Ohio and Western Utilities Company are to be secured by deposit of—

(1) All outstanding bonds and substantially all (over 96 per cent) of all the stock of the Fort Scott and Nevada Light, Heat, Water and Power Company; and,

(2) All the bonds and stock of the Chillicothe Electric Railway, Light and Power Company.

It is the intention of the management of the Ohio and Western Utilities Company, from time to time to acquire properties additional to the above and to issue additional bonds based thereon under conservative mortgage restrictions.

Superior Drop-Forgings
of "Grand Prize" Calibre



After the issue of the original \$625,000 bonds, 5 and 6 per cent, an additional issue of not more than \$150,000 5 and 6 per cent bonds is to be brought out to pay for permanent improvements and extensions to present properties of the Fort Scott and Nevada and Chillicothe companies, but only when the net earnings of this company from the present properties show, according to conservative accounting practice, an amount equal to one and three quarters times that necessary to meet interest charges on the bonds already outstanding and those to be issued, and only to the extent of actual cost of such improvements.

Additional bonds above the \$150,000 mentioned may be brought out at the rate of not over 80 per cent of additional moneys actually expended for improvements or acquisition of new properties when the net earnings of the original properties combined with those to be acquired, according to conservative accounting practice, have been, for a period of not less than twelve months out of fourteen months immediately preceding the date of issue, not less than twice the amount necessary to pay interest on all bonds outstanding hereunder and those to be issued. Under somewhat similar limitations new bonds can be issued upon acquiring and bringing under this mortgage controlling interests in the stock and bonds of other public utility corporations, but only where at least 95 per cent of the bonds and two-thirds of the stock of such new corporation are acquired.

SINKING FUND.—The mortgage requires that the Company pay to the trustee for the creation of a sinking fund one per cent (1%) of the maximum amount of all bonds outstanding on August 1, 1918, August 1, 1919, and August 1, 1920. On August 1, 1921, and on each subsequent August 1 up to and including August 1, 1925, the Company shall pay to the trustees for a sinking fund one and one-half per cent (1½%) of the amount of all bonds outstanding. On August 1, 1926, and each succeeding August 1 until the maturity of the bonds the Company shall pay to the trustee for a sinking fund two per cent (2%) of the amount of all bonds outstanding. The bonds are subject to call, the 6 per cent bonds by lot at 110 and interest, and the 5 per cent bonds at 103 and interest, and the sinking fund may be invested in bonds at not more than these rates.

OFFICERS.—President, L. M. Symmes; Vice-President, Harry B. Ivers; Treasurer, E. H. Van Wyck; Secretary, A. F. Beringer; Assistant Treasurer, L. M. Symmes; Assistant Secretary, E. H. Van Wyck.

DIRECTORS.—A. W. Brooks, Harry B. Ivers, Boston; L. M. Symmes, E. H. Van Wyck, W. E. McClintock, A. A. Bridgman, A. F. Beringer, New York City.

Annual meeting, first Tuesday after the third Monday in January.

COLUMBIA GAS AND ELECTRIC CO. OF W. VA., CINCINNATI, OHIO.

Principal office, Charleston, W. Va.

Incorporated September 11, 1906, in West Virginia, with wide powers, its charter enabling it to buy and sell securities, lands, merchandise, electricity, gas, coal, oil and minerals; manufacture any article; conduct transportation by water and land; build and operate railroads, pipe lines, etc.; and exercise the right of eminent domain.

The Company leases the Cincinnati Gas Transportation Co. It acquired and now holds oil,

gas and mineral rights by leases, contracts, agreements, royalties and the ownership in fee, in over 269,826 acres of natural gas lands in the southwestern part of West Virginia and eastern part of Kentucky, said gas lands being connected by pipe lines with distributing centers in northern Kentucky and with Cincinnati. The Company also acquired and now owns amounts of capital stock of other companies as shown in the following statement:

	Amount Authorized	Amount Outstanding	Owned by Col. G. & E. Co.	Amount Per cent
Union Gas and Electric Co. Common.....	\$10,000,000	\$10,000,000	\$9,995,000	99.95
Union Gas and Electric Co. Preferred.....	10,000,000	5,000,000	5,000,000	100.
United Fuel Gas Co.....	10,000,000	10,000,000	5,100,000	51.00
	\$30,000,000	\$25,000,000	\$20,095,000	

SYSTEM.—The properties owned, controlled, leased and operated by the Columbia Gas and Electric Co. consist of the following:

(1) 271,970 acres of natural gas lands in West Virginia and Kentucky.

(2) A pipe line system (the pipe lines of the Cincinnati Gas Transportation Co. are leased by the Columbia Co.) connecting the natural gas fields with distributing points in northern Kentucky and with Cincinnati.

(3) The entire gas and electric business of Cincinnati and 18 adjacent communities in Hamilton County, the Columbia Co. controlling the Union Gas and Electric Co., which in turn leases the Cincinnati Gas and Electric Co.

(4) A 66 mile street railway system (operated through lease with the Cincinnati, Newport, Covington Light and Traction Co.) connecting Cincinnati with Newport, Covington, Dayton, Bellevue and other communities in northern Kentucky, and the gas, electric and water business in some of these Kentucky communities.

(5) A 51 per cent stock interest in United Fuel Gas Co., the stock capital of which latter company is as shown above.

The Columbia Gas and Electric Co. in addition to the gas taken from its own properties, also purchases natural gas under favorable contracts from the Standard Fuel Co. and the United

RELIABLE

HOT SPOT.

COPPER REFLECTOR

GAS HEATERS

Write now for samples and prices and bear in mind that the genuine "HOT SPOT" heater is fully guaranteed and made exclusively by

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Fuel Gas Co. It sells its natural gas to the Union Light, Heat and Power Co., of Kentucky, which it operates under lease, and to the Union Gas and Electric Co. of Cincinnati, which it controls. The pipe line was completed and natural gas turned into Cincinnati on July 1, 1909. The pipe line is capable of transporting about eighty million cubic feet of gas daily.

CAPITAL STOCK.—Authorized and outstanding, \$50,000,000; shares, \$100. Transfer agents, Bankers Trust Company, New York; Provident Savings Bank and Trust Co., Cincinnati. Registrar, Union Savings Bank and Trust Co., Cincinnati. Listed on New York, Cincinnati, Columbus, Pittsburgh, Louisville Stock Exchanges. Dividend of 1% paid May 15, 1917. Quarterly dividends now being paid.

FUNDED DEBT.—Consists of \$13,225,500 first 5 per cent 20-year gold bonds; dated January 1, 1907; due January 1, 1927; interest, January 1 and June 1 at Columbia Trust Co., New York, trustee. Coupon, \$500 and \$1,000; principal may be registered. A sinking fund began January 1, 1910, of 4 per cent annually of bonds outstanding, which had been issued for certain purposes, continuing at 4 per cent to 1912; from 1913 to 1916, 5 per cent per annum; 1917 to 1920, 6 per cent per annum; 1921 to 1924, 7 per cent per annum, and 1925 and 1926, 8 per cent each. Bonds are secured on all present and future assets. Amount authorized, \$25,000,000, of which \$20,747,000 certified to Dec. 31, 1917, leaving \$4,253,000 available for betterments, etc. Of the bonds issued \$6,908,000 have been retired through sinking fund, leaving the amount outstanding as above. Listed on Cincinnati Stock Exchange.

OFFICERS.—Chairman of Board, P. G. Gossler; President, A. B. Leach, New York; Vice-Presidents, W. Y. Cartwright and W. W. Freeman, Cincinnati; Secretary and Treasurer, T. F. Wickham, Cincinnati.

DIRECTORS.—A. B. Leach, P. G. Gossler, H. Seligman, F. Strauss, John W. Herbert, W. P. Phillips, Beverley Bogert, New York; J. M. Hutton, Charles P. Taft, W. Y. Cartwright, W. W. Freeman, T. F. Wickham, Cincinnati, Ohio; George W. Crawford, Pittsburgh, Pa.

Annual meeting of stockholders held last Saturday in March.

THE CINCINNATI GAS AND ELECTRIC CO.

(Properties operated under lease by the Union Gas and Electric Co., which is in turn controlled through stock ownership by the Columbia Gas and Electric Co. of W. Va.)

Incorporated in 1837 in Ohio as The Cincinnati Gas Light and Coke Co. Name changed to above in 1901, when through absorption of the Edison Electric Co., Brush Electric Light Co. and Jones Brothers Electric Co., the Company acquired the electric business of Cincinnati. Company now has a monopoly of the gas and electric business of Cincinnati, it owning the only gas and electric property in that city and enjoying a continuing franchise, and also serves 18 adjacent suburban towns in Hamilton County, Ohio, including Ivorydale, Hartwell, Lockland, Pleasant Ridge, Arlington Heights, Deer Park,

Mount Airy, St. Bernard, Carthage, Wyoming, Glendale, Norwood, Elmwood, Williamsdale, Woodlawn, Kennedy Heights, Reading, Cheviot, Oakley, Silverton, Madisonville, College Hill. Company's dividend record is excellent, it having paid dividends of not less than 4 per cent continuously for about 70 years.

The Company's system now embraces over 750 miles of mains, 287 miles of underground conduits, over 2,500 miles of electric wires, over 122,623 gas meters and more than 31,941 electric meters.

On September 1, 1906, property was leased for 99 years to Union Gas and Electric Co., lessee agreeing to pay all taxes, interest, etc., \$20,000 annually for organization expenses and, in addition, dividends on the stock of the Cincinnati Gas and Electric Co. as follows: From September 1, 1906, to September 30, 1908, $4\frac{1}{2}$ per cent per annum; from October 1, 1908, to September 30, 1910, $4\frac{3}{4}$ per cent annually, and thereafter 5 per cent per annum; such dividends to be paid quarterly. To guarantee the payment of the dividends, the Union Gas and Electric Co. has deposited a fund equivalent to \$3,000,000 with certain trust companies, and agreed to and did expend \$2,000,000 additional in extensions, betterments, etc., during the first years of the lease. The Union Gas and Electric Co. has privilege of purchasing the stock of Cincinnati Gas and Electric Co. at \$115 per share at expiration of lease or at par within five years from April 1, 1916.

As of April 1, 1916, a modified lease was made with the Cincinnati Gas and Electric Company and arrangements completed for the financing of a new electrical generating station and for all necessary extensions and additions to the property of the Company for many years to come. In accordance with such arrangements the Cincinnati Gas and Electric Company has created an authorized issue of \$15,000,000 of first and refunding 5 per cent gold bonds; \$8,936,000 such bonds have been issued and sold to provide funds for the construction of the new power house, and for betterments, and to retire underlying bonds.

Company owns the entire \$3,000,000 preferred stock of the Cincinnati Gas Transportation Co. on which the Columbia Gas and Electric Co. has an option to 1933 for \$1,000,000 cash. This stock is entitled to 5 per cent dividends after Cincinnati Gas and Transportation Co.'s funded debt has been redeemed. The Cincinnati Gas and Electric Co. guarantees \$3,000,000 of this funded debt.

CAPITAL STOCK.—Authorized, \$36,000,000; outstanding, \$35,056,300. Shares, \$100. Transfer agent, The Provident Savings Bank and Trust Co., Cincinnati. Registrar, The Central Trust and Safe Deposit Co., Cincinnati. Stock listed on the Cincinnati Stock Exchange.

DIVIDENDS.—The following are the more recent dividends paid on the capital stock: 4 per cent per annum from July 1, 1901, to April 1, 1904, inclusive; $4\frac{1}{2}$ per cent from July 1, 1904, to April, 1908, inclusive; $4\frac{3}{4}$ per cent per annum for the next two years, and 5 per cent per annum, from October 1, 1910.

If there is any doubt in your mind, send your order for GOODMAN STOPPERS on thirty days' approval.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

BONDS.—Authorized, \$15,000,000; issued, \$8,936,000; first and refunding mortgage 5 per cent sinking fund gold bonds, due April 1, 1956; coupon, \$1,000, registerable as to principal. Subject to call at 102 and interest. Interest payable April 1 and October 1, in New York and Cincinnati. Columbia Trust Co., New York, trustee.

NOTES.—\$2,225,000 two-year 6 per cent secured gold notes, dated March 15, 1918; due March 15, 1920; interest payable March 15 and September 15. Callable at 100½ and accrued interest, upon 60 days' notice. Secured by deposit of \$3,000,000 of this company's first mortgage 5 per cent gold bonds.

OFFICERS.—President, Charles D. Jones; Vice-President, Rufus B. Smith; Second Vice-President, Samuel Assur; Secretary and Treasurer, E. H. Ernst; Assistant Secretary and Assistant Treasurer, Theodore Claus.

DIRECTORS.—Rufus B. Smith, C. D. Jones, S. Assur, A. M. Cohen, M. E. Moch, Chas. F. Windisch, C. L. Harrison, Edward H. Ernst, Wm. H. Stewart, H. W. Lothmann.

ANNUAL MEETING.—First Monday in May.

GENERAL OFFICE.—Cincinnati, Ohio.

UNION GAS AND ELECTRIC CO.

(Controlled through stock ownership by Columbia Gas and Electric Co. of W. Va.)

Incorporated May 26, 1906, in Ohio, to furnish gas and electricity and operate suburban railways. Company on September 1, 1906, leased the Cincinnati Gas and Electric Co. for 99 years, with option to purchase its stock at \$115 per share at expiration of lease. (For terms of lease see Cincinnati Gas and Electric Co. above.) Company through its lease controls the entire gas and electric business of Cincinnati and 18 suburban communities. It purchases the greater part of its natural gas from the Columbia Gas and Electric Co.

CAPITAL STOCK.—Authorized, \$10,000,000 common and \$10,000,000 6 per cent cumulative preferred—total, \$20,000,000. Outstanding, \$10,000,000 common and \$5,000,000 preferred—total, \$15,000,000. Shares, \$100. The Columbia Gas and Electric Co. owns 100% of the preferred stock and 99.95 of the common stock.

DIVIDENDS.—Regular dividends on preferred stock were suspended April 1, 1908. In June, 1909, a scrip dividend was paid, covering the fifteen months unpaid dividends on preferred stock from April 1, 1908, to July 1, 1909, inclusive, amounting to \$375,000. Payments of preferred dividends were resumed July 1, 1910, when a cash dividend of 6 per cent was paid. No preferred dividend paid since July 1, 1912.

DIVIDEND SCRIP.—The \$375,000 scrip issued for accrued dividend on preferred stock (see above) is dated July 1, 1909, and matured on July 1, 1914. Interest, amounting to 6 per cent per annum, is being paid regularly. This scrip is now all owned by Columbia Gas & Electric Co.

OFFICERS.—President, W. W. Freeman; Vice-President, W. Y. Cartwright; Second Vice-President and Treasurer, T. F. Wickham, Cincinnati, Ohio.

DIRECTORS.—A. B. Leach, P. G. Gossler New York; W. Y. Cartwright, Lawrence

Maxwell, J. M. Hutton, August Herrmann, Louis J. Hauck, S. Assur, W. W. Freeman, Charles Boldt, Chas. P. Taft, T. F. Wickham, Cincinnati, Ohio; G. W. Crawford, Pittsburgh, Pa.; Polk Laffoon, Covington, Ky.

ANNUAL MEETING.—First (or any subsequent) Monday of March.

GENERAL OFFICE.—Cincinnati, Ohio.

CINCINNATI GAS TRANSPORTATION CO.

(Controlled by Cincinnati Gas and Electric Co., and leased to Columbia Gas and Electric Co. of West Virginia.)

Incorporated June 11, 1908, in West Virginia. Owns a system of pipe lines consisting of about 190 miles of eighteen and twenty-inch main lines and eight and twelve-inch field lines. The Company's pipe lines run from the Columbia Gas and Electric Co.'s natural gas fields in Southwestern West Virginia across the northern part of Kentucky and connect with the distributing mains of the Union Light, Heat and Power Co., operating in Covington and Newport, Ky., etc., and the Union Gas and Electric Co., operating in Cincinnati and suburbs. Also owns a large pumping and compressing station at Kenova, W. Va., with measuring, pressure and reducing stations. This property is constructed on private right-of-way along which the Company operates its own telephone (double) line.

The property of the Transportation Co. is leased to the Columbia Gas and Electric Co. of West Virginia for thirty years from July 1, 1908, with renewal privilege for another thirty years, reserving to the Columbia Co. all the benefits therefrom beyond the payment of rental in the shape of taxes, interest and sinking fund on the (now reduced to \$3,311,000) 5 per cent first mortgage bonds of the Cincinnati Gas Transportation Co., and a graduated dividend on the \$2,000,000 common stock, amounting to 3 per cent for 1909, 5 per cent for 1910, 7 per cent for 1911, and 10 per cent per annum thereafter, until the termination of the lease. The terms of the lease also provide for a dividend of 5 per cent per annum on the \$3,000,000 preferred stock, but this dividend does not apply until after all the first mortgage bonds have been fully liquidated and retired, and then continues only until the end of the lease period, June 30, 1938. Up to 1933, the Columbia Gas and Electric Co. has an option on the \$3,000,000 preferred stock (now owned by the Cincinnati Gas and Electric Co.) for \$1,000,000 in cash.

CAPITAL STOCK.—Authorized and outstanding, \$2,000,000 common and \$3,000,000 5 per cent preferred—total \$5,000,000. Shares, \$100. All of the \$3,000,000 preferred stock is owned by the Cincinnati Gas and Electric Co. (see preceding paragraph). Both classes of stock have equal voting power. Common stock is listed on Cincinnati Stock Exchange.

FUNDED DEBT.—Outstanding consists of \$3,311,000 (closed mortgage) first mortgage 5 per cent gold \$1,000 bonds, dated July 1, 1908; due July 1, 1933; interest payable January 1 and July 1, at office of the trustee, The Provident Savings Bank and Trust Co., Cincinnati, Ohio. Bonds are redeemable after July 1, 1913, at 110 and

Precision CO₂ Recorders automatically record the percentage of carbon-dioxide in flue gases, and are a real practical means of reducing coal bills and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

interest. Bonds are guaranteed as to principal and interest by the Columbia Gas and Electric Co.: \$3,000,000 of the bonds have the guarantee of the Cincinnati Gas and Electric Co. as well. They are secured by a first mortgage on all the property of the Cincinnati Gas Transportation Co. now owned or hereafter acquired. A sinking fund is in operation since August 1, 1911, in the shape of monthly installments of \$20,833.33, paid by the Columbia Co., as part of the rental, to the trustee, which funds are used monthly by the trustee in the purchase and retirement of outstanding bonds. To December 31, 1915, there have been retired in this manner a total of \$1,609,000 of these bonds, leaving the issue at

this date \$3,311,000 as shown above. Listed on Cincinnati Stock Exchange.

DIVIDENDS.—Dividends have been paid on common stock as follows: 3 per cent in 1909; 5 per cent in 1910; 7 per cent in 1911. Dividends in 1912 and subsequent years of lease period, 10 per cent per annum.

OFFICERS.—President, H. W. Lothmann; W. W. Freeman, F. B. Enslow; Treasurer, M. E. Moch; Secretary, Theo. Clauss, Cincinnati, Ohio.

DIRECTORS.—H. W. Lothmann, M. E. Moch, Chas. P. Taft, C. F. Windisch, Cincinnati, Ohio; W. W. Freeman, Huntington, W. Va.

ANNUAL MEETING.—First Tuesday in June.

CONTINENTAL GAS AND ELECTRIC CORPORATION, CLEVELAND, OHIO.

General Office, Cuyahoga Building.

The Continental Gas and Electric Corporation was incorporated in November, 1912, in Delaware to buy and sell, own and operate public utilities, etc., and acquired (in 1912) Shenandoah Art. Ice, Power, Heat & Light Company and Peoples Gas Company, Shenandoah, Iowa; Red Oak Electric Company and Red Oak Gas-light Company, Red Oak, Iowa; Nebraska Lighting Company, Plattsmouth, Neb.; York Gas & Electric Company, York, Neb.; (in 1913) Cass County Light & Power Company, Griswold, Iowa; Malvern Light & Power Company, Malvern, Iowa; McCool Light Company, McCool Junction, Neb.; Gage County Gas Light & Power Company, Beatrice, Neb.; (in 1914) Nebraska Gas & Electric Company and Iowa Gas & Electric Company, Omaha, Neb., through purchase and reorganization of the Iowa-Nebraska Public Service Company; Oakland Electric Company, Oakland, Iowa; Avoca Electric Light & Power Company, Avoca, Iowa; (in 1915) Aurora Electric Company, Aurora, Neb.; Dunlap Electric Company, Dunlap, Iowa, and Stromsburg Electric Light, Heat & Power Company, Stromsburg, Neb.; (in 1916) Geneva Electric Company, Geneva, Neb.; Exeter Electric Light & Power Company, Exeter, Neb.; Crystal Ice Company, York, Neb.; Battle Creek Electric Light & Power Company, Battle Creek, Neb.; Fullerton Electric Light & Power Company, Fullerton, Neb.; Westpoint Electric Light & Power Company, Westpoint, Neb.; Oakland Electric Company, Oakland, Neb.; Johnson Electric Company, Newman Grove, Neb.; Stella Electric Plant, Stella, Neb.; Winnebago Electric Plant, Winnebago, Neb.; Marquette Electric Plant, Marquette, Neb. Other towns supplied: Polk, Giltner, Winslow, Hordville, Shubert. Coin Electric Light & Power Company, Coin, Iowa; Sidney Electric Plant, Sidney, Iowa; Minden Electric Plant, Minden, Iowa. Other towns supplied: Imogene and Randolph.

Acquired in 1917: Hamburg Electric Light & Power Company, Hamburg, Iowa; Villisca Public Service Company, Villisca, Iowa; Sterling Electric Plant, Sterling, Neb.; Hooper Electric Light & Power Company, Hooper, Neb.; Genoa Electric Light & Power Company, Genoa, Neb.; Osceola & Shelby Electric Light, Heat & Power

Company, Osceola, Neb.; Lewis Electric Light & Power Company, Lewis, Iowa; Oakdale Electric Plant, Oakland, Neb.; St. Edwards Electric Light Company, St. Edwards, Neb.; Electrical Transmission Company, York, Neb.; Lee Light & Power Company, Clarinda, Iowa; Canada Gas & Electric Corporation, Brandon, Manitoba.

TERRITORY SERVED.—These properties are supplying electric light and power, gas, heat and ice. In the following communities one or all of these services are rendered:

Beatrice, Norfolk, York, Plattsmouth, Aurora, Wymore, West Point, Fullerton, Geneva, Oakland, Exeter, Stromsburg, Newman Grove, Hampton, Blue Springs, Battle Creek, Polk, Tilden, Waco, McCool Junction, Meadow Grove, Bradshaw, Giltner, Stella, Shubert, Winnebago, Winslow, Hordville, Marquette, Shelby, Oakdale, Sterling, Genoa, Hooper, St. Edwards, and Osceola, all in Nebraska.

Red Oak, Shenandoah, Missouri Valley, Villisca, Malvern, Sidney, Tabor, Avoca, Shelby, Carson, Oakland, Griswold, Logan, Woodbine, Dunlap, Essex, Stanton, Coin, Farragut, Elliott, Emerson, Hastings, Henderson, Macedonia, Pacific Junction, Hancock, Minden, Imogene, Randolph, Magnolia, Bingham, New Market, Gravity, Corning, Thurman, Blanchard, South Blanchard, Braddyville, College Springs, Shambaugh, Stanton, Lewis, Hamburg, Riverton, Villisca, Clarinda, Bedford and Elmo, all in Iowa; also city of Brandon in Manitoba, Canada.

The Company owns and operates approximately 556 miles of high-tension transmission lines in Iowa and Nebraska.

In addition to the above communities, the Company transmits electricity under contract to a number of towns in which the local business is not owned, making the total population served about 133,800.

FRANCHISES.—Either unlimited as to time or extend well beyond 1927, with two unimportant exceptions. The mortgage provides that in case the more important of these two franchises is not renewed or securities representing this property withdrawn and a corresponding amount of bonds of this issue paid off, the entire issue shall become due December 1, 1924.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street **PHILADELPHIA, PA.**

CAPITALIZATION.

The capitalization of the Continental Gas and Electric Corporation is as follows:

Stock (Par \$100).	Authorized.	Issued.
Common	\$5,000,000	\$1,966,200
Preferred, 6% cumulative	5,000,000	1,220,200

Shares \$100. Transfer agents and registrars of stock, Citizens Savings and Trust Company, Cleveland.

Preferred stock is subject to call at 105 and accrued dividends on any May 1 or November 1.

Dividends on preferred stock of 6 per cent and on common of 2 per cent per annum were paid from April, 1913. Dividends are payable quarterly.

FUNDED DEBT.—Bonds: First lien collateral trust 5 per cent sinking fund; authorized, \$5,000,000; outstg. \$1,913,200; dated November 1, 1912; due November 1, 1927. Interest payable May 1 and November 1 in Cleveland or New York City. Denominations, \$100, \$500 and \$1,000; coupon bonds, registerable as to principal. Callable in part or as a whole on any interest date at 105 and accrued interest. Trustee of bonds, Citizens Savings and Trust Co., Cleveland, O.; First National Bank, New York City. The balance of bonds can be issued at a par value of but 80 per cent of the cash cost of additional properties or the securities representing them, provided such amount does not exceed 80 per cent of the fair replacement value of such properties, or of permanent additions, improvements and extensions properly chargeable to capital account, and then only when the Company's net earnings for a consecutive twelve months within the immediately preceding fourteen months have been equal to not less than twice the Company's entire fixed charges, including those upon the bonds proposed to be issued. Secured on entire issue of first mortgage bonds of each of the consolidated companies with four exceptions; also secured on the capital stock of the consolidated companies. Sinking fund calls for a semi-annual payment, November 1, 1914, and thereafter of 1 per cent or 2 per cent annually of the maximum amount of all outstanding bonds of this issue at any time outstanding; the fund to be applied to the purchase or redemption of these bonds, at not exceeding 105 and interest; bonds so acquired to be cancelled.

INCOME TAX.—Interest payable without deduction of United States normal income tax.

Notes: \$1,200,000 collateral trust 6 per cent convertible three-year notes; dated September 1, 1917; due September 1, 1920; interest payable March 1 and September 1 at Citizens Savings and Trust Company, Cleveland, trustee, or at First National Bank, New York City. Denominations, \$1,000, \$500 and \$100. Convertible at par into foregoing bonds of the company at 93½ and interest at any time on or before date of redemption.

The \$1,200,000 collateral trust notes issued in September, 1917, are secured by \$1,600,000 in bonds of the company deposited with the trustee. Additional notes can be issued only when secured by the company's bonds at 75 per cent of their par value.

GENERAL BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Stocks and bonds owned.....	\$6,697,388.41
Bills receivable	55,678.77
Accounts receivable	319,238.94
Cash in banks.....	29,184.35
	<hr/>
	\$7,101,490.50

Liabilities.

Common capital stock.....	\$1,966,200.00
Preferred capital stock.....	1,220,200.00
Bonds outstanding	1,913,200.00
Bills payable	40,000.00
Accounts payable	82,724.39
Surplus	673,342.85
Collateral trust notes outstanding, due 1920	1,104,000.00
Deferred purchase money notes....	101,823.23
	<hr/>
	\$7,101,490.50

OFFICERS.—President, C. S. Eaton; Vice-President, W. H. Abbott; Treasurer, Geo. W. York; Secretary, Thos. H. Jones; Assistant Secretary and Assistant Treasurer, B. J. Olsen.

DIRECTORS.—C. A. Eaton, C. S. Eaton, W. H. Abbott, Geo. A. Coulton, Geo. W. York, Burton A. Howe, Geo. T. Bishop.

Annual meeting of stockholders held first Tuesday after third Monday of January, at Cuyahoga Building, Cleveland, O., or Dover, Del.

Company's fiscal year ends December 31.

SUMMARY OF OPERATIONS.

	1917	1916	1915	1914	1913
Gross earnings	\$1,302,704.15	\$714,203.39	\$566,589.87	\$550,330.07	\$321,051.95
Operating expenses, including maintenance, taxes and insur- ance	930,697.24	473,751.03	361,996.13	352,867.89	184,918.30
Interest on outstanding bonds of subsidiary companies.....	32,910.00	5,790.00	5,790.00	5,790.00	5,790.00
Balance	339,096.91	234,662.36	198,803.74	191,672.18	130,343.65
Interest on outstanding bonds of Continental Gas & Electric Cor- poration	118,835.87	88,630.00	79,540.00	64,525.00	37,125.00

SPECIFIC GRAVITY

American Meter Company

561 W. 47th St., New York, N. Y.

APPARATUS; YOUNG'S SULPHUR TEST—REFEREES' SULPHUR AND AMMONIA TEST. We manufacture these apparatus, the Referees' Sulphur and Ammonia Tests being made in accordance with the latest notifications of the London Board of Gas Referees.

EAST OHIO GAS COMPANY, CLEVELAND, OHIO.

General office, East Ohio Gas Building, East Sixth Street.

The East Ohio Gas Co. is incorporated under the laws of the State of Ohio as a consolidation of the East Ohio Gas Co. (natural), the Cleveland Gas Light and Coke Co. (established 1846), and the Peoples Gas Light and Coke Co. (established 1861), the two latter companies supplying artificial gas to the City of Cleveland, Ohio.

The Company recently purchased the properties and franchises of the Mohican Gas and Oil Co..

CAPITALIZATION.

	Authorized	Outstanding
Common stock	\$35,000,000	\$30,000,000
Pfd. stock (7% cum.)...	10,000,000	10,000,000
Total.....	\$45,000,000	\$40,000,000

FUNDED DEBT.—Company has no funded debt, all the bonds having been retired January 1, 1918.

OFFICERS.—President, Martin B. Daly, Cleveland; Vice-Presidents, A. C. Bedford, New York; Geo. H. Jones, New York; Secretary and Treasurer, H. V. Shulters, Cleveland; Assistant Secretary and Treasurer, C. W. Downing; General Manager, Martin B. Daly; Assistant General Manager, R. W. Gallagher.

DIRECTORS.—A. C. Bedford, R. W. Gallagher, M. B. Daly, Geo. H. Jones, H. V. Shulters, S. H. Tolles.

THE OHIO CITIES GAS COMPANY, COLUMBUS, O.

This company, being a holding company, and therefore not subject to the jurisdiction of the Public Utilities Commission, was incorporated under the name of The Columbus Production Company, under the laws of the State of Ohio, on April 8, 1914, with an authorized capital stock of \$10,000, and on April 21, 1914, the certificate of incorporation was amended, increasing the capital stock to \$20,000,000 divided into 100,000 shares of preferred stock of the par value of \$100 each, and 100,000 shares of common stock of the par value of \$100 each, and changing the name of the company to The Ohio Cities Gas Company; and, on May 4, 1914, the articles of incorporation of the company were again amended, reducing the par value of each share of common stock of the par value of \$100 to \$25, and giving each share of the par value of \$25 of common stock one vote in corporate affairs, and at the same time increasing the voting power of the preferred stock from one vote for every share to four votes for every share, and new certificates of stock, conforming to the resolution of the stockholders, are now being exchanged for the present certificates of both preferred and common stock.

The preferred stock is not redeemable, and in the event of liquidation or dissolution it shall be the first lien upon the assets of the company,

and the holders of said stock shall be entitled to participate therein to the full extent of such stock held by them at its par value, together with any unpaid dividends accrued thereon, and thereafter the remaining assets of the company shall be distributed among the holders of the common stock pro rata. The holders of the preferred stock shall not be entitled to any other or further share in the surplus, or net profits, of the corporation, or distributive share in the capital or funds of the company in the event of liquidation or dissolution than as provided.

The holders of the preferred stock are entitled to receive out of the net profits of the company, as the same may be found and declared by the Board of Directors, dividends at the rate of five and one-quarter per cent annually, payable one and one-quarter per cent in July, one and one-quarter per cent in October, one and one-quarter per cent in January and one and one-half per cent in April of each calendar year. Said dividends shall be cumulative.

This company has no funded debt or contingent liability.

The duration of the charter of the company is perpetual.

The corporation now owns the following stocks (for which its preferred and common stock was issued):

Company.
The Columbus Gas & Fuel Company:

	Capitalization		Owned by Ohio Cities Gas Co. and subsidiaries.
	Authorized.	Issued.	
Preferred stock	\$6,000,000	\$6,000,000	\$5,974,200
Common stock	3,000,000	3,000,000	2,999,300
The Federal Gas & Fuel Company.....	1,071,000	1,000,000	1,000,000
The Springfield Gas Company.....	610,000	610,000	610,000
The Dayton Gas Company:			
Preferred stock	1,772,500	1,752,100	1,741,500
Common stock	800,000	649,400	648,100
Mountain State Gas Co.....	57,200	57,200	57,200
Pure Oil Pipe Line Co. (Ohio).....	1,600,000	1,600,000	1,600,000
Pure Oil Pipe Line Co. (Pa).....	300,000	300,000	300,000
Producers & Refiners Pipe Line Co.....	10,000	10,000	10,000
U. S. Pipe Line Co.*	1,193,900	1,193,900	625,700

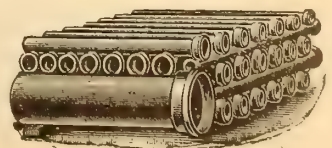
*Included in "Other Investments" on consolidated statements.

The following dividends have been paid by the company: Common, $1\frac{1}{4}\%$ quarterly in 1914 and 1915; increased to $1\frac{1}{2}\%$ quarterly in December, 1915; increased to 2% in June, 1916,

and to $2\frac{1}{2}\%$ in September, 1916. Preferred dividends, $5\frac{1}{4}\%$ per annum since July 1, 1914. Common stock, 5% , payable in common stock on December 1, 1916, to common shareholders of

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
ALL REGULAR SIZES

R. D. WOOD & CO. : PHILADELPHIA, PA.



record on November 15, 1916, and the cash dividend rate was increased to 12%.

Certificates of stock are interchangeable between New York, Chicago, Cincinnati and Columbus, Ohio.

The transfer agents of the company are: New York, Guaranty Trust Co. of New York; Chicago, Central Trust Co. of Illinois; Cincinnati, the Provident Savings Bank & Trust Co.; Columbus, The Ohio Cities Gas Co., by E. H. Monroe, transfer agent.

The registrars of the company are: New York Central Trust Co. of New York; Chicago, Fort Dearborn Trust and Savings Bank; Cincinnati, the Central Trust and Safe Deposit Co.; Columbus, the Citizens Trust and Savings Bank.

The Ohio Cities Gas Company 6 per cent serial gold notes: Total authorized, \$5,000,000; outstanding, \$5,000,000; dated January 1, 1917; \$625,000 maturing semi-annually beginning July 1, 1917, and ending January 1, 1921. Coupon bonds in denomination of \$1,000, registerable as to principal only. Interest payable January 1 and July 1, without deduction for the normal federal income tax. Redeemable in whole or in part on any interest day on 30 days' notice at 102 per cent and interest if redeemed on or prior to July 1, 1918; and at 101 per cent and interest if redeemed after July 1, 1918. Guaranty Trust Company of New York, trustee.

The following is a list of bonds of subsidiary companies: The Columbus Gas Co., first mortgage 5% 40-year gold bonds; dated Oct. 1, 1892; due July 1, 1932; authorized, \$1,500,000; outstanding \$1,390,000 (the entire authorization of \$1,500,000 was issued, \$103,000 having been retired from proceeds from sale of real estate). The Dayton Gas Co., first mortgage 5% 20-year gold bonds; dated March 8, 1910; due March 1, 1930; authorized, \$1,500,000; outstanding, \$1,482,000. The Springfield Gas Co., first mortgage 6% 30-year gold bonds; dated Jan. 1, 1896; due Jan. 1, 1926; authorized, \$400,000; outstanding, \$400,000.

The following is a list of the franchises of subsidiary companies: The Columbus Gas & Fuel Co., Columbus O.; franchise, perpetual; price, 30c. net (expired July 1, 1916). The Federal Gas & Fuel Co., Columbus O.; franchise expires July 31, 1924; price, 30c. net (expired July 1, 1916). Springfield Gas Co., Springfield O.; franchise expires Nov. 5, 1934; price, 30c. net Nov. 5, 1914, to Nov. 5, 1917; 31c. net Nov. 5, 1917, to Nov. 5, 1918; 32c. net Nov. 5, 1918, to Nov. 5, 1919; 35c. net Nov. 5, 1919, to Nov. 5, 1924. The Dayton Gas Co., Dayton, O.; franchises, artificial gas perpetual, natural gas expires April 29, 1930; prices, 34c. net March 1, 1916, to March 1, 1920; 34½c. net March 1, 1920, to March 1, 1926; minimum monthly bill of 34c. for full period.

Extracts from the annual report for the fiscal year ended March 31, 1918:

On June 5, last, by resolution of the stockholders, the authorized common capital stock of the company was increased from \$10,000,000 to \$100,000,000, consisting of 4,000,000 shares of the par value of \$25 each; the authorized issue of preferred stock of \$10,000,000 remained unchanged.

During the year the outstanding preferred stock was increased by 459 shares, exchanged and appropriated for an equal number of shares of the par value of \$100 each of The Dayton Gas Company and The Columbus Gas & Fuel Company.

At the beginning of the last fiscal year 361,170 shares of common stock of the par value of \$9,029,250 were outstanding, and there were issued and appropriated during the year 1,108,830 shares of the par value of \$27,720,750, making the total outstanding stock at the end of the year 1,470,000 shares of the par value of \$36,750,000. There were exchanged and appropriated for common stock of The Dayton Gas Company and The Columbus Gas & Fuel Company, and to cover outstanding dividend warrants 247 shares of the par value of \$6,175; 70,000 shares of the par value of \$1,750,000 were distributed on February 1, last, as a dividend to the common shareholders, and 1,038,583 shares were sold for cash, yielding \$30,529,555.

The sum of \$31,057,587.06 was invested during the year in the producing, refining and distributing divisions of the company; the purchase of the Pure Oil Company and its subsidiaries; the acquiring and constructing of casing-head gasoline plants in Oklahoma and West Virginia; the construction and substantial completion of the Cabin Creek Refinery in West Virginia; the purchase of the Cornplanter Refinery at Warren, Pa.; the purchase of tank cars; in producing properties and leaseholds, and in addition, the company has under construction a modern salt plant near Charleston, W. Va.

EXTRACTS FROM ANNUAL REPORT FOR YEAR ENDED MARCH 31, 1917.

In November, 1916, the Company caused the organization of the Mountain State Gas Co. under the laws of West Virginia, for the purpose of distributing gas in Boone and Kanawha counties. Since its organization the Company has marketed 398,561,000 cu. ft. of gas.

The Columbus Gas and Fuel Company and the Federal Gas and Fuel Company, serving the city of Columbus and its suburban communities, sold during the year 8,528,132,000 cu. ft. of gas, a gain over last year of 1,291,861,000 cu. ft., while the number of consumers increased 5 per cent.

The Dayton Gas Company sold during the year 2,968,923,000 cu. ft. of gas and the number of consumers increased 14 per cent.

The Springfield Gas Company sold during the year 1,674,076,000 cu. ft., a gain over last year of 317,471,000 cu. ft., while the number of consumers increased 8 per cent.

The total sales during the year amounted to 13,171,138,000 cu. ft. of gas, and a total gain of 8,157 consumers. This large increase in gas sold was due to an active campaign for domestic business and to the high price of other fuels prevailing during the year. Notwithstanding this large increase in sales the net earnings of the Columbus companies did not show a corresponding increase due to the increase cost of gas, labor and materials. The question of a readjustment of our selling price of gas is now

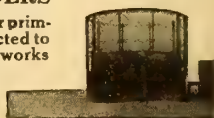


PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



before the Public Utilities Commission of the state of Ohio, who will undoubtedly give us fair and equitable relief from this condition.

On July 1, 1916, the Dayton Gas Company abandoned its plant for the manufacture of artificial gas and connected the artificial gas lines and 11,000 consumers to its natural gas system. During the year the Dayton Company issued \$100,000 of its 5 per cent bonds and used the proceeds for extensions to its property. By the operation of its sinking fund the company retired \$38,000 of its bonds, leaving a net bonded indebtedness of \$1,462,000 representing a closed bond issue.

The West Virginia Division of the Company passed into a state of great prosperity during the year. It now owns in leases 156,841 acres, 12,000 acres of which are held by oil royalty, 16,000 acres are held by gas royalty and 128,841 acres being undeveloped oil and gas leases.

The Company installed during the year the first unit of a plant for the extraction of casing-head gasoline. This unit has a capacity of 1,000 gallons a day and has proved most satisfactory. Five additional units will be installed during the present year.

The Company had 18 wells at the beginning of last year and drilled during the year 48 wells, making a total of 66 producing oil wells. On the gas leases are 20 wells with an open flow of 25,000,000 cu. ft. per day.

CONSOLIDATED BALANCE SHEET, MARCH 31, 1918.

<i>Assets.</i>	
Property, plant and equipment ..	\$101,481,123.48
Less reserve for depreciation ..	5,432,966.61
	<u>\$96,048,156.87</u>
Other investments	738,019.43
Current assets:	
Cash	3,421,640.20
U. S. Government securities	871,707.90
Acc'ts receivable	4,219,417.87
Notes receivable	290,596.77
Stocks of finished oil	3,143,500.41
Stocks of crude oil	1,641,423.46
Material and supplies	1,376,728.25
	<u>14,965,014.86</u>
Deferred charges	395,281.38
Total assets	<u>\$112,146,472.54</u>
<i>Liabilities, Capital and Surplus.</i>	
Capital stock outstanding:	
Common	\$36,750,000.00
Preferred	9,002,100.00
	<u>\$45,752,100.00</u>
Funded debt:	
Bonds—Columbus Gas Co.	\$1,371,000.00
Bonds — Dayton Gas Co.	1,441,000.00
Bonds — Springfield Gas Co..	400,000.00
Serial trust notes	3,750,000.00
	<u>6,962,000.00</u>
Capital and bonds (forward) ..	<u>\$52,714,100.00</u>

Capital and bonds (forwarded) ..	\$52,714,100.00
Current liabilities:	
Accts. payable...	\$1,767,072.84
Notes payable ..	11,916.14
Accrued taxes...	2,462,356.25
Accrued interest ..	88,411.26
Consumers' deposits	246,955.43
	<u>4,576,711.92</u>
Premium and discount	8,690,121.24
Surplus	<u>46,165,539.38</u>
Total liabilities, capital and surplus	<u>\$112,146,472.54</u>

CONSOLIDATED STATEMENT OF INCOME AND SURPLUS FOR YEAR ENDED MARCH 31, 1918.

Gross earnings	\$39,929,134.41
Costs and operating expenses, including ordinary taxes	<u>25,141,257.85</u>
Net operating earnings	<u>\$14,787,876.56</u>
Deduct—	
Federal income and excess profits t'xs	\$1,772,639.67
Interest on serial notes	259,375.00
Interest on bonds of subsidiary companies	167,274.97
Amortized discount on serial notes ..	51,200.00
Depreciation	<u>2,208,895.82</u>
Total deductions	<u>4,459,385.46</u>
Net surplus income	<u>\$10,328,491.10</u>
Deduct—	
Preferred dividends paid in cash....	\$473,865.50
Common dividends paid in cash....	5,960,611.86
Dividends paid by Pure Oil Co. to others	<u>468,395.40</u>
Total cash dividends	<u>6,902,872.76</u>
Balance to surplus	<u>\$3,425,618.34</u>
April 1, 1917—	
Surplus balance Ohio Cities Gas Co. and subsidiaries	\$45,096,398.75
Less surplus adjustments	105,198.08
	<u>\$44,991,200.67</u>
Less common dividend paid in stock	<u>1,750,000.00</u>
	<u>43,241,200.67</u>
	<u>\$46,666,819.01</u>
Less surplus adjustments of acquired companies	<u>501,279.63</u>
Surplus at March 31, 1918, as shown on balance sheet....	<u>\$46,165,539.38</u>



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard Garage Heater of North America.

Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

In December, 1916, the Company purchased oil and gas producing properties in the state of Oklahoma known as the Gunsburg and Forman property, consisting of approximately 26,500 acres of oil territory, 20,000 acres of which are undeveloped.

At the same time the directors authorized and the company purchased the entire capital stock of the Ardmore Refining Co. (a Delaware corporation, with a perpetual charter, and having an authorized and outstanding issue of \$100,000 capital stock, par \$25), and the International Refining Co. (a Delaware corporation, with a perpetual charter, and having an authorized and outstanding issue of \$300,000 capital stock, par \$100), located respectively at Ardmore and Cushing, Okla. These refineries have a combined daily refining capacity of 11,000 barrels, their property consisting generally of real estate, pipe lines, refinery equipment, about 1,400,000 barrels

of tankage, tank cars and substantially 1,000,000 barrels of crude and refined oil. The Ohio Cities Gas Co. will continue indefinitely the operation of these companies as subsidiaries.

OFFICERS.—B. G. Dawes, President; W. E. Hutton, R. W. McIlvain, G. C. Scott, N. H. Weber, H. N. Cole, Vice-Presidents; F. S. Heath, Secretary and Treasurer; T. J. Jones, Assistant Secretary and Treasurer.

DIRECTORS.—H. M. Work, New York; W. E. Hutton, Cincinnati; Warren C. Fairbanks, Chicago; B. G. Dawes, R. W. McIlvain, F. S. Heath, W. F. Burdell, Columbus; John H. Bushnell, Springfield; W. W. Mills, Marietta; W. B. Hassett and N. H. Weber.

The fiscal year of the company ends March 31, and the annual meeting of stockholders is held at the principal office of the company, in Columbus, Ohio, on June 5.

THE DAYTON GAS COMPANY, DAYTON, OHIO.

The Dayton Gas Co. was incorporated in 1910 under the laws of Ohio, and is a consolidation of Dayton Gas Light and Coke Co., Dayton Mineral Gas Co., and Dayton Gas and Fuel Co.

FRANCHISES.—For furnishing artificial gas, perpetual; natural gas, April 24, 1930.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$2,000,000	\$1,752,100
Common stock	1,000,000	649,400

Shares, \$100. Registrar, George Funkhouser, Cashier Winters National Bank, Dayton, Ohio.

Dividend on preferred stock, annual rate 5 per cent, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold bonds, authorized, \$1,500,000; issued, \$1,500,000; dated March 1, 1910; due March 1, 1930. Interest payable March and September at Harris, Forbes & Co., New York. Denomina-

tion, \$1,000, coupon; can be registered. Redeemable at 105 on March 1, 1915, or any interest date thereafter, at the Citizens Savings and Trust Co., Cleveland, Ohio. Trustee of bonds, the Citizens Savings and Trust Co., Cleveland, Ohio, and Allen B. Forbes, New York.

SECURITY.—First mortgage.

SINKING FUND.—Payable to corporate trustee, \$20,000 annually, March 1, 1916, to 1930, for the purpose of consolidation.

OFFICERS.—President, F. S. Heath; First Vice-President, C. A. Ward; Second Vice-President, Geo. Light; Treasurer, C. A. Ward.

DIRECTORS.—W. D. Graves, C. B. Oglesby, R. R. Dickey, A. C. Dickey, Geo. Light, Geo. H. Wood, Henry Loy, F. S. Heath, B. G. Dawes, C. A. Ward, Geo. F. Goodnow, E. C. Harley.

Annual meeting of stockholders held February 23, at main office, Dayton, Ohio.

Company's fiscal year ends March 31.

UNITED PUBLIC UTILITIES COMPANY, DEFIANCE, OHIO.

Principal Office: 61 Broadway, New York City.

The United Public Utilities Co. is organized under the laws of the State of Delaware and enjoys a perpetual charter, broad in its provisions, allowing the Company to purchase, own, finance, control and operate public service corporations in any state or territory in the United States.

The subsidiary companies are the Defiance Gas and Electric Co., and the Swanton Light & Power Co. and Auglaize Power Co.

CAPITAL STOCK.—Authorized and outstanding, preferred, \$250,000; common, \$1,500,000.

FUNDED DEBT.—Bonds: First lien 6 per cent collateral gold, authorized, \$5,000,000; issued,

\$444,000; dated January 1, 1913; due January 1, 1943. Interest payable January 1 and July 1 in New York. Coupon bonds in denominations of \$500 and \$1,000; registerable as to principal. Callable at 110 and interest on any interest date on ninety days' notice. Trustee of bonds, Guaranty Trust Co. of New York.

RESERVED FOR FUTURE ISSUE.—The balance of the authorized issue of bonds is held in reserve, under carefully guarded restrictions of the mortgage, and can be issued only for the acquisition of additional properties or their securities, and for extensions, improvements and betterments to the existing properties.

MacDONALD-MANN COKE QUENCHING CHUTES quench the coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

THE OHIO GAS, LIGHT & COKE CO., NAPOLEON, OHIO.

Principal address: 121 West Washington St.

The Ohio Gas, Light & Coke Co. was incorporated in May, 1914, under the laws of Ohio, and is a consolidation of Napoleon & Wauseon Gas Co. and Bryan and Montpelier Gas Co.; also Delta Gas and Electric Co.

FRANCHISES.—Dated July, 1914, for 35 years; expiration, July, 1949.

CAPITALIZATION.—Capital stock, authorized, \$500,000; outstanding, common, \$179,000; preferred, \$67,200. Shares, \$100. Transfer agents, President and Secretary of the company.

FUNDED DEBT.—Bonds, first mortgage bond, authorized, \$250,000; issued, \$210,000. Dated, June 1, 1914. Due serially to June 1, 1934. Interest payable June 1 and December 1 at the Spitzer & Rorick Trust & Savings Bank, Toledo, O. Denomination, \$1,000. Coupon can be registered. Redeemable at 105 after five years from date of issue on any interest date at the

Spitzer & Rorick Trust and Savings Bank of Toledo, Ohio.

SECURITY.—First mortgage lien.

SINKING FUND.—\$5,000 per year after two years for five years; then \$7,000 per year for five years; then \$10,000 per year for eight years; balance due 20 years from June 1, 1914.

OFFICERS.—President G. B. Orwig; Vice-President, W. J. Hartnett; Secretary, B. A. Sloan; Treasurer, J. A. Sloan; Assistant Treasurer, D. Hartigan; Manager, J. A. Sloan.

DIRECTORS.—G. B. Orwig, W. J. Hartnett, J. A. Sloan, B. A. Sloan, H. J. Sloan, D. Hartigan and J. S. Martin.

Annual meeting of stockholders held second Tuesday in February each year at Napoleon, Ohio. Company's fiscal year ends January 1 each year.

THE SANDUSKY GAS AND ELECTRIC COMPANY, SANDUSKY, OHIO.

This Company supplies all the gas and electricity in the City of Sandusky, Ohio, the county seat of Erie County. While the Company is equipped with both coal and water apparatus, this is held in reserve, as for the past nine years it has been distributing natural gas for the Logan Natural Gas and Fuel Company, who supply it from West Virginia and Ohio Fields.

CAPITAL STOCK.—Preferred, authorized, \$300,000; outstanding, \$100,000; common, authorized, \$1,000,000; outstanding, \$500,000. Dividends paid, 1916, preferred 6%, common 12%.

FRANCHISES.—Perpetual.

BONDS.—First refunding and improvement mortgage 5 per cent gold; dated March 1, 1915; due March 1, 1945. Authorized, \$2,000,000; outstanding, \$710,000. In addition to the \$710,000 outstanding there has been set aside \$40,000 to retire a like amount of first mortgage gold bonds, of which \$460,000 of the original \$500,000 have been cancelled. Interest payable March 1 and September 1 at Fidelity Trust Co., Philadelphia, Pa., trustee.

EARNINGS AND EXPENSES TWELVE MONTHS ENDING
DECEMBER 31, 1917.

Gross earnings	\$515,470.04
Operating expenses and taxes	401,477.81

Net earnings	\$113,992.23
Miscellaneous	\$1,394.76
Interest on funded debt	37,500.00
	<u>38,894.76</u>

Net income	\$75,097.47
------------------	-------------

OFFICERS.—W. S. Barstow, President; Joseph B. Taylor, Vice-President; E. A. Bechstein, Vice-President; C. B. Wilcox, Chairman of Board; O. Clement Swenson, Treasurer; A. B. Cheadle, Secretary; C. J. Taubert, Assistant Secretary and Assistant Treasurer.

DIRECTORS.—W. S. Barstow, Joseph B. Taylor, L. H. Tyng, New York, N. Y.; George A. True, C. B. Wilcox, and George H. Tuttle, Sandusky, Ohio; Emery Thierwechter, Oak Harbor, Ohio.

GENERAL MANAGERS.—W. S. Barstow Management Association, Inc., New York, N. Y.

Annual meeting April 20 at Sandusky, Ohio.

TOLEDO TRACTION, LIGHT AND POWER COMPANY, TOLEDO, OHIO.

The Toledo Traction, Light and Power Co., incorporated under the laws of the State of Maine, owns the securities of the Toledo Railways and Light Co. and several interurban roads entering the City of Toledo, Ohio. The Toledo Railways and Light Co. does the entire local street railway and electric light and power business and a gas and heating business in Toledo. The interurban roads mentioned radiate from that city.

FRANCHISES.—The electric light and power franchises and rights under which the Toledo Railways and Light Co. operates in the City of

Toledo are, in the opinion of counsel, unlimited in time and impose no unusual or burdensome restrictions. The principal street railway franchises of the Toledo Railways and Light Co. having expired, the Company is negotiating with the city with a view to obtaining a blanket franchise covering the operation of all of its street railway lines. The gas and heating franchises are satisfactory and are unlimited as to time. The interurban roads operate almost entirely over private right of way, but where franchises are necessary same are satisfactory and extend beyond the maturity of the first lien 6 per cent bonds.



Tycos Temperature Instruments for Gas Works

INDICATING—CONTROLLING—RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



CAPITALIZATION.

Capital Stock.	Authorized	Outstanding
Common	\$9,200,000	\$9,061,203
Preferred (6% cumulative after Jan. 1, 1914)	8,000,000	6,661,675

Dividend on preferred stock, annual rate 6 per cent, payable monthly.

Bonded Debt.

First lien 6% 2-yr. bonds.	\$13,000,000	\$10,500,000
Second lien 6% 3-yr. bonds	1,200,000	1,200,000

Bonds are dated Jan. 1, 1918; due Jan. 1, 1920. Optional on any interest payment date at 101 and interest. Interest payable Jan. 1 and July 1 in New York. Coupon bonds, \$1,000 denomination, with privilege of registration of principal. The New York Trust Co., trustee. Second lien bonds due Jan. 1, 1921.

SECURITY.—The first lien 6 per cent bonds are secured by the deposit with the trustee of the following securities:

\$5,999,000 6 per cent consolidated gold bonds of the Toledo Traction Co.

\$5,997,000 6 per cent consolidated first mortgage gold bonds of the Toledo Railways and Light Co.

All of the \$3,200,000 7% first mortgage bonds of Acme Power Co.

Over 92 per cent of the \$13,875,000 of capital stock of the Toledo Railways and Light Co.

All of the capital stock, except 10 shares of each owned by directors and officers, and certain bonds of the following companies:

Acme Power Co.

The Toledo and Western Railroad Co.

The Maumee Valley Railways and Light Co.

The Toledo, Ottawa Beach and Northern Railway Co.

The Adrian Street Railway Co.

Through the deposit of the Toledo Traction Co. 6 per cent consolidated mortgage gold bonds, the first lien 6 per cent bonds obtain their first lien feature, as through these securities they cover as a first collateral lien the electric light and power and street railway business of Toledo.

In addition, they are secured through the deposit of the above securities by a lien subject to divisional bonds, on the artificial gas and heating plants and the interurban lines mentioned above.

The \$2,500,000 imp't. bonds may be issued to reimburse the Company for only 75 per cent of the cash cost of permanent extensions and additions to the electric light and power properties of the Toledo Rys. & Lt. Co. and Acme Power Co.; provided, however, that the combined income of the subsidiary companies applicable to the securities at the time pledged under the trust indenture for the preceding twelve months shall have been equal to at least twice the annual interest on all of the first lien 6 per cent bonds outstanding, together with those proposed to be issued.

Subsidiary company bonds outstanding in hands of public and secured only by liens on gas and heating properties and a small electric station in Toledo and on property of two interurban roads, \$4,194,000.

TOLEDO RAILWAYS AND LIGHT CO.

BONDS OUTSTANDING.

Toledo Traction Co. 6s, extended indefinitely	\$5,999,000
Toledo Railways and Light Co. 6s, due July 1, 1909 (extended)	6,000,000
Toledo Gas Light and Coke Co. 6s, due November 1, 1908 (extended) ..	150,000
Toledo Heating and Light Co. 5s, due January 1, 1921	336,000
Toledo Gas. Electric and Heating Co. 5s, due October 1, 1935	2,013,000

OFFICERS.—President, F. R. Coates; First Vice-President, F. W. Frucauff; Second Vice-President, R. Fuller; Treasurer, S. D. Carr; Secretary, A. C. Van Driesen.

DIRECTORS.—H. L. Doherty, F. W. Frucauff, F. R. Coates, Rathbun Fuller, T. H. Tracy, E. H. Close, S. D. Carr, F. J. Derge, A. J. Van Driesen.

Annual meeting of stockholders held third Thursday in January, at Toledo, Ohio.

Company's fiscal year ends December 31.

TRUMBULL PUBLIC SERVICE CORPORATION, WARREN AND NILES, OHIO.

Incorporated June 21, 1911, under the laws of Ohio as a successor to the Hydro-Electric Gas Co., and the Warren Water and Light Co. The former was itself a consolidation of the Hydro-Electric Co. and the Warren Gas Light Co. on October 16, 1908; and the latter a consolidation of the Water and Light and Power Companies.

FRANCHISES.—Electric franchises run to August, 1933; gas to May, 1929, and water to April, 1930.

CAPITALIZATION.—Preferred stock, 6 per cent cumulative, authorized and issued, \$200,000; common stock, \$1,500,000. Transfer agents, Henry L. Doherty & Co.

FUNDED DEBT.—Bonds: First mortgage 6 per cent sinking fund gold, issued, \$1,119,100. Dated

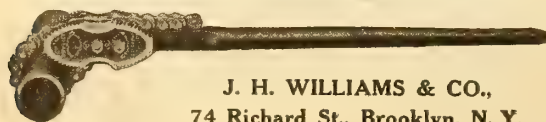
June 1, 1911; due June 1, 1929. Interest payable June 1 and December 1 at Citizens Savings and Trust Co., Cleveland, or First National Bank of New York. Denominations, \$1,000, \$500 and \$100; principal registerable. Redeemable at 105 and interest on any interest date.

SINKING FUND.—2 per cent outstanding, began June 1, 1914.

OFFICERS.—President, Henry L. Doherty; Vice-President, W. C. Ward; Secretary and Treasurer, W. W. Martin; General Manager, E. L. Franklin.

DIRECTORS.—Henry L. Doherty, Charles Fillius, E. L. Franklin, P. L. Webb, David A. Gilmer, W. C. Ward, G. H. Jones.

Annual meeting, last Thursday in January.



J. H. WILLIAMS & CO.,
74 Richard St., Brooklyn, N. Y.

Williams' Improved "Vulcan" Drop-Forged Chain Pipe Wrench

With Double-Ended Reversible Jaws for Turning or Holding Pipe, Pipe-Fittings, etc., from ½ to 12 Inches Diameter.

REPUBLIC RAILWAY AND LIGHT CO., YOUNGSTOWN, OHIO.

General office, 15 Exchange Place, Jersey City, N. J.

The Republic Railway and Light Co. was incorporated June 27, 1911, in New Jersey, as a holding company, and by the acquisition of over 99 per cent of the outstanding stock of the Mahoning and Shenango Railway and Light Company has the ownership or control of corporations owning and operating about 170 miles of electric railway lines midway between Pittsburgh and Lake Erie, in the cities and intervening territory of the Mahoning and Shenango valleys; also the lighting systems of Youngstown, New Castle, Sharon, etc.

Following are the subsidiary companies comprised in the system, viz., New Castle Electric Co., Pennsylvania Power Co., Shenango Valley Electric Light Co., Zelenople Light & Power Co., Mahoning & Shenango Ry. & Light Co., New Castle Electric Street Ry. Co., New Castle & Lowell Ry. Co., New Castle & Mahoningtown Street Ry. Co., Sharon & New Castle Ry. Co. (Ohio), Sharon & New Castle Street Ry. Co. (Pa.), Youngstown & Niles Ry. Co., New Castle Co., New Castle Traction Co., Pennsylvania & Mahoning Valley Ry. Co., Republic Corporation, New Castle & Lowell Realty Co., Idora Park Amusement Co.

FRANCHISES.

Practically all Pennsylvania franchises are perpetual. Railway franchises in Youngstown were renewed in October, 1908, for twenty-five years. The most important interurban franchises in Ohio expire from 1945 to 1950, and Ohio lighting franchises expire from 1925 to 1934. All franchises are free from objectionable requirements.

CAPITALIZATION.

	Authorized	Outstanding
Pref. stock, 6% cum.	\$10,000,000	\$5,191,406
Common stock.	7,500,000	6,206,000

Shares, \$100. Transfer agents, Guaranty Trust Co., New York City. Registrar, New York Trust Co., New York City. Regular 6 per cent dividends have been paid on preferred stock since issuance.

Since the close of the year Republic Railway & Light Co. has sold \$1,500,000 two year 6 per cent notes which are convertible into preferred stock of the Mahoning & Shenango Railway &

Light Co., which was purchased by the Republic company from the Mahoning company and is deposited under the indenture.

NOTE.—\$1,500,000 6 per cent two-year secured gold notes are dated January 15, 1918; due January 15, 1920; principal and semi-annual interest payable (January 15 and July 15) at the First Trust & Savings Co., Cleveland, O., Trustee. Redeemable in whole or in part by lot on thirty days' notice at 100½ and interest.

BONDS OF SUBSIDIARY COMPANIES.

Mahoning & Shen. Ry. & Lt., 1st con. mortgage g. 5s, dated 1915, due Nov. 1, 1920, \$20,000,000 auth., \$7,000,000 outstanding. Int. N. & M., at Guaranty Trust Co., New York City, Trustee.

Pa. M. V. 1st & ref. mtg. g. 5s, dated 1902, due May 1, 1922, \$2,750,000 auth., \$1,757,000 outstanding. Int. M. & N., at Harris Forbes & Co., N. Y. U. S. Mtg. & Trust Co., Trustees.

New Castle Tract, 1st mtg. g. 5s, dated 1897, due May 1, 1927, \$500,000 auth. and outstanding. Int. M. & N., at Union Trust Co., Pittsburgh, Trustee.

N. C. Elec. Co. 1st Mtg. 5s, dated 1897, due Mch. 1, 1927, \$200,000 authorized and outstanding. Int. M. & S., at Union Trust Co., Pittsburgh, Pa., Trustee.

Y-S Ry. & Lt. 1st mtg. 5s, dated 1900, due Jan. 1, 1931, \$2,500,000 auth., \$2,112,000 outstanding. Int. J. & J., at N. Y. Trust Co., N. Y. City, Trustee.

Shar. & New Castle 1st mtg. g. s. f. 5s, dated 1901, due July 1, 1931, \$500,000 auth., \$285,000 outstanding. Int. J. & J., at N. Y. Trust Co., N. Y. City, Trustee.

Mahoning Valley S. E. 1st mtg. 5s, dated 1903, due July 1, 1923, \$94,000 outstanding. Int. J. & J., at Lawrence Savings & Trust Co., New Castle, Pa., Trustees.

Youngs Park & Falls St. Ry. 1st mtg. 5s, dated 1898, due Jan. 1, 1919, \$194,000 outstanding. Int. J. & J., at Mercantile Trust Co., Pittsburgh, Trustee.

Poland St. Ry. 1st mtg. 5s, dated 1913, due 1933, \$170,000 outstanding. Int. J. & D., Union Trust Co. of Pittsburgh, Trustee.

CONSOLIDATED RESULT OF OPERATION FOR TWELVE MONTHS ENDED DECEMBER 31, 1917.

(Inter-Company Items Eliminated)

Operating revenue	\$1,889,915.85
Operating expenses, depreciation* and taxes.....	3,341,183.47
Net earnings	\$1,548,732.38
Non-operating income	67,205.67
Gross income	\$1,615,938.05
Income deductions	759,426.75
Net income	\$856,511.30



R. D. WOOD & CO., PHILA., PA.
GAS HOLDERS, PURIFIERS, CAST IRON PIPE



APPENDIX

Dividends.

Stock of subsidiary companies owned by public: 7% cumulative preferred stock Mahoning and Shenango Railway and Light Co.	245,000.00
Balance	\$611,511.30
Republic Railway and Light Co.:	
Preferred stock	\$311,484
Common stock	248,240
	559,724.00
Balance	\$51,787.30
Surplus December 31, 1916.....	626,723.89
Total	\$678,511.19

Direct Charges to Surplus.

Net sundry adjustments.....	9,928.94
Surplus December 31, 1917.....	\$668,582.25

CONSOLIDATED BALANCE SHEET AS OF DECEMBER 31, 1917.

(Inter-Company Items Eliminated)

Assets.

Property, franchises and investments, including cost of acquisition of securities of subsidiary companies, stated at cost, and in so far as paid for in securities, stated at par value of said securities.....	\$31,362,979.19
Materials and supplies.....	534,548.35
Advance payments	138,830.77
Notes and accounts receivable.....	571,358.94
Bond sinking funds.....	592,353.24
Treasury stock (1,392 shares Mahoning and Shenango Ry. & Lt. Co. 7% pfd)...	139,200.00
Unadjusted debits	205,034.21
Special deposits	210,475.00
Funds deposited with trustee to be withdrawn against construction expenditures	439,216.06
Cash	538,288.16
Total assets	\$34,732,283.92

Liabilities.

Capital stock:	
Common stock Republic Ry. & Lt. Co.....	\$6,206,000.00
6% cumulative preferred stock Republic Ry. & Lt. Co.....	5,191,400.00
	\$11,397,400.00
Capital stock of subsidiary companies outstanding in hands of public:	
7% cumulative preferred stock M. & S. R. & L. Co.....	3,639,200.00
Common stock	575.00
	\$15,037,175.00
Bonds	16,036,000.00
Notes payable	1,405,104.10
Accounts payable	378,593.14
Accounts not yet due.....	668,847.06
Bond coupon account.....	210,475.00
Unadjusted credits	893.80
Reserves	326,613.57
Surplus	668,582.25
Total	\$34,732,283.92

* Includes charges for "Depreciation of Equipment" amounting to \$49,866.69.

RELIABLE

ANGLIRON

RANGES

Special machinery and skilled workmanship contribute to a higher quality of stove construction than heretofore possible. N. C. G. A. specifications strictly followed. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

COMPARATIVE INCOME ACCOUNT FOR TWELVE MONTHS ENDED DECEMBER 31.

	1917	1916	Increase	
			Amount	%
Gross earnings	\$4,889,915.85	\$3,987,616.77	\$902,299.08	22.63
Operating expenses, depreciation and taxes....	3,341,183.47	2,327,406.79	1,013,776.68	43.56
Net earnings	\$1,548,732.38	\$1,660,209.98	*\$111,477.60	*6.71
Other income	67,205.67	20,965.64	46,240.03	....
Gross income	\$1,615,938.05	\$1,681,175.62	*\$65,237.57	*3.89
Interest and subsidiary company dividends....	1,004,426.75	827,569.55	176,857.20	21.37
Net income	\$611,511.30	\$853,606.07	*\$242,094.77	*28.36
Preferred dividends	311,484.00	311,484.00	.....	....
Balance	\$300,027.30	\$542,122.07	*\$242,094.77	*44.65

* Decrease.

OFFICERS.—President, Harrison Williams; Vice-President, R. P. Stevens; Vice-President and Genl. Counsel, Wm. M. Coleman; Treasurer, E. W. Freeman; Asst. Treasurer, L. J. Hart; Secretary, E. W. Freeman; Asst. Secretary, L. J. Hart.

DIRECTORS.—R. E. Breed, Anson W. Burchard, William M. Coleman, F. L. Dame, Robert Lindsay, A. B. Stitzer, R. T. Sullivan, Harrison Williams, R. P. Stevens.

OKLAHOMA GAS AND ELECTRIC CO., ENID DIVISION.

The Enid Electric and Gas Co. was incorporated in May, 1910, under the laws of Oklahoma. In June, 1917, Oklahoma Gas and Electric Co. acquired all physical property of Enid Electric and Gas Co.

This division does the entire gas and electric business of the city, serving without competition, a population of about 14,000. Natural gas turned into the mains June 1, 1916. It has a contract running to September, 1920, for the municipal street lighting, and a contract with the Enid St. Ry. Co. to supply it with all its motive power.

FRANCHISES.—Electric franchise expires April 17, 1923; gas, January 11, 1941.

Capitalization included in Oklahoma Gas and Electric Co.'s report under Oklahoma City.

Enid E. & G. Co. bonds: First mortgage, 6%, authorized, \$1,500,000; outstanding, \$620,000.

Dated May 14, 1910; due May 1, 1920. Interest payable May 1 and November 1 at Continental and Commercial Trust and Savings Bank, Chicago, trustee. Denomination, \$1,000; coupon; but principal may be registered. Redeemable at 102½ on any interest date.

SECURITY.—First mortgage.

SINKING FUND.—November 1, 1912 and 1913, 2½ per cent of bonds outstanding; November 1, 1914, to 1920, 3 per cent of bonds outstanding.

Additional bonds may be issued for 80 per cent of the actual and reasonable cost of permanent extensions, improvements and betterments, provided the net earnings for the preceding twelve months were at least one and one-half times the fixed charges on all bonds outstanding, including those to be issued.

McALESTER GAS & COKE CO., McALESTER, OKLA.

The McAlester Gas & Coke Co. was incorporated in 1902 under the laws of Oklahoma as the Pittsburg Gas Company. Name changed to present title in 1913.

FRANCHISES.—June, 1938, artificial and natural gas.

CAPITALIZATION.

Authorized Outstanding

Preferred stock	\$500,000	\$75,000
Common stock	250,000	250,000

Shares, \$100. Transfer agents, Howe, Snow, Corrigan & Bertles, Grand Rapids, Mich. Dividend on preferred stock, annual rate, 6 per cent, payable quarterly.

FUNDED DEBT.—Bonds, first mortgage 6s, \$500,000 authorized; \$125,000 issued. Due March 1, 1937; interest payable, September 1 and March

1 at office P. W. Brooks & Co., 115 Broadway, N. Y. Denominations, \$1,000, \$500, \$100. Redeemable on any interest date at 113.

SECURITY.—First mortgage.

SINKING FUND.—1 per cent Sept. 1, 1915, to Sept. 1, 1920; 1½ per cent Sept. 1, 1920, to March 1, 1937.

OFFICERS.—President Burton A. Howe; Vice-President, C. H. Corrigan; Secretary, W. M. Bertles; Treasurer, Warren H. Snow; Manager, F. A. Willard.

DIRECTORS.—Burton A. Howe, Guy L. Andrews, F. A. Willard.

Annual meeting of stockholders held first Monday in December.

Company's fiscal year ends December 31.

MADE IN AMERICA for use wherever gas mains ever need repair.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

MUSKOGEE GAS AND ELECTRIC COMPANY, MUSKOGEE, OKLAHOMA.

The Muskogee Gas and Electric Co. was incorporated in December, 1906, under the laws of Oklahoma. Owns the physical property of the Sapulpa Electric Co., Sapulpa, Okla., and leases to that company.

In June, 1917, Oklahoma Gas and Electric Co. acquired all common stock and over 81 per cent of preferred stock.

Capitalization included in Oklahoma Gas and Electric Co.'s report under Oklahoma City.

FRANCHISES.—Electric franchise expires 1926; gas franchise expires 1930.

FUNDED DEBT.—Bonds: First and refunding 5s, authorized, \$1,500,000; outstanding, \$1,017,000. Dated January 30, 1907; due December 1,

1926. Interest payable June 1 and December 1 at Continental and Commercial Trust and Savings Bank, Chicago. Denomination, \$1,000; coupon, but may be registered as to principal. Redeemable at 105 on any interest date at Continental and Commercial Trust and Savings Bank, Chicago, trustee.

SINKING FUND.—September 1, 1910, to 1914, \$20,000; September 1, 1915, to 1919, \$22,000; September 1, 1920, and annually thereafter, \$27,500.

UNDERLYING BONDS.—\$309,500 Muskogee Electric and Gas Co. 5s, due March 1, 1924; Sapulpa Electric Co. first mortgage 6s, dated November 1, 1909; due November 1, 1934. Outstanding, \$128,000.

OKLAHOMA GAS AND ELECTRIC CO., OKLAHOMA CITY, OKLAHOMA.

The Oklahoma Gas and Electric Co. was incorporated in February, 1902, under the laws of Oklahoma. Operates in Oklahoma City, El Reno, Norman, Drumright, Enid and Kiefer, Okla., and smaller communities. This company, through stock ownership, controls the Muskogee Gas and Electric Co., operating in Muskogee, Port Gibson and Sapulpa, Okla.

FRANCHISES.—Oklahoma City gas franchises expire in 1930; electric, 1930.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$10,000,000	*\$2,064,000
Common stock	10,000,000	4,500,000

* Includes underlying stock of Muskogee G. & E. Co.

Shares, \$100. Transfer agents, Continental and Commercial Trust and Savings Bank, Chicago. Registrars, Continental and Commercial Trust and Savings Bank, Chicago.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$5,000,000; outstanding, \$2,563,000. Dated Oct. 1, 1909; due Oct. 1, 1929. Interest payable April 1 and October 1 at Harris Trust and Savings Bank, Chicago. Denomination, \$1,000; coupon, but may be registered. Redeemable at 102½ and interest, on any interest date. Trustee of bonds, Harris Trust and Savings Bank, Chicago.

SINKING FUND.—October 1, 1910, to 1914, 3 per cent; of outstanding October 1, 1915 to 1928, 5 per cent.

ADDITIONAL FUNDED DEBT.—Debenture 6s, authorized, \$3,000,000; outstanding, \$228,500. Dated October 1, 1912; due October 1, 1922. Interest payable April and October 1 at Continental and Commercial Trust and Savings Bank, Chicago, trustee. Denomination, \$500. Coupon, but may be registered. Redeemable at 101.

\$2,250,000 two-year 6 per cent gold notes; dated June 15, 1917; due June 15, 1919. Callable at the option of the company, in whole or in part, upon thirty days' published notice, at

100¼ and accrued interest. Interest payable June 15 and December 15, without deduction for normal federal income tax not in excess of 2 per cent. Principal and interest payable at New York. Coupon notes of \$1,000, \$500 and \$100 denominations, with privilege of registration as to principal only. Registered notes in denominations of \$1,000 and multiples. Coupon and registered notes interchangeable in denominations of \$1,000 or multiples thereof. The New York Trust Company, New York, trustee.

OKLAHOMA GAS & ELECTRIC CO. AND MUSKOGEE GAS & ELECTRIC CO.

CONSOLIDATED GENERAL BALANCE SHEET,
DECEMBER 31, 1917.

Assets.

Plant, property and franchises....	\$13,456,978.32
Organization expenses	17,208.82
Sinking funds	962.76
Investments	54,201.00
Materials and supplies.....	270,764.21
Insurance premiums — unexpired portion	7,772.84
Interest paid in advance on notes payable	2,815.37
Cash	151,364.70
Notes and accounts receivable	\$270,623.57
Less — Reserve for doubtful accounts	3,358.20
	267,265.37
Standard Gas & Electric Co.	199,281.22
Unamortized debt discount and expense	105,432.88
Deferred charges:	
New business promotion	\$24,727.21
Expense of taking inventory of plant....	27,753.45
Sundry items	49,437.37
	101,918.03
Total.....	\$14,635,965.52

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

Liabilities.

Preferred capital stock.....	\$2,064,000.00
Common capital stock.....	4,500,000.00
Bonded debt.....	4,866,000.00
Oklahoma Gas & Electric Co. two-year 6% gold notes, due June 15, 1919.....	1,553,100.00
Notes payable.....	323,800.00
Accounts and wages payable.....	204,220.38
Consumers' deposits and unclaimed checks.....	155,092.87
Interest accrued.....	62,681.98
Taxes accrued.....	125,299.76
Deferred liability.....	10,253.84
Dividends on capital stock—accrued.....	23,290.00
Reserve for renewal of plant property.....	636,965.58
Miscellaneous reserves.....	850.79
Profit and loss surplus.....	110,410.32
Total.....	\$14,635,965.52

EARNINGS YEAR ENDED DECEMBER 31, 1917.

Gross earnings.....	\$2,469,287.20
Operating expenses.....	1,680,377.66
Net earnings.....	\$788,909.54

OFFICERS.—President, H. M. Byllesby; Vice-President, J. J. O'Brien, J. F. Owens, A. S. Huey, F. C. Gordon, W. R. Molinard; Secretary and Treasurer, W. R. Emerson; Assistant Secretaries and Assistant Treasurers, R. J. Graf, Herbert List; Assistant Secretaries, M. A. Morrison, W. F. Moss; Manager, J. F. Owens.

DIRECTORS.—H. M. Byllesby, A. S. Huey, J. F. Owens, H. A. Borchardt, R. S. Moore, W. R. Emerson, W. R. Molinard.

Under management of H. M. Byllesby & Co., Chicago, Ill.

Annual meeting of stockholders held fourth Monday in March at Oklahoma City, Oklahoma.

Company's fiscal year ends June 30.

PACIFIC POWER AND LIGHT COMPANY, PORTLAND, ORE.

The Pacific Power and Light Co. was incorporated June 16, 1910, under the laws of Maine, to own and operate electric light and power, electric street railway and gas and water properties. It furnishes electric light and power, gas and street railway service to Walla Walla, Wash., and Astoria, Ore.; electric light and power, gas and water service to North Yakima, Wash.; electric light, power and gas service to Pendleton, Ore.; electric light, power and water service to Pasco, Kennewick and Prosser, Wash.; gas service to Vancouver, Wash., and electric

light and power service to The Dalles and Hood River, Ore. It supplies electric light and power service to 43, gas service to 7, water service to 4, street railway service to 2, and interurban railway service to 3 communities. The total population served is estimated at 128,000.

SERVICE AND PROPERTY.—The total number of customers served by the Pacific Power and Light Co. and the output and physical equipment of its properties as of December 31, 1916, as compared with the two previous years, follow:

	1917	1916	1915
Electric customers.....	22,869	20,786	19,400
Gas customers.....	7,744	7,149	6,712
Water customers.....	5,406	4,935	4,752
Total customers.....	36,019	32,870	30,864
Kilowatt generating capacity.....	*20,515	*20,500	*20,125
Kilowatt-hour feeder output for twelve months.....	54,435,604	41,182,945	40,417,056
Miles of electric distributing pole lines (6,600 volts or less) in service, irrespective of the number of circuits carried.....	875	860	845
Miles of high voltage transmission lines (over 6,600 volts) in operation, irrespective of the number of circuits carried.....	494	485	470
Miles of high voltage transmission lines (over 6,600 volts) under construction.....	8	73	.....
Gas holder capacity (cubic feet).....	439,500	439,500	439,500
Artificial gas output (cubic feet) for twelve months.....	146,146,000	132,257,100	127,044,000
Miles of street railway and interurban railway lines in operation.....	33.0	31.5	31.5
Miles of gas mains.....	135	132	130
Miles of water mains.....	95	95	92

* Not including 4,400 kilowatt capacity operated in connection with the Company's system, but not owned by the Company.

FRANCHISES.—With unimportant exceptions the franchises of the Pacific Power & Light Co. are either unlimited as to time or extend for a long period. Many of the most important franchises extend at least to 1950, while none, except four relatively unimportant ones, expire prior to 1930. All are free from objectionable restrictions.

CAPITAL STOCK AND DIVIDENDS.—The authorized and outstanding capital stock of the Pacific Power and Light Co., as of December 31, 1917, was as follows:

	Authorized	Outstanding
Preferred.....	\$4,500,000	\$2,700,000
Second preferred.....	2,500,000	1,500,000
Common.....	7,000,000	6,100,000

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street

PHILADELPHIA, PA.

The preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum, and dividend payments at this rate have been made regularly. Dividend payments are made quarterly, on February 1, May 1, August 1 and November 1. The preferred stock also has preference as to assets in case of liquidation. It is subject to redemption at 115 and accrued dividends on any dividend date.

The second preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum. Dividends have been paid regularly since date of issue.

The second preferred stock is subject to redemption at any time at par and accrued dividends, and to conversion, at any time in lots of 1,000 shares or more, into preferred stock, par for par, whenever, in any twelve consecutive months, the earnings applicable to dividends during such period shall have been at least two and one-half times the dividend requirements upon the preferred stock then outstanding, plus two and one-half times the dividend requirements upon the additional preferred stock, which it is then proposed to issue in exchange for second preferred stock.

All of the common stock and second preferred stock, except directors' shares, is owned by the American Power and Light Co.

The Columbia Trust Co. of New York City, and the Security Savings and Trust Co. of Portland, Ore., are the transfer agents for the stock. The Brooklyn Trust Co. of New York City and the First National Bank of Portland, Ore., are the registrars.

BONDS.—The authorized and outstanding bonds of the Pacific Power and Light Co., as of December 31, 1917, were as follows: First and refunding mortgage 5 per cent bonds, authorized, \$30,000,000; outstanding, \$8,115,000.

The first and refunding mortgage 5 per cent gold bonds of the Pacific Power and Light Co. are dated August 1, 1910; due August 1, 1930; interest payable in New York on February 1 and August 1. Bonds already issued are in International Series, in denomination of \$1,000 each, and in coupon form, with privilege of registration as to principal. Registered bonds without coupons may be issued in denominations of \$5,000 each. The United States Mortgage and Trust Co. of New York City is the trustee.

The bonds are secured by a first mortgage on all of the property of the Company. All underlying bonds retired.

The first and refunding bonds are subject to redemption as a whole on any interest day on four weeks' published notice at 105 and interest, up to December 31, 1925; at 104 and interest during 1926; at 103 and interest during 1927; at 102 and interest during 1928, and at 101 and interest from January 1, 1929, to July 31, 1930, inclusive.

An improvement fund is established by the mortgage, whereby a cash fund is payable to the trustee on August 1 of each year, as follows: One per cent annually of the bonds outstanding, including underlying bonds and outstanding

bonds of corporations whose capital stock at the time is owned by the mortgagor and pledged under the mortgage, from 1915 to 1919, inclusive; 2 per cent from 1920 to 1924, inclusive; 3 per cent from 1925 to 1929, inclusive. The maximum payment remains at 2 per cent, however, when in any twelve months ending May 31 in any of the years from 1925 to 1929, inclusive, the net earnings of the Company equal or exceed three times the annual interest charge on all bonds outstanding. Money in the improvement fund may be used for improvements and betterments to the property or as a sinking fund for the redemption of the first and refunding bonds.

Additional bonds may be issued for not exceeding 80 per cent of the actual cost of betterments, improvements, etc., and then only provided net earnings of the Company for twelve consecutive months within the thirteen months immediately preceding any proposed issue are equal to at least twice the interest on all bonds, including underlying bonds and those applied for.

CONSOLIDATED BALANCE SHEET, DECEMBER 31, 1917.

(Accounts between companies eliminated)

<i>Assets.</i>	
Plants	\$18,009,527.62
Securities of other companies....	4,977.66
Current assets:	
Cash	\$160,303.39
Notes receivable....	49,397.83
Accounts receivable..	264,696.55
Material and supplies	401,359.00
Prepaid accounts....	5,404.28
	881,161.05
Treasury bonds	*785,000.00
Improvement fund	1,000.00
Bond and gold note discount and expense	475,337.37
Suspense	54,250.23
Total.....	\$20,211,253.93

<i>Liabilities.</i>	
Capital stock:	
Preferred, 7%	\$2,700,000.00
Second preferred, 7%.....	1,500,000.00
Common	6,100,000.00
Walla Walla Valley Ry. Co....	500.00
Bonds, 1st and refund. mgt. 5%...	8,115,000.00
Two-year 6% secured gold notes..	415,000.00
Current liabilities:	
Notes payable	\$581,887.25
Accounts payable....	229,335.62
Customers' deposits..	38,433.16
Accrued accounts....	280,189.76
	†1,129,845.79
Reserves	53,921.41
Surplus	196,986.73
Total.....	\$20,211,253.93

* \$577,000 pledged to secure \$415,000 two-year 6% secured gold notes.

† Of this amount \$554,138.45 is due American Power & Light Company.

EXPERIMENTAL

American Meter Company

561 W. 47th St., New York, N. Y.

METERS. We make various styles, including the calorimeter, photometer and laboratory meters. These are carried in stock.

EARNINGS.

A statement of earnings for the year ended December 31, 1917, compared with the two previous years, follows:

	1917	1916	1915
Gross earnings...	\$1,647,401	\$1,461,821	\$1,456,953
Operating expenses and taxes.....	783,718	751,834	713,159
Net earnings...	\$863,683	\$709,987	\$743,794
Interest charges...	434,387	400,883	385,323
Net income after charges	\$429,296	\$309,104	\$358,471
Preferred dividend	175,000	175,000	166,250
Balance	\$254,296	\$134,104	\$192,221

The gross earnings for the twelve months ended December 31, 1917, as shown above, were derived from various classes of business, as follows:

	Amount	Approx. % of Total
Electric light and power..	\$1,189,719	72
Artificial gas	199,357	12
Railway	155,960	9
Water	102,365	7
Total.....	\$1,647,401	100

OFFICERS.—S. Z. Mitchell, Chairman of the Board; Guy W. Talbot, President; F. G. Sykes, G. E. Claffin, E. W. Hill, Edward Cookingham, A. S. Grenier, J. A. Laing, Vice-Presidents; George F. Nevins, Secretary and Treasurer; M. H. Arning, Walter C. Lang and M. E. Corbin, Assistant Treasurers and Assistant Secretaries.

DIRECTORS.—J. C. Ainsworth, Edward Cookingham, Fred S. Fogg, A. S. Grenier, S. S. Gordon, William Jones, John A. Laing, C. Hunt Lewis, H. C. Lucas, S. Z. Mitchell, Miles C. Moore, Josiah Richards, F. G. Sykes, Guy W. Talbot.

PORTLAND GAS AND COKE COMPANY, PORTLAND, ORE.

The Portland Gas and Coke Co. was incorporated January 10, 1910, under the laws of Oregon, and took over the properties of the Portland Gas Co. and the East Portland Gas Light Co. It also owns all the capital stock, except directors' shares, of the St. Johns Gas Company.

The Company does the entire gas business in the City of Portland, Ore., and its suburbs, including St. Johns, and in Oregon City, Ore., and supplies gas at wholesale to the Pacific Power & Light Company for its Vancouver, Wash., service. The population served is approximately 281,000.

FRANCHISES of the company in Portland are unlimited as to time. The franchise in Oregon City extends to 1938.

CAPITAL STOCK AND DIVIDENDS.—The authorized and outstanding capital stock of the Portland Gas and Coke Co. as of December 31, 1917, was as follows:

	Authorized	Outstanding
Preferred	\$2,000,000	\$2,000,000
Common	3,500,000	3,000,000

The preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum, and dividend payments at this rate have been made since the Company's organization. Dividend payments are made quarterly, on February 1, May 1, August 1 and November 1. The preferred stock also has preference as to assets in case of liquidation. It is subject to redemption on any dividend date at 115 and accrued dividends.

All of the outstanding common stock, except directors' shares, is owned by the American Power and Light Co.

The Columbia Trust Co. of New York City, and the Security Savings and Trust Co. of Portland, Ore., are transfer agents for the stock. The Brooklyn Trust Co. of New York City and the First National Bank of Portland, Ore., are registrars.

BONDS.—The authorized and outstanding bonds

of the Portland Gas and Coke Co. as of December 31, 1917, were as follows:

	Authorized	Outstanding
First and refunding mortgage 5% bonds.....	\$15,000,000	\$6,189,000
Portland Gas Co. first mortgage 5% bonds....	750,000	371,000

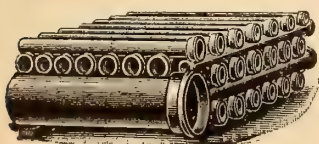
The first and refunding mortgage 5 per cent gold bonds of the Portland Gas and Coke Co. are dated January 1, 1910; due January 1, 1940; interest payable in New York on January 1 and July 1. Bonds are in coupon form, but may be registered as to principal. The denomination of the bonds is \$1,000. The United States Mortgage and Trust Co. of New York City is the trustee.

The bonds are secured by a first lien on all property, subject only, as to a part of the property, to the \$371,000 outstanding first mortgage bonds of the Portland Gas Co.

The bonds are subject to redemption at 110 and interest on or after January 1, 1920.

An improvement fund is established by the mortgage, whereby a cash fund is payable to the trustee on January 1 of each year, as follows: One per cent annually of the bonds outstanding from 1915 to 1919, inclusive; 2 per cent annually from 1920 to 1924, inclusive; 3 per cent annually from 1925 to 1939, inclusive. The maximum payment remains at 2 per cent, however, if the net earnings for the twelve months ended on November 30 of any year from 1924 to 1938, inclusive, equal or exceed three times the interest charge on all the outstanding first and refunding bonds and the first mortgage bonds of the Portland Gas Co. The improvement fund may be used either as a sinking fund for the purchase of bonds outstanding under the mortgage at not exceeding 110 and interest, or to meet the cost of permanent extensions and improvements against which no bonds can be issued.

Additional bonds may be issued for not exceeding 75 per cent of the actual cost of permanent additions, improvements, etc., provided also



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE R. D. WOOD & CO.
PHILADELPHIA, PA.

that the net earnings of the Company for twelve months within the thirteen months immediately preceding any proposed issue are at least one and three-fourth times the interest on all bonds, including underlying bonds, outstanding and then sought to be issued.

UNDERLYING BONDS.—The underlying bonds consist of Portland Gas Co. first mortgage 5 per cent gold bonds, dated August 1, 1901; due August 1, 1951. There were \$750,000 of these bonds originally issued, but \$379,000 have been pur-

chased and deposited as additional security for the first and refunding mortgage bonds of the Portland Gas and Coke Co. There are \$371,000 of the latter bonds reserved to retire the present outstanding Portland Gas Co. first mortgage bonds.

The total number of customers served by the Portland Gas & Coke Co., and the physical equipment and output of its property, as of December 31, 1917, as compared with the two previous years, follow:

	1917	1916	1915
Gas customers	50,063	45,517	43,917
Gas holder capacity.....	6,185,000	6,185,000	6,185,000
Gas output (cu. ft.) for twelve months.....	1,718,222,000	1,579,500,000	1,537,808,000
Miles of gas mains.....	1,025	916	855

CONSOLIDATED BALANCE SHEET AS OF
DECEMBER 31, 1917.

(Accounts between companies eliminated)

<i>Assets.</i>	
Plants	\$11,919,794.04
Securities of other companies....	667.67
Current assets	403,995.26
Improvement fund	65,600.00
Suspense	34,634.18
Bond discount and expense.....	253,762.19
Total.....	\$12,678,453.34
<i>Liabilities.</i>	
Capital stock:	
Preferred, 7%	\$2,000,000.00
Common	3,000,000.00
Northwest Gas Equipment Co.,	300.00
Bonds:	
First and refunding mtg. 5%...	6,189,000.00
Portland Gas Co. 1st mtg. 5%...	371,000.00
Current liabilities	*657,131.19
Reserves	247,440.15
Surplus	213,582.00
Total.....	\$12,678,453.34

* Of this amount \$70,262.76 is due American Power & Light Company.

EARNINGS.

A statement of earnings for the year ended December 31, 1917, compared with the two previous years, follows:

	1917	1916	1915
Gross earnings....	\$1,361,150	\$1,274,140	\$1,246,532
Operating expenses and taxes.....	753,398	659,394	635,276
Net earnings....	\$607,752	\$614,746	\$611,256
Interest charges..	336,015	323,227	302,202
Net income after charges	\$271,737	\$291,519	\$309,054
Preferred dividend	140,000	140,000	140,000
Balance.....	\$131,737	\$151,519	\$169,054

OFFICERS.—C. F. Adams, Chairman of the Board; Guy W. Talbot, President; F. G. Sykes A. S. Grenier, E. W. Hill, J. A. Laing, Vice-Presidents; George F. Nevins, Secretary and Treasurer; W. C. Lang, M. H. Arning and C. W. Platt, Assistant Secretaries and Assistant Treasurers.

DIRECTORS.—C. F. Adams, H. L. Corbett, E. W. Hill, D. T. Honeyman, J. A. Laing, S. Z. Mitchell, Geo. F. Nevins, R. L. Sabin, F. G. Sykes, Guy W. Talbot.

PORTLAND RAILWAY, LIGHT AND POWER COMPANY, PORTLAND, ORE.

The Portland Railway, Light and Power Co. was incorporated under the laws of Oregon in 1906. It has acquired and owns in fee all the properties and franchises formerly of the Portland Railway Co., Portland General Electric Co., and Oregon Water Power and Railway Co. In March, 1912, it acquired all the properties of the Mt. Hood Railway and Power Co. It controls, through stock ownership, the Willamette Valley Southern Railway Co. and Yamhill Electric Co. It thus owns practically all the street railways (except two interurban lines entering the city) in Portland and vicinity; practically all the plants supplying electric light and power commercially in Portland and Oregon City, Ore., and Vancouver, Wash.; gas and electric plants

in Salem, Ore.; and three interurban lines (handling freight and express as well as passengers) from Portland to Oregon City, Troutdale, Bull Run and Cazadero, Ore., and Vancouver, Wash. The total population served by the company is about 360,000.

The Company also supplies with electric power the other two interurban lines entering Portland and the street railway company of Vancouver, Wash. It also supplies direct water power to several large mills at Oregon City, and owns and operates the ferry across the Columbia River at Vancouver.

CAPITAL STOCK.—Authorized, \$25,000,000; outstanding, \$25,000,000. Divided, common, \$15.-

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES

METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for Review of Technical Paints. CHEESMAN & ELLIOT, 100 William St., New York



000,000; first preferred, \$5,000,000; second preferred, \$5,000,000.

FUNDED DEBT.—Bonds: First and refunding mortgage 5 per cent sinking fund gold (convertible issue), authorized, \$75,000,000; issued, \$17,151,000 (of which \$664,800 are in sinking fund); dated February 1, 1912; due February 1, 1942. Interest payable February 1 and August 1. Denominations, coupon bonds, \$1,000, \$500 and \$100. Denominations, registered bonds, \$1,000, \$5,000, \$10,000 and \$50,000. Coupon or fully registered bonds interchangeable. Callable as a whole after ten years, or for the sinking fund on any interest date at 105 and accrued interest. Outstanding, \$16,399,200.

SINKING FUND.—Cumulative, 1 per cent annually, 1915 to 1926, inclusive; 1½ per cent annually, 1927 to 1941, inclusive, on total amount issued.

UNDERLYING BONDS.

Portland Ry. Co. first and refunding mortgage 5s, due 1930, and underlying divisional issues (of which \$709,000 are in sinking fund)....	\$7,814,000
Portland General Electric first mortgage 5s, due 1935.....	7,769,000
City and Suburban Co. cons. 4% gold bonds, due 1930.....	1,290,000
Willamette Valley So. Ry. Co. 1st mortg. 6s, due 1939.....	750,000
*Portland Ry. Lt. & Pr. Co. 1st and refunding mtge. 5s, due 1942.....	16,399,200

* The total amount of bonds is \$75,000,000, of which \$17,151,000 are now issued; \$17,813,000 are reserved on account of an equal amount of underlying bonds, and the remaining \$40,036,000 can be issued only for 80 per cent of the cash cost of future additions, extensions or acquisitions, and only when net earnings (after allowing for maintenance at least 15 per cent of gross earnings) are at least one and one-half times interest charges on all obligations equal or senior to these bonds, including bonds sought to be issued.

CONVERTIBILITY.—The present issue of \$17,151,000 bonds is at any time convertible, at the option of the holder, into capital stock of the company at a price equal to the amount paid in on such stock plus \$10 premium per share. As the common stock is now \$75 paid on each share (\$100 par value), the present rate of conversion

would be \$85 in bonds for each 75 per cent paid up share.

SECURITY.—A first mortgage on rolling stock and 115 miles of electric railway formerly belonging to the Oregon Water Power and Railway Co., modern steam station in Portland, two water power plants on the Clackamas river, and on the valuable terminal lands of the company on the east bank of the Willamette river. A mortgage on the remainder of the property subject to the \$17,900,000 underlying mortgages above mentioned.

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Plant, property and franchises....	\$59,844,138.52
Securities owned	644,048.44
Supplies	485,862.85
Bond and note discount being amortized	257,436.81
Deferred and suspense items.....	34,688.83
Bond sinking fund investment....	1,397,317.23
Bills and accounts receivable....	1,027,188.44
Cash	92,146.64
	\$63,782,867.76

Liabilities.

Common stock	\$11,250,000.00
First preferred stock.....	5,000,000.00
Second preferred stock.....	5,000,000.00
Funded debt	38,733,000.00
Bills payable	235,890.90
Accounts payable	189,642.32
Paving assessments, payable in yearly instalments	769,830.14
Renewal and maintenance fund...	1,154,698.95
Accrued accounts	893,147.11
Surplus	556,658.34
	\$63,782,867.76

OFFICERS.—President, Franklin T. Griffith; Vice-Presidents, F. I. Fuller, H. L. Clark, E. W. Clark; Secretary and Assistant Treasurer, G. L. Estabrooks; Treasurer and Assistant Secretary, C. N. Huggins; General Superintendent, O. B. Coldwell.

DIRECTORS.—C. F. Sweigert, F. I. Fuller, C. N. Huggins, F. V. Holman, T. B. Wilcox, W. M. Ladd, J. C. Ainsworth, F. T. Griffith, Ogden Mills, Frederick Strauss, E. W. Clark, C. M. Clark, H. L. Clark.

Annual meeting of stockholders held second Wednesday in March.

EARNINGS FOR TWELVE MONTHS ENDED DECEMBER 31.

	1917	1916	Amount	Increase Per cent
Gross earnings	\$6,023,510	\$5,483,110	\$540,400	9.9
† Operating expenses, depreciation and taxes....	†3,576,593	3,038,254	538,339	17.7
Net earnings	\$2,446,917	\$2,444,856	\$2,061	.1
Interest, etc.	2,152,052	2,178,258	*26,206	*1.2
Surplus	\$294,865	\$266,598	\$28,267	10.6

† Includes \$140,707 for depreciation in addition to \$40,000 charged in the monthly statements. No depreciation included in 1916 operating expenses.

* Decrease.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ALLENTOWN-BETHLEHEM GAS COMPANY, ALLENTOWN, PA.

Allentown-Bethlehem Gas Company was incorporated December 15, 1913, under the laws of the State of Pennsylvania, as a consolidation of the following companies:

The Allentown Gas Company.
Bethlehem Consolidated Gas Company.
The Bethlehem Gas Company.
The West Bethlehem Light Company.
The Fountain Hill Gas Company.
Northampton Heights Gas Company.
Bethlehem & Saucon Gas Light Company.
South Allentown Gas Company.
Salisbury-Hanover Gas Company.
Lower Saucon-Bethlehem Gas Company.

CAPITAL STOCK.—Authorized and issued; preferred, \$350,000; common, \$850,000; shares, \$50.

FUNDED DEBT.

Allentown-Bethlehem Gas Company.—General mortgage 5 per cent 30-year gold bonds, authorized, \$3,000,000; issued, \$951,000; dated December 15, 1913, due December 1, 1943, interest payable June and December 1 at the office of the Fidelity Trust Company, Trustee, Phila. Denomination, \$1,000. Redeemable at option of Company on December 1, 1918, or any interest date thereafter at 105 per cent and accrued interest.

Allentown Gas Company.—First consolidated mortgage 5 per cent 20-year gold bonds, authorized and issued, \$500,000; dated October 1, 1904, due October 1, 1924. Subject to redemption by the Company on any interest date at 105 and accrued interest. Interest payable April and October 1, at office of Provident Life and Trust Company, Philadelphia. Denomination, \$1,000.

Bethlehem Consolidated Gas Company.—General mortgage bonds, authorized, \$500,000; issued, \$186,000; dated April 1, 1904; due April 1, 1924. Interest first 10 years, 3 per cent; next 5 years, 3½ per cent; thereafter, 4 per cent. Interest payable April and October 1; redeemable at company's option on April 1 of any year at 100 per cent and accrued interest.

OFFICERS.—President Walton Clark; Vice-Presidents, Lewis Lillie, Paul Thompson and John A. Frick; Secretary, G. W. Curran; Treasurer, James Ball; General Manager, John A. Frick.

DIRECTORS.—Samuel T. Bodine, Walton Clark, G. W. Curran, Lewis Lillie, Paul Thompson.

Annual meeting of stockholders held on the fourth Friday of January, at Allentown, Pa.

PENN CENTRAL LIGHT AND POWER COMPANY, ALTOONA, PA.

The Penn Central Light and Power Co. was incorporated May 26, 1902, under the laws of Pennsylvania, and is a consolidation of Citizens Electric Light, Heat and Power Co., Altoona, Pa.; Edison Electric Illuminating Co., Altoona, Pa.; Hollidaysburg Electric Light and Power Co., Hollidaysburg, Pa.; Huntingdon Gas Co., Huntingdon, Pa.; Wilson Electric Co., Huntingdon, Pa.; Lewistown Light, Heat and Power Co., Lewistown, Pa.; Mifflin County Gas and Electric Co., Lewistown, Pa., Mount Union Light and Power Co., Mount Union, Pa.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$2,000,000	\$1,378,000
Common stock	1,000,000	150,000

Shares—Common, \$50; preferred, \$100; Transfer agents, Day & Zimmerman, Inc.

FUNDED DEBT.—Bonds: First and refunding mortgage 5 per cent 40-year gold bonds, authorized, \$4,000,000; issued, \$2,378,500; due April 1, 1950. Interest payable April 1 and October 1 at Pennsylvania Co. for Insurance on Lives and Granting Annuities, Philadelphia, Pa. Denominations, \$1,000 and \$500; coupon. Redeemable at 105 and interest on any interest date after April 1, 1915. Trustee of bonds, Pennsylvania Co. for Insurance on Lives and Granting Annuities.

SECURITY.—First mortgage on entire property, subject to \$160,000 underlying bonds.

SINKING FUND.—One per cent of bonds annually after April 1, 1915.

A sinking fund equal to 1 per cent on all outstanding bonds becomes operative in 1923, except on such bonds as are issued for first mortgage bonds deposited under the lien of this mortgage, as said first mortgage bonds are subject to a sinking fund of 1 per cent beginning April 1, 1915.

BONDS.—First and consolidated gold 6 per cent, authorized, \$7,500,000; issued, \$2,541,000. Dated February 1, 1913; due February 1, 1963. Interest payable February and August. Coupon; denomination, \$500 and \$1,000; subject to registration as to principal. Redeemable at 105 and interest on and after February 1, 1918. Trustee of bonds, Philadelphia Trust, Safe Deposit and Insurance Co.

OFFICERS.—President, James Collins Jones, Esq.; Vice-President, Henry M. Watts; Secretary and Treasurer, John E. Zimmerman; Assistant Secretary, R. C. Shields; Assistant Treasurer, C. R. Bitting; General Managers, Day & Zimmermann, Inc., Engineers, 611 Chestnut street, Philadelphia; General Superintendent, J. H. Shearer, Altoona, Pa.

DIRECTORS.—G. H. Frazier, James Collins Jones, J. E. Zimmerman, H. Laussatt Geyelin, H. M. Watts, B. Borie, Jr., Charles Day, J. R. McAllister, F. King Wainwright and G. C. Kelchner, Altoona, Pa.

Annual meeting of stockholders held third Monday in February. Company's fiscal year ends December 31.

HUNT PIVOTED BUCKET CONVEYORS have been designed for handling coal, coke, etc., with minimum attendance and at minimum expense. Our engineers have made a special study of gas works problems, and will help you select equipment for your individual requirements. Write for Catalogue N15-4.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

COLUMBIA & MONTOUR ELECTRIC COMPANY, BLOOMSBURG, PA.

The Company was incorporated November 7, 1912, under the laws of Pennsylvania.

The Columbia & Montour Electric Company owns and operates gas, electric lighting and power properties along the north branch of the Susquehanna River, in Columbia, Montour and Luzerne Counties, Pa.; electric properties at Berwick, West Berwick, Nescopeck, Bloomsburg and Danville; gas manufacturing and distributing plants at Bloomsburg and Danville; steam and hydraulic electric generating stations; also about 30 miles of high-tension transmission lines connecting the several electric systems. The population of the territory now served is estimated at 36,487.

FRANCHISES.

The franchises under which the company operates are construed as perpetual under the Laws of Pennsylvania.

CAPITALIZATION.

First preferred stock.....	\$50,000
Second preferred stock.....	304,900
Common stock.....	900,000

First preferred stock: 5 per cent cumulative; par \$50; dividends payable February 1 and August 1. Second preferred stock: 2½ per cent cumulative until February 1, 1915, and 5 per cent non-cumulative thereafter; par \$50. Common stock: par \$50.

First Mortgage Bonds:

Authorized	1,000,000
Outstanding	601,000

Second Mortgage Bonds:

Authorized and outstanding.....	567,500
---------------------------------	---------

First mortgage, 30-year 5 per cent gold bonds, dated February 1, 1913; due 1943; denominations, \$100, \$500 and \$1,000; coupons payable February 1 and August 1, in New York; principal may be registered, subject to call, at 105 and interest. Girard Trust Company, Philadelphia, Trustee and Registrar of bonds.

Free of normal Federal income and Pennsylvania State taxes.

Second mortgage 30-year 5 per cent gold bonds; dated February 1, 1913; due February 1, 1943; interest payable February 1 and August 1 in New York. Denominations, \$100, \$500, \$1,000. Principal may be registered. Commonwealth Trust Company, Harrisburg, Pa., Trustee and Registrar of bonds. Subject to call at 105 and interest.

SECURITY.

The bonds are secured by first mortgage on the property, rights and franchises, now owned or hereafter acquired, of the Columbia & Montour Electric Company, excepting the capital stock of the North Branch Transit Company (formerly Columbia-Montour Elec. Ry. Co.), 90 per cent of which is owned, but is reserved from the lien of this mortgage. Also excepting \$23,800 underlying bonds still outstanding, for the exchange of which \$23,800 bonds of this issue mentioned above as outstanding are held by the trustee of this mortgage.

This company is controlled by Lehigh Power Securities Corporation.

PENNSYLVANIA ELECTRIC COMPANY.

Address, DuPont Bldg., Wilmington, Del.

Office of Secretary, 14 Wall Street, New York City.

Incorporated March 18, 1913, under the laws of the State of Delaware. Operates Citizens Light, Heat & Power Co. of Pennsylvania; Penn Public Service Co. and Penn Electric Service Co., Johnstown Fuel Supply Co. and Centre & Clearfield Railway Co.

CAPITAL STOCK.—Authorized, \$2,000,000 6 per cent cumulative preferred stock and \$2,700,000 common stock. Issued, \$1,100,000 preferred; and \$2,624,880 common stock. Registrar of stock, Bankers Trust Company, New York City; Transfer Agents of stock, H. D. Walbridge & Company, 14 Wall street, New York City. Par value of both issues, \$100. Preferred stock has preference as to assets and is subject to call at any dividend date at 103 upon 30 days' notice.

CONTROLLED COMPANIES.

Pennsylvania Electric Company controls, through ownership of securities as indicated, the following public utility companies: Citizens' Light, Heat & Power Co. of Pa., Johnstown, Pa., through the ownership of over 87% of its common stock; Johnstown Fuel Supply Co., Johnstown, Pa., whose entire capital stock issue is owned by Citizens' Light, Heat & Power Co. of Pa.; Penn Electric Service Co., Johnstown, Pa., through the ownership of its entire issues

preferred and common stocks and all its outstanding first mortgage bonds; Penn Public Service Co., Clearfield, Pa., through the ownership of over 99% of its common stock; Centre & Clearfield Railway Co., Philipsburg, Pa., whose entire bond and capital stock issues are owned by Penn Public Service Co.

TERRITORY AND SERVICE SUPPLIED.

Pennsylvania Electric Co., through its controlled companies, above listed, supplies the following service:

Manufactured Gas Service—To the Borough of Clearfield, Pa.

Natural Gas Service—To the City of Johnstown, Pa., and the surrounding boroughs and townships.

Electric Service—To the City of Johnstown, Pa.; the boroughs of Blairsville, Brownstown, Chester Hill, Clearfield, Cokeville, Curwensville, Daisytown, Dale, Ferndale, Franklin, Grampian, Homer City, Irvona, Indiana, New Florence, Oakhurst, Osceola Mills, Philipsburg, Raney, Rosedale, Snow Shoe, Glen Campbell, Clymer, Marion Center, Glen Hope, Burnside, Mahaffey, Seward, Somerset, South Fork, South Philipsburg, Wallacetown and Westmont, and to various



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



townships in Center, Clearfield, Indiana, Cambria and Somerset counties.

Steam Heating Service—To the City of Johnstown and the boroughs of Clearfield and Philipsburg.

Railway Service—To the various boroughs and townships along the 13 miles of railway line from Philipsburg, Pa., to Winburne.

OFFICERS.—President, H. D. Walbridge; Vice-President, J. K. Andrews; Secretary, H. S. Brown; Treasurer, F. E. Haag, all of New York City.

DIRECTORS.—H. D. Walbridge, New York City; J. K. Andrews, New York City; F. T. Hepburn, New York City; Emerson McMillin, H. S. Brown, New York City; Guy E. Tripp, New York City; H. E. Young, Baltimore, Md.; Geo. A. Rick, Reading, Pa.; W. W. White, Jr., Providence, R. I.

Principal office, Wilmington, Delaware.

Annual meeting of stockholders, fourth Tuesday of January at the principal office of the Company.

PENN PUBLIC SERVICE COMPANY, CLEARFIELD, PA.

The Penn Public Service Co. was incorporated in May, 1890, under the laws of Pennsylvania and as Citizens' Heat, Light and Power Company of Blairsville; name changed to Penn Public Service Company and Letters Patent issued January 30, 1912. Owns the entire authorized and outstanding bond issue (\$300,000) and stock issue (\$300,000) of Centre & Clearfield Railway Co., organized June 13, 1901 (re-organized December 2, 1912), operating a street and interurban railway service from Philipsburg, Pa., to Winburne, Pa., 13 miles.

TERRITORY AND SERVICE SUPPLIED.—Penn Public Service Co. and Centre & Clearfield Railway Co. supply the following service:

Gas Service—To the Borough of Clearfield, Pa.

Electric Service—To the boroughs of Philipsburg, South Philipsburg, Chesterhill, Osceola Mills, Clearfield, Grampian, Curwensville, Ramey, Wallacetown, Irvona, Indiana, Blairsville, Cokeville, Homer City, New Florence, Snow Shoe, Glen Campbell, Clymer, Marion Center, Glen Hope, Burnside, Mahaffey and Seward, and various townships and coal mining operations in Center, Clearfield, Westmoreland and Indiana counties, Pa.

Steam Heating Service—To the boroughs of Clearfield and Philipsburg, Pa.

Railway Service—To various boroughs and townships along the 13-miles line from Philipsburg, Pa., to Winburne, Pa.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$200,000	\$200,000
Common stock	1,100,000	1,100,000

Shares, \$100. Transfer agents, H. D. Walbridge & Co. Registrars, Bankers Trust Co.

Dividends on preferred stock, 6 per cent, payable quarterly.

Preferred stock, 6 per cent cumulative. Preferred stock has preference for assets, and is subject to call at any dividend date at 103.

FUNDED DEBT.—Bonds: First mortgage 50-year 5 per cent gold bonds, authorized, \$4,000,000 issued, \$2,121,000. Dated February 1, 1912; due February 1, 1962. Interest payable February 1 and August 1 at H. D. Walbridge & Co., 14 Wall Street, New York City. Denomination, \$1,000; coupon registerable as to principal. Redeemable at 30 days' published notice on any interest date at 103 and accrued interest. Trustee of bonds, Bankers Trust Co.

SECURITY.—First mortgage.

EARNINGS AND EXPENSES.—The earnings and expenses of the Penn Public Service Company and Centre and Clearfield Railway Company for the twelve months ending December 31, 1917, were as follows:

Gross earnings	\$691,965.40
Operating expenses and taxes	475,547.03

Net earnings

OFFICERS.—President F. T. Hepburn; Vice-Presidents, H. H. Weaver and J. K. Andrews; Secretary, W. O. Hoover; Treasurer, F. P. Bagley; Assistant Secretary, L. A. Wood; Assistant Treasurer, L. A. Wood; Manager, S. H. Pohe; General Auditor, F. E. Haag.

DIRECTORS.—H. D. Walbridge, W. P. Graff, H. H. Weaver, James K. Andrews, F. T. Hepburn, C. H. Rowland, P. J. Morrissey, H. S. Brown, Warren Partridge.

Annual meeting of stockholders held fourth Tuesday of January at Philadelphia, Pa. Company's fiscal year ends December 31.

COLUMBIA GAS CO., COLUMBIA, PA.

The Columbia Gas Co. was incorporated in November, 1852, under the laws of Pennsylvania.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$125,000; outstanding, \$60,000. Shares, \$25. Transfer agents, Columbia Gas Co.

FUNDED DEBT.—Bonds: First mortgage 5s. authorized, \$200,000; issued, \$75,000. Dated January 1, 1911; due January 1, 1941. Interest payable January 1 and July 1 at Farmers Trust Co., Lancaster, Pa. Denomination, \$1,000; coupon; may be registered as to principal. Re-



Williams' "Agrippa" Turning-Tool Holder
CAM LOCK, Rapid and Positive

J. H. WILLIAMS & CO., 74 Richards St., Brooklyn, N. Y.

deemable at 105 on any interest date. Trustee of bonds, Farmers Trust Co.

SECURITY.—First mortgage on entire property.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR
ENDING DECEMBER 31, 1917.

Gross earnings	\$31,483.57
Operating expenses, renewals and replacements	24,801.31
Net earnings	\$6,682.26
Fixed charges	3,882.72
Surplus	\$2,799.54

EASTON GAS WORKS, EASTON, PA.

The Easton Gas Works was incorporated in June, 1910, under the laws of Pennsylvania and does the entire gas business of Easton, Pa., and Phillipsburg, N. J.

FRANCHISES.—Two principal and perpetual.

CAPITALIZATION.

Capital Stock: Authorized, \$1,000,000; outstanding, \$469,400. Shares, \$100 par.

FUNDED DEBT.—Bonds: First consolidated 5 per cent, authorized, \$1,000,000; outstanding, \$365,000. Dated July 1, 1910; due July 1, 1950. Interest payable February 1 and August 1 at Girard Trust Co., Philadelphia, Pa. Denomination, \$1,000; coupon bonds, registerable as to principal. Callable at 105 and accrued interest

OFFICERS.—President, Wm. W. Griest; Vice-President, George Bullock; Secretary and Treasurer, John M. Groff; Asst. Secretary and Asst. Treasurer, Anna E. Ranck; Manager, R. B. Hull.

MANAGERS.—W. W. Griest, George Bullock, John Hertzler, J. S. Jenks, Jr., R. E. Griscom, J. W. B. Bausman, E. G. Connette, P. E. Slaymaker, John M. Groff, John C. Carter, H. C. Shock, D. A. Howe, T. C. Detwiler, E. S. Snyder, J. F. Sener.

Annual meeting of stockholders held first Monday in October at Lancaster. Company's fiscal year ends December 31.

on any interest date. Trustee of bonds, Girard Trust Co.

SECURITY.—First mortgage.

SINKING FUND.—For redemption of bonds, begins April, 1915.

OFFICERS.—President, R. D. Jennison; Vice-President, E. L. West; Treasurer, O. H. Oxford; Secretary, C. N. Wilson; Assistant Secretary, S. J. McWilliams; Treasurer, J. P. Campbell.

DIRECTORS.—R. D. Jennison, W. S. Barstow, J. B. Taylor, L. H. Tyng, E. L. West.

Annual meeting of stockholders held second Wednesday in February at 2 o'clock p. m. at Easton, Pa. Company's fiscal year ends December 31.

CONEWAGO GAS COMPANY, HANOVER, PA.

The Conewago Gas Company was incorporated on October 29, 1912, under the laws of Pennsylvania, and is a consolidation of Hanover Gas Co., Adams County Gas Co. and County Gas Co.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Common stock, authorized and outstanding, \$300,000. Shares, \$100.

FUNDED DEBT.—Bonds: First and refunding 5 per cent, authorized, \$500,000; issued, \$95,000, dated January 1, 1913, due January 1, 1943; interest payable January 1 and July 1, at The Mercantile Trust & Deposit Co. of Baltimore. Denomination, \$500 and \$1,000.

First mtge. 5 per cent Hanover Gas Co. bonds, authorized and issued, \$75,000, dated January 1, 1901, due January 1, 1931; interest payable January 1 and July 1. The Real Estate Trust Company of Philadelphia, Trustee. Denomination, \$500.

OFFICERS.—President, H. E. Young; Vice-President, Ward C. Haffner; Secretary and Treasurer, John S. Young; Manager and Purchasing Agent, E. E. Bair.

DIRECTORS.—H. E. Young, Ward C. Haffner, John S. Young.

Company's fiscal year ends December 31.

HARRISBURG GAS CO., HARRISBURG, PA.

Incorporated January 29, 1903, under the laws of Pennsylvania, as a consolidation of the Peoples Gas and Gaseous Fuel Co., Suburban Gas Co., and Harrisburg Light Co. The Company has also leased the Dauphin County Gas Co.

CAPITAL STOCK.—Authorized and outstanding, \$1,000,000. Shares, \$50. Annual meeting, first Wednesday in April.

FUNDED DEBT outstanding consists of \$1,536,000 (authorized \$1,750,000) first mortgage 5 per

cent gold bonds, dated February 2, 1903, due February 1, 1928; interest payable February 1 and August 1. Trustee, Harrisburg Trust Co., Harrisburg, Pa.

OFFICERS.—President, Walton Clark; Vice-Presidents, Lewis Lillie, Edw. Bailey; Treasurer, James Ball; Secretary, G. W. Curran.

DIRECTORS.—Edward Bailey, Samuel T. Bodine, Walton Clark, Paul Thompson, Lewis Lillie.

One of our five million foot holders has stood the most severe cyclones ever recorded in the United States.

R. D. WOOD & CO., PHILA., PA.



CITIZENS LIGHT, HEAT AND POWER CO. OF PENNSYLVANIA. JOHNSTOWN, PA.

The Citizens Light, Heat and Power Co. was incorporated in September 28, 1909, under the laws of Pennsylvania and is a consolidation of several gas and electric light, heat and power companies in and about the city of Johnstown, Pa.; also owns capital stock of Johnstown Fuel Supply Co., the latter being a natural gas company.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,200,000	\$1,067,700
Common stock	2,000,000	2,000,000

Shares, \$100. Registrars, Johnstown Trust Co. Dividends on preferred stock (6%) payable June 16 and December 16 at Johnstown, Pa.

FUNDED DEBT.—First mortgage 25-year 5 per cent gold bonds, authorized, \$3,000,000; issued, \$1,500,000. Dated November 1, 1909; due November 1, 1934. Interest payable May 1 and November 1 at Harris, Forbes & Co., New York City. Denomination, coupon, \$1,000; coupon registerable as to principal. Redeemable at 4 weeks' published notice after November 1, 1914, on any interest date at 105 and accrued interest. Trustee of bonds, U. S. Mortgage and Trust Co., New York City. Federal income tax paid by company.

SECURITY.—First mortgage.

SINKING FUND.—1 per cent of outstanding bonds for years 1912 to 1916; 2 per cent for 1917 to 1921, and 3 per cent thereafter.

The unissued bonds can only be issued for 75 per cent of the cash cost of permanent extension and improvements when net earnings for the preceding year are at least twice the interest on the outstanding bonds, including those proposed to be issued.

NOTES.—Five-year 5 per cent gold notes, \$300,000; dated February 1, 1915; due February 1, 1920; interest payable February 1 and August 1 at Company's office in Johnstown, Pa., or office of H. D. Walbridge & Company in New York City. Notes issued, \$100,000. Normal federal income tax is not paid by company.

EARNINGS AND EXPENSES.—The earnings and expenses of Citizens Light, Heat & Power Company of Pennsylvania for the twelve months ending December 31, 1917, were as follows:

Gross earnings	\$641,097.85
Operating expenses and taxes	498,593.17
Net earnings	\$142,504.68

OFFICERS.—President, H. D. Walbridge; Vice-Presidents, H. S. Brown; F. T. Hepburn; Secretary, W. A. Reiber; Treasurer, K. W. Hamilton; Manager, P. J. Morrissey; General Auditor, F. E. Haag; Assistant Secretaries and Assistant Treasurers, L. A. Wood and I. B. Sellers.

DIRECTORS.—H. D. Walbridge, H. H. Weaver, Jacob F. Kress, J. M. Murdock, John H. Waters, F. T. Hepburn, W. A. Reiber, H. S. Brown.

Annual meeting of stockholders held fourth Tuesday in January at Johnstown, Pa. Company's fiscal year ends December 31.

LUZERNE COUNTY GAS AND ELECTRIC COMPANY, KINGSTON, PA.

The Luzerne Co. Gas and Electric Co. was incorporated in September 22, 1908, under the laws of Pennsylvania.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$2,090,000; outstanding, \$2,090,000. Shares, \$100.

FUNDED DEBT.—Bonds: Consol. first refunding and improvement 5 per cent gold bonds, authorized, \$3,500,000; issued, including underlying company, \$2,652,000. Dated October 1, 1908; due October 1, 1948. Interest payable April 1 and October 1 at Girard Trust Co., Philadelphia, Pa. Denominations, \$100, \$200, \$500

and \$1,000; coupon, registerable as to principal. Callable on or after October 1, 1913, at 105 and interest on 60 days' notice. Trustee of bonds, Girard Trust Co., Philadelphia, Pa.

OFFICERS.—President, M. W. Stroud; Vice-President and General Manager, S. P. Curtis; Vice-President, J. C. Lowry; Secretary, W. L. Fox; Treasurer, J. B. Townsend, 3rd; Manager, A. J. Llewellyn.

DIRECTORS.—M. W. Stroud, S. P. Curtis, T. A. Fox, W. L. Fox, J. B. Townsend, 3rd.

Annual meeting of stockholders held first Tuesday in April at Philadelphia, Pa. Company's fiscal year ends December 31.

LANCASTER GAS LIGHT AND FUEL CO., LANCASTER, PA.

The Lancaster Gas Light and Fuel Co. was incorporated in June, 1876, under the laws of Pennsylvania.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$750,000; outstanding, \$650,000. Shares, \$50. Transfer agents, Lancaster Gas Light and Fuel Co.

FUNDED DEBT.—Bonds: first 5s, authorized, \$300,000; issued, \$300,000. Dated January 1, 1895; due January 1, 1925. Interest payable January 1 and July 1. at Lancaster Trust Co. Denominations, \$1,000, \$500. and \$100.; coupon (not redeemable). Trustee of bonds, Lancaster Trust Co.

SECURITY.—First mortgage on entire property.

RELIABLE

"ANGLIRON"

RANGES

Rust proof aluminum coated interiors can be furnished on "RELIABLE 'ANGLIRON'" ranges with oven rack supports and broiling pan supports of dark blue porcelain enameled steel. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Bonds: Second mortgage 5s, authorized, \$400,000; outstanding, \$100,000. Dated January 1, 1906; due January 1, 1936. Interest payable January 1 and July 1 at Lancaster Trust Co. Denomination, \$1,000. Trustees, Lancaster Trust Co.

SECURITY.—Second mortgage on entire property.

Bonds: Third mortgage 5s, authorized, \$100,000; outstanding, \$100,000. Dated January 1, 1911; due January 1, 1936. Interest payable January 1 and July 1 at Lancaster Trust Co. Denomination, \$1,000; coupon; may be registered as to principal. Redeemable at 105 and interest. Trustees, Lancaster Trust Co.

SECURITY.—Third mortgage on entire property.

OFFICERS.—President Wm. W. Griest; Vice-President, George Bullock; Secretary and Treasurer, J. M. Groff; Assistant Secretary and Assistant Treasurer, Anna E. Ranck; Manager, R. B. Hull.

DIRECTORS.—W. W. Griest, George Bullock, John Hertzler, J. S. Jenks, Jr., R. E. Griscom, J. W. B. Bausman, E. G. Connette, P. E. Slaymaker, H. C. Shock, D. A. Howe, T. C. Detwiler, E. S. Snyder, J. F. Sener, John C. Carter, John M. Groff.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$243,487.29
Operating expenses, renewals and re- placements	164,579.93
Net earnings	\$78,907.36
Fixed charges	25,272.41
Surplus	\$53,634.95

Annual meeting of stockholders held first Monday in October at Lancaster, Pa. Company's fiscal year ends December 31.

PENNSYLVANIA UTILITIES COMPANY, NAZARETH, PA.

Principal address, 50 Pine St., New York, N. Y.

The Pennsylvania Utilities Company was incorporated on October 30, 1913, under the laws of Pennsylvania, and is a consolidation of Pennsylvania Utilities Co. and Eastern Pennsylvania Power Company. Company is controlled by the Metropolitan Edison Company of Reading, Pa.

FRANCHISES.—Perpetual.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,000,000	\$800,000
Common stock	1,500,000	828,571

Registrars, Equitable Trust Co., New York. Dividend on preferred stock, annual rate, 7 per cent, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$50,000,000; issued, \$3,166,000; dated April 1, 1916; due April 1, 1946. Interest payable April 1 and October 1 at Commercial Trust Company, Philadelphia, Pa. Denominations, \$1,000, \$500 and \$100; coupon, \$1,000 registered. Redeemable at 105 and accrued interest on any

interest date at Commercial Trust Company, Philadelphia, Pa.

Ten-year 6 per cent secured gold notes, \$1,250,000 authorized and outstanding; dated May 1, 1916; due May 1, 1926. Interest payable May 1 and November 1 at Fidelity Trust Co., Philadelphia, Pa. Denominations, \$1,000, \$500 and \$100, coupons and registered. Callable \$25,000 semi-annually from May 1, 1918, for specified notes, but all or any part may be called at 101 per cent and accrued interest on any interest date.

OFFICERS.—W. S. Barstow, President; E. L. West, Vice-President; O. H. Oxford, Treasurer; C. N. Wilson, Secretary; S. J. McWilliams, Assistant Secretary; J. P. Campbell, Assistant Treasurer.

DIRECTORS.—W. S. Barstow, E. L. West, O. H. Oxford, L. H. Tyng, J. B. Taylor.

Annual meeting of stockholders held first Wednesday of August at Easton, Pa.

Company's fiscal year ends December 31.

THE AMERICAN GAS CO. OF NEW JERSEY, PHILADELPHIA, PA.

Principal office, 104 Market Street, Camden, N. J.

The American Gas Co. of New Jersey was incorporated December 12, 1892, under the laws of New Jersey, to own, construct and operate gas and electric light plants.

CAPITALIZATION.—Capital stock, authorized, \$15,000,000; outstanding, \$7,804,100. Shares \$100. Transfer agents, N. J. Corp., Guarantee and Trust Co. Registrars, N. J. Corp., Guarantee & Trust Co., Camden, N. J. Dividend on common stock, annual rate, 8 per cent, payable quarterly.

FUNDED DEBT.—Six per cent 100-year gold bonds, dated January 1, 1916; due January 1, 2016. Interest payable January 1 and July 1. Trustee, Girard Trust Co., Philadelphia, Pa.

Philadelphia office, West Washington Square.

Five per cent collateral trust convertible gold bonds, authorized....	\$4,500,000
Issued and outstanding.....	1,570,000
Converted into stock and retired.....	2,930,000
	\$4,500,000

Dated June 1, 1910; due June 1, 1920. Interest payable June 1 and December 1 at the office of trustee, Merchants Union Trust Co., Philadelphia. Denominations, \$500 and \$1,000; coupon form; can be registered. No sinking fund; no call.

Authorized and issued, \$2,000,000 two-year gold notes; dated September 1, 1917; due September 1, 1919. Merchants Union Trust Company, trustee.

WIRE YOUR ORDER. It will have prompt attention.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

APPENDIX

EARNINGS YEAR ENDING DECEMBER 31, 1917.

Subsidiary companies:		Increase
Gross earnings	\$5,287,706.92	\$795,889.19
Operating expenses	3,235,497.80	950,938.08
Operating income	\$2,052,209.12	*155,048.89
Miscellaneous income	264,623.96	136,158.90
Total income	\$2,316,833.08	*\$18,889.99
Fixed charges	1,220,178.17	110,435.10
Balance	\$1,096,654.91	*\$129,325.09
Depreciation and maintenance charges	548,518.69	*5,847.95
Net income	\$548,136.22	*\$123,477.14
Sundry income items—The American Gas Co.	426,191.51	59,423.26
Total revenue—The American Gas Co.	\$974,327.73	*\$64,053.88
Expenses:		
Interest on 6% 100-year bonds—The American Gas Co. \$180,000.00		
Interest on 5% bonds—The American Gas Co.	78,500.00	
Interest on 6% 2-year collateral notes	34,166.67	
Interest on loans	31,903.47	
General expenses of the American Gas Co.	211,109.56	
	535,679.70	149,288.88
Surplus for year	\$438,648.03	*\$213,342.76
Surplus brought forward	937,952.96	
Total	\$1,376,600.99	
Less dividends for 1917	525,005.33	
Surplus	\$851,595.66	
Insurance reserve	\$139,034.72	
Contingent reserve	187,917.79	
	326,952.51	
Total surplus	\$1,178,548.17	

* Decrease.

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Equity (over and above bonds issued in subsidiary gas and electric light plants including original cost and cash advanced for betterments, represented by the capital stock of the various companies owned by the American Gas Co. \$11,959,671.97	
Insurance fund	146,015.76
Deferred accounts	387,665.86
Capital stock held for subscription of employees	73,500.00
Sundry merchandise	2,959.42
Accounts receivable	542,228.61
Sundry investments	3,444.70
Bond investments	3,025,102.50
Cash	162,259.85

Liabilities.

Capital stock	\$16,302,848.67
Bond account:	\$7,804,100.00
5% issue	\$1,570,000.00
6% 100-year bonds	3,000,000.00
Two-year 6% collateral notes	4,570,000.00
Employees' subscriptions for capital stock	2,000,000.00
Accrued accounts	5,112.49
Bills payable	107,588.01
Insurance reserve	637,500.00
Contingent reserve	\$139,034.72
	187,917.79
	\$326,952.51
Surplus	851,595.66
	1,178,548.17
	\$16,302,848.67

Recording Calorgraph automatically and constantly records the calorific power of any gas in gross or net heat units, with 60-day or 24-hour charts. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

OFFICERS.—President, M. W. Stroud; Vice-president, J. C. Lowry; General Manager, S. P. Curtis; Treasurer and Asst. Secretary, J. B. Townsend, 3rd; Secretary, W. L. Fox; Assistant Treasurer and Assistant Secretary, Johns Hopkins; Assistant Treasurer, T. A. Fox.

DIRECTORS.—L. A. Riley, W. H. Lippincott,

J. C. Lowry, J. S. Jenks, J. S. Bioren, M. W. Stroud, Jr., C. J. Carpender, H. C. Jones, Horatio G. Lloyd, William Carpender, M. W. Stroud, Chas. H. Ludington.

Annual meeting of stockholders held first Tuesday in April at Camden, N. J. Company's fiscal year ends December 31.

THE EQUITABLE ILLUMINATING GAS LIGHT CO. OF PHILADELPHIA, PHILADELPHIA, PA.

Incorporated in 1898 to take assignment of the lease of the Philadelphia Gas Works from the City of Philadelphia to the United Gas Improvement Co.

CAPITAL STOCK.—Common, outstanding, \$3,125,000; preferred, \$3,125,000; total, \$6,250,000. Shares, \$100. Stock is transferred at Company's office, Philadelphia, Pa. Registrar, Fidelity Trust Co. of Philadelphia. Annual meeting, fourth Monday of January.

FUNDED DEBT.—Consists of \$7,500,000 first mortgage 5% 30-year \$1,000 sinking fund gold

coupon bonds, dated February 1, 1898; due January 1, 1928. Interest, January 1 and July 1 at New York Trust Co., New York, N. Y. Principal may be registered. The mortgage provides that a sinking fund of \$124,000 a year be invested, together with yearly accumulation on bonds bought, in the bonds of the Company to be purchased at 105 per cent and interest, or by drawing at that price.

OFFICERS.—President, Walton Clark; Treasurer, W. A. McEwen; Secretary, F. H. MacMorris.

DIRECTORS.—Walton Clark, Paul Thompson, David H. Lane, Lewis Lillie, W. A. McEwen.

AMERICAN UTILITIES CO., PHILADELPHIA, PA.

Principal office, 437 Chestnut Street.

The American Utilities Co. was incorporated February, 1912, under the laws of Pennsylvania, to acquire, sell and deal in bonds, stock and other securities and properties of electric power, electric lighting, gas and other public service companies.

The American Utilities Co. owns substantial blocks of securities of the following companies: American Gas Co., Citizens Gas & Electric Co., Nevada-California Electric Corporation, Standard Gas & Electric Co., Twin State Gas & Electric Co., United Light & Railways Co., American Cities Co., Central States Electric Corporation, Commonwealth Power, Railway & Light Co., Eastern Power & Light Corporation, Helena Light & Railways Co., Mobile Electric Co., North American Co., Southwestern Cities Electric Co., Utah Power & Light Co., Western Power Corporation, American Power & Light Co., Appalachian Power Co., Ft. Smith Light & Traction Co., Guanajuato Power & Electric Co., Harwood Electric Co., Northern States Power Co., American Railways National Gas Co., Lehigh Power Securities Corp., Luzerne Co. Gas & Electric Co., Montana Power Co., Municipal Service Co., United Light & Railways Co., United National Utilities Co., U. S. Public Service Co., Van Sweringen Co., West Virginia Traction & Electric Co., Standard Gas & Electric Co., Tennessee Railway, Light & Power Co., and Utah Securities Corporation.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$1,000,000	\$600,000
Common stock	1,000,000	1,000,000

Shares, \$100 par. Transfer agents, Pennsylvania Company for Insurance on Lives and Granting Annuities. Registrars, Philadelphia

Trust, Safe Deposit and Insurance Co., Philadelphia. Dividend on preferred stock, annual 7 per cent, payable February 10, quarterly.

BALANCE SHEET, JANUARY 31, 1918.

Assets.

Contracts and options.....	\$924,611.35
Securities owned at cost:	
Bonds, notes, etc.....	\$485,696.38
Stocks	665,757.92
	1,151,454.30
Interest and dividends accrued on securities owned	13,934.99
Cash on deposit	10,135.04
Total assets	\$2,100,135.68

Liabilities.

Capital stock—common	\$1,000,000.00
Capital stock—preferred	600,000.00
Notes payable	340,000.00
Accounts payable and accruals.....	31,393.92
Reserve for contingencies.....	28,741.76
Profit and loss—surplus.....	100,000.00
Total liabilities	\$2,100,135.68

NOTE.—Securities under contract for delivery to us, also securities under option and the contra items of purchase price not yet due, are not included above.

OFFICERS.—President, William P. Bonbright; Vice-Presidents, Arthur H. Lockett, Morris W. Stroud, Jr.; Treasurer and Assistant Secretary, H. H. Lowry; Secretary and Assistant Treasurer, Arthur B. Miller; Assistant Secretary and Assistant Treasurer, F. J. Hobbs.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

APPENDIX

DIRECTORS.—William P. Bonbright, Irving W. Bonbright, Walter H. Lippincott, A. H. Lockett, Wm. H. Long, H. H. Lowry, J. C. Lowry, C. H. Ludington, Abraham M. Beitler, William S. Evans, Morris W. Stroud, Morris W. Stroud, Jr. Annual meeting of stockholders held the fourth Wednesday in February at 437 Chestnut street, Philadelphia.

Company's fiscal year ends January 31.

STATEMENT OF INCOME AND PROFIT AND LOSS FOR YEAR ENDED JANUARY 31, 1918.

Income:

Interest on bonds, notes, etc.	\$23,133.49
Dividends on stocks....	29,279.38
Total income	\$52,412.87

Total income (brought forward)...	\$52,412.87
Expenses	7,590.61
Excess of income over expenses...	\$44,822.26
Interest on borrowed money—net...	12,930.49
Net income	\$31,891.77
Profit on sales of securities.....	6,332.96
Surplus at beginning of year.....	100,000.00
Gross surplus	\$138,224.73
Transferred from reserve for contingencies	3,775.27
Total	\$142,000.00
Dividends on preferred stock.....	42,000.00
Net surplus	\$100,000.00

COUNTIES GAS AND ELECTRIC COMPANY, PHILADELPHIA, PA.

Incorporated July 23, 1912, under the laws of Pennsylvania as a consolidation of:

The Conshohocken Gas Light Co.
West Conshohocken Gas Light Co.
Gas Company of Montgomery County.
Plymouth Electric Co.
Lower Providence Electric Co.
East Norriton Electric Co.
West Norriton Electric Co.
Trappe Electric Co.
Whitpain Electric Co.
Upper Merion Electric Co.
Tredyffrin Electric Co.
Collegeville Electric Light, Heat and Power Co.
Valley Forge Electric Light Co.
Upper Providence Electric Light Co.

CAPITAL STOCK.—Preferred, issued, \$2,400,000; authorized, \$2,500,000. Common, authorized and issued, \$3,000,000. Shares, \$50.

FUNDED DEBT.—Consists of the following:

Merion and Radnor Gas and Electric Co. \$1,317,000 first mortgage 5 per cent 50-year \$1,000 gold bonds, dated May 2, 1904; due May 1, 1954; interest May 1 and November 1 at Commercial Trust Co., Philadelphia, Pa., trustee. Subject to call on and after May 1, 1914, at 105 per cent and interest.

Gas Co. of Montgomery County \$480,000 first

mortgage 4 per cent 50-year gold bonds, due June 1, 1960, but subject to redemption at any interest date at 105 and interest on six months' previous notice. After June 1, 1915, the bonds will bear interest at the rate of 5 per cent per annum. Interest payable June 1 and December 1.

Bonds: General mortgage 5 per cent, authorized, \$7,500,000; outstanding, \$2,488,000 (reserved to retire underlying bonds, \$1,797,000); dated October 1, 1912; due October 1, 1962. Interest payable April 1 and October 1. Redeemable October 1, 1917, or any interest date thereafter, at 105 and accrued interest. Trustee of bonds, Commercial Trust Co. of Philadelphia.

The remaining bonds can be issued only to pay the cost of acquiring other properties, additions, betterments, etc., and only when the net earnings for the twelve calendar months preceding the issuance of escrow bonds shall be at least one and one-half times the interest charges on all outstanding bonds, including those applied for.

OFFICERS.—President, S. T. Bodine; Vice-Presidents, Walton Clark, Lewis Lillie, J. D. McIlhenny, Paul Thompson; Treasurer, James Ball; Secretary, G. W. Curran.

DIRECTORS.—S. T. Bodine, Walton Clark, Paul Thompson, Lewis Lillie, J. D. McIlhenny, Rollin Norris, C. A. Warden.

Annual meeting, third Monday in January.

THE EAST ST. LOUIS & SUBURBAN COMPANY, PHILADELPHIA, PA.

Incorporated in Delaware, January 7, 1914. A holding company having acquired title to all the properties of East St. Louis & Suburban Company (incorporated under the laws of New Jersey September 12, 1901). Owns all the outstanding capital stocks (with the exception of directors' shares) and bonds as stated of the following companies:

	Stock.	Bonds.
East St. Louis & Suburban Railway Co.....	\$3,850,000	*\$4,000,000
East St. Louis Light & Power Co.	1,100,000	.....

* Total outstanding.

	Stocks	Bonds
East St. Louis Railway Co.	1,889,700	†1,889,000
St. Louis & East St. Louis Electric Railway Co...	500,000	†500,000
St. Louis & Belleville Electric Railway Co....	.....	†750,000
Alton, Granite & St. Louis Traction Co.	3,189,000	†274,000
Alton Gas & Electric Co. Common	575,000	} †90,000
Preferred	24,000	

† Entire issue.

‡ Also \$100,000 ten-year notes.

COST METERS

American Meter Company

561 W. 47th St., New York, N. Y.

AND LARGE DIAL DEMONSTRATION DRY METERS

Both these meters should be in the gas sales and demonstration rooms of every gas company in the country. The Cost Meter shows the hourly cost in cents and tenths of a cent to operate gas appliances. The Large Dial Demonstration Dry Meter is used to show the comparative consumption between flat flame and mantle burners.

Through its subsidiaries the Company operates electric railways in East St. Louis; the only electric lines over the Eads Bridge connecting East St. Louis with St. Louis; interurban lines from East St. Louis to Belleville, Edwardsville, Lebanon, Venice, Granite City, Alton and intermediate points, and the city lines in Alton. Interurban cars from Alton are run into St. Louis through East St. Louis and over Eads Bridge, and also through Granite City and over the lines of the Illinois Traction Company. Freight, principally coal, is handled in addition to passengers on the line between East St. Louis and Belleville. The companies do the entire electric lighting and power business in East St. Louis and the electric lighting and power, the gas and steam heating in Alton.

The estimated population served is 1,025,000, including St. Louis.

STOCK.

	Authorized	Outstanding
5% cumulative pref. stock.	\$ 6,000,000	\$6,000,000
Common stock	10,000,000	6,000,000
Par value of shares, \$100.		

Of the remaining common stock, \$1,000,000 is reserved for conversion of convertible bonds, and \$3,000,000 is reserved for conversion of 5% preferred stock.

The 5 per cent cumulative preferred stock

	Stock Issued	Pledged with St. L. U. T. Co.	Bonds Issued	Pledged with St. L. U. T. Co.
East St. Louis Railway Co.....	\$1,889,700	\$1,805,500	\$1,889,000	\$1,799,000
East St. Louis & Suburban Railway Co.....	3,850,000	3,824,300	4,000,000	3,834,000
St. Louis & East St. Louis Electric Railway Co..	500,000	499,500	500,000	500,000
St. Louis & Belleville Electric Railway Co....	.....	.....	750,000	750,000
East St. Louis Light & Power Co.....	1,100,000	733,000	.....	.....

The East St. Louis & Suburban Company 6 per cent convertible bonds: Dated, January 1, 1914; mature, January 1, 1919; interest payable January 1 and July 1. Interest payable at office of Company, Philadelphia, Pa. Trustee, The Pennsylvania Co. for Insurance on Lives and Granting Annuities, Philadelphia, Pa. Denominations of \$100, \$500 and \$1,000. Form, coupon, registerable as to principal. Income tax payable by Company. Convertible before July 1, 1918, into an equal amount in face value of the 6 per cent preferred stock of the Company and 33 1/3% of common. Authorized, \$3,000,000; outstanding, \$2,094,000; reserved for issuance at any time, \$906,000. Security: Company covenants and agrees to pay principal and interest on these bonds when due, and not to create any additional secured indebtedness without providing for this issue.

EARNINGS OF OPERATING COMPANIES FOR TWELVE MONTHS ENDED DECEMBER 31.

	1917	1916
Gross earnings	\$3,692,471	\$3,027,699
Operating exp'ns and taxes	2,481,519	1,820,774
Net earnings	\$1,210,952	\$1,206,925
Interest, etc.	785,382	755,033
Surplus	\$425,570	\$451,892
Pref. stock div. paid.....	180,000	180,000
Balance (available for renewals, depreciation, financial requirements and dividends)	\$245,570	\$271,892

may be exchanged at any time for 50 per cent of 6 per cent cumulative preferred stock and 50 per cent of common stock.

The 6 per cent preferred stock will take precedence both as to dividends and assets over the 5 per cent preferred stock and the common stock.

DIVIDEND RECORD.—Regular quarterly dividends of 5 per cent per annum were paid on the preferred stock of the former New Jersey Company from May, 1906, to February 1, 1914, and on the preferred stock of the present Company from May, 1914, to February, 1915, since which time 3 per cent per annum has been paid.

FUNDED DEBT.—East St. Louis & Suburban Company 5 per cent collateral trust gold bonds: Dated, May 1, 1902; mature, April 1, 1932; interest payable, April 1 and October 1. Interest payable at St. Louis Union Trust Co., St. Louis, Mo., and E. W. Clark & Co., Philadelphia, Pa. Trustee, St. Louis Union Trust Co., St. Louis, Mo. Denomination of \$1,000. Form, coupon, registerable as to principal. Callable at 105 and accrued interest upon four weeks' notice. Income tax payable by company. Authorized, and outstanding, \$8,000,000. Security: Deposit with the St. Louis Union Trust Co. of bonds and stock as shown in following list:

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Securities and property owned....	\$23,200,785.40
Organization expense	11,323.45
Bills and accounts receivable.....	678,330.25
Deferred accounts	2,805.54
Cash	11,775.27
	<u>\$23,905,019.91</u>

Liabilities.

Capital stock—Preferred	\$6,000,000.00
Capital stock—Common	7,000,000.00
Funded debt	10,116,000.00
Bills and accounts payable.....	172,500.00
Accrued accounts	178,168.93
Profit and loss.....	438,350.98
	<u>\$23,905,019.91</u>

OFFICERS.—C. M. Clark, President; H. L. Clark, Vice-President; G. L. Estabrook, Secretary; C. A. Pearson, Jr., Assistant Secretary; T. W. Gregory, Treasurer.

DIRECTORS.—C. M. Clark, E. W. Clark, W. B. Kurtz, H. L. Clark, G. L. Estabrook, H. A. McCarthy, Clarence Sill, Jacob L. Herr, William Lilley.

MANAGEMENT.—E. W. Clark & Co. Management Corporation, Philadelphia, Pa., and Columbus, Ohio.

TRANSFER AGENTS.—E. W. Clark & Co., Philadelphia, Pa.; St. Louis Union Trust Co., St. Louis, Mo.

Annual meeting second Monday in February or within 60 days thereafter, at the office of the Company in Philadelphia.

Fiscal year ends December 31st.

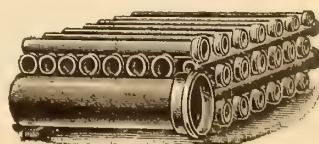
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



NEW JERSEY GAS COMPANY, PHILADELPHIA, PA.

Principal address, 104 Market St., Camden, N. J. Executive offices, 1308 Real Estate Trust Bldg., Philadelphia, Pa.

The New Jersey Gas Company was incorporated in June, 1910, under the laws of New Jersey, and is a consolidation of Pitman, Glassboro & Clayton Gas Company, East Greenwich Gas Company, Vineland Gas Company, Woodbury Heights Gas Company, Laurel Springs, Magnolia & Clementon Gas Company, Elmer Gas Company, Williamstown Gas Company, Penn Grove Gas Company, Bridgeport Gas Company, Swedesboro Gas Company—all of New Jersey.

CAPITALIZATION.—Capital stock, authorized, \$1,185,300; outstanding, \$602,487.24. Transfer Agents, New Jersey Gas Company, 104 Market street, Camden, N. J.

FUNDED DEBT.—Bonds: first mortgage, 5 per cent gold; authorized, \$2,500,000; issued, \$1,373,-

000; dated, July 1, 1910; due, July 1, 1940; interest payable, January and July 1, at Commercial Trust Company, Trustees, Philadelphia, Pa. Denominations, \$500 and \$1,000; coupon form.

SECURITY.—First lien on all property.

OFFICERS.—Vice-President, Norman Grey; Secretary and Treasurer, J. C. Lightfoot, Jr.; Manager, Charles W. Hoy, Glassboro, N. J.

DIRECTORS.—J. C. Lightfoot, Jr., Norman Grey, R. W. King, T. J. Grayson, David A. Howe, Thomas Linnenbrink.

Annual meeting of stockholders held second Wednesday in February at 104 Market street, Camden, N. J.

Company's fiscal year ends December 31.

PHILADELPHIA SUBURBAN GAS AND ELECTRIC COMPANY, PHILADELPHIA PA.

Office, West Washington Square.

The Philadelphia Suburban Gas and Electric Co. was incorporated January 29, 1910, under the laws of Pennsylvania, and is a consolidation of Suburban Gas Co. of Philadelphia, Peoples Gas Co. of Pottstown, Coatesville Gas Co., Jenkintown and Cheltenham Gas Co., Huntingdon Valley Light and Power Co., Pottstown Light, Heat and Power Co., Chester County Public Service Co., and Schuylkill Valley Illuminating Co., Phoenixville.

FRANCHISES.—Perpetual.

CAPITAL STOCK.—Common: Authorized, \$4,585,500; outstanding, \$4,585,500. Shares, \$100. Preferred stock, \$800,000.

FUNDED DEBT.—Bonds: Five per cent first and refunding mortgage, authorized, \$10,000,000; is-

sued, including merged companies' issues, \$9,982,500; dated February 1, 1910; due February 1, 1960. Interest payable February 1 and August 1 at Girard Trust Co., Philadelphia, Pa. Denominations, \$1,000 and \$500; coupon, registerable as to principal. Trustee of Bonds, Girard Trust Co., Philadelphia, Pa.

OFFICERS.—President, M. W. Stroud; Vice-Presidents, S. P. Curtis, J. C. Lowry; Treasurer and Assistant Secretary, Jos. B. Townsend, 3d; Secretary and Assistant Treasurer, W. L. Fox.

DIRECTORS.—M. W. Stroud, S. P. Curtis, John C. Lowry, T. A. Fox, W. L. Fox.

Annual meeting of stockholders held Wednesday after first Tuesday in April, at Philadelphia.

Company's fiscal year ends December 31.

THE UNITED GAS IMPROVEMENT COMPANY, PHILADELPHIA, PA.

Incorporated June 1, 1882, under the Manufacturing Act of Pennsylvania; reorganized May 8, 1885, under an old special charter, with power to construct and maintain or manage any work, and furnish all needful material, labor, implements, instruments and fixtures of any kind, and with full power and authority to hold and own securities of any form, either as collateral or otherwise, and to dispose of the same. Charter is perpetual and was originally issued to the Union Contract Co. The Company's business is the building, purchasing and leasing of gas works.

Capital stock, authorized, \$61,072,000; outstanding, \$61,029,800; shares, \$50. Transfer office, Broad and Arch streets, Philadelphia. Registrar, Fidelity Trust Co., Philadelphia, Pa. No bonds.

Extract from President Bodine's annual report to stockholders:

For the fiscal year ended December 31, 1917, the sales of the gas and electric properties in which we are interested show, in comparison with 1916:

City of Philadelphia..... 9.11% increase
Properties outside of Philadelphia:

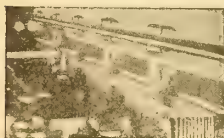
Manufactured gas	11.40% increase
Electric	20.60% increase
Natural gas	29.63% decrease

The net profits, as shown in detail in the treasurer's statement which follows, were \$5,915,505.27. Of this amount \$507,938.30 is that portion of the profit which was realized in cash during 1917 from the sale of a minority interest, purchased several years ago, in certain oil producing and refining companies whose business has changed from a domestic into an export trade and which are no longer of assistance to your company in securing a supply of gas oil. The balance of the profit from this transaction was represented by notes maturing and paid in 1918 and has been credited to this year's account, thus insuring the continuation during 1918 of the regular 8 per cent dividend, which will not be earned from regular sources, owing to the great increase in operating cost due to war conditions, and owing to the fact that our share of income from gas sales in Philadelphia was reduced on January 1, 1918, to 75 cents per 1,000 cu. ft., in accordance with the terms of the lease.

INSIDE PAINTS FOR WALLS, CEILINGS, ETC.

We have studied the various conditions to be met by paints for retort houses, purifying houses and various gas works buildings. Let us know for what service you wish to use paint and we will submit specifications.

Write for
Review of Technical Paints. Cheesman & Elliot, 100 William St., New York



STATEMENT OF ASSETS AND LIABILITIES, DECEMBER 31, 1917.

<i>Assets.</i>		<i>Liabilities.</i>	
Gas, electric, Welshbach and other properties at cost.....	\$78,922,480.27	Capital stock	\$61,029,800.00
Uncompleted construction contracts	279,069.39	Taxes (accrued but not due).....	535,000.00
Real estate, Philadelphia and elsewhere	1,048,584.10	Sundry accounts	606,693.31
Cash	4,330,466.46	Undivided profits, December 31, 1916....	\$35,415,244.73
Accounts and bills receivable....	5,457,584.00	Less extra dividend paid in year 1917..	1,110,059.00
Coupons and guaranteed dividends (accrued but not yet due).....	566,840.02		\$34,305,185.73
Storeroom material	262,404.82	Undivided profits of year 1917	1,332,750.02
Sinking fund securities.....	6,942,000.00	Undivided profits, December 31, 1917, invested as above.....	35,637,935.75
Total	\$97,809,429.06	Total	\$97,809,429.06
OFFICERS.—President, S. T. Bodine; Vice-President, Randal Morgan; Second Vice-President, Walton Clark; Third Vice-President, Lewis Lillie; Fourth Vice-President, W. F. Douthirt; Fifth Vice-President, Paul Thompson; Secretary, G. W. Curran; Treasurer, I. W. Morris.		Annual meeting, first Monday in May at Philadelphia.	
DIRECTORS.—Thomas J. Dolan, Morris L. Clothier, Randal Morgan, William Wood, E. B. Morris, E. T. Stotesbury.			

PROFIT AND LOSS ACCOUNT FOR FISCAL YEAR ENDED DECEMBER 31, 1917.

Earnings.

From leased works and from investments in stocks and bonds....	\$7,153,461.08
Sale of securities.....	508,638.30
Engineering and supervision.....	6,846.80
Interest	431,025.22
Sale of storeroom material.....	14,154.91
Rental of Broad and Tasker Streets office.....	1,600.00
Rental of offices in building Broad and Arch Streets to companies in which this company is a shareholder.....	47,718.46
Total earnings	\$8,163,444.77

Expenses.

Laboratory	\$35,345.82
Department of tests.....	29,469.01
Registration of stock.....	1,500.00
Expense of restaurant, Broad and Arch Streets, over receipts.....	16,272.45
Rental of safe deposit boxes.....	2,020.00
Construction department storeroom.....	3,331.33
Litigation, retainers, lawyers' fees, etc.....	19,940.78
Operating telephone service.....	6,157.42
Dues to trade organizations.....	2,112.00
Advertising in trade journals.....	960.13
Special advertising (annual report, etc.).....	6,230.15
Office furniture	7,790.55
Cost of operating building, Broad and Arch Streets, including taxes	83,346.40
Salaries and traveling expenses.....	555,942.53
Office supplies	17,318.31
General expenses	43,939.76
Taxes, state and federal.....	536,178.99
Insurance, taxes and maintenance of Broad and Tasker Streets office	477.85
Contribution for year 1917 to sinking funds created in 1908 to retire investments in Philadelphia gas works.....	685,000.00
Construction contracts	66,801.29
Replacement of elevators, Broad and Arch Streets	48,939.60
Bonus tax, increase capital stock.....	13,865.13
Contribution to American Red Cross war fund.....	50,000.00
Contribution to Y. M. C. A. war fund.....	15,000.00
Total expenses	\$2,247,939.50
Net profit for year 1917.....	\$5,915,505.27

**THE SCIENTIFIC SAFETY GARAGE HEATER**

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

APPENDIX

Net profit (brought forward).....	\$5,915,505.27
Dividends paid in 1917:	
January 15th	\$1,110,059.00
April 14th	1,110,059.00
July 14th	1,217,719.00
October 15th	1,218,222.00
	<hr/>
	\$4,656,059.00
Less interest adjustments on capital stock subscriptions	73,303.75
	<hr/>
	\$4,582,755.25
Balance to undivided profit account.....	1,332,750.02
	<hr/>
	\$5,915,505.27

THE SECURITIES CORPORATION GENERAL, PHILADELPHIA, PA.

New York Office, 35 Pine Street.

The Company was organized under the laws of Virginia in February, 1911, with power to hold and own securities, principally of companies operating city and interurban railways, electric light and power, gas and other public utilities.

CAPITALIZATION.

	Authorized	Issued
Preferred stock	\$5,000,000	\$2,400,000
Common stock	5,000,000	2,725,000
Dividend on preferred stock, annual rate 6 per cent, payable January, April, July, October 15.		

COMPARATIVE BALANCE SHEET AS AT JUNE 30.

Assets.

	1917	1916
Investments:		
Bonds and stocks..	\$2,766,143.64	\$2,384,320.58
Time and demand loans	348,988.21	570,864.54
	<hr/>	<hr/>
	\$3,115,131.85	\$2,955,185.12
Cash	28,220.03	113,024.36
Accounts receivable..	45,383.01	88,202.60
Accrued interest.....	18,649.26	26,783.23
Syndicate participations	28,083.33	.....
Underwriting rights and privileges.....	125,000.00	125,000.00
Organization expenses. ....	.....	4,699.96
	<hr/>	<hr/>
	\$3,360,467.48	\$3,312,895.27

Liabilities.

Collateral loans payable	\$615,135.00	\$771,300.00
Accounts payable and accruals	119,696.93	16,738.57
	<hr/>	<hr/>
	\$734,831.93	\$788,038.57

Capital:

Capital stock \$2,400,000 par value preferred and \$2,725,000 par value common stock issued under laws of the state of Virginia, for the following values:

Forward	\$734,831.93	\$788,038.57
---------------	--------------	--------------

(Forwarded)	\$734,831.93	\$788,038.57
Cash	\$1,410,000	
Securities (par value \$1,660,000)	720,000	
Underwriting rights and privileges.....	125,000	
	<hr/>	<hr/>
	2,255,000.00	2,255,000.00
Surplus	370,635.55	269,856.70
	<hr/>	<hr/>
	\$3,360,467.48	\$3,312,895.27

Contingent liability:

Note indorsed.....	\$66,225.17
Guarantee of loan secured by deposit of collateral	\$115,000.00

COMPARATIVE INCOME AND SURPLUS ACCOUNT FOR THE FISCAL YEAR ENDED JUNE 30, 1917 AND 1916.

Income Account.

	1917	1916
Income from:		
Securities and investments	\$129,099.48	\$126,286.15
Loans and bank deposits	42,120.62	24,978.49
Underwriting rights and privileges	58,137.55	104,674.03
Investment profits.....	128,904.94	90,423.10
	<hr/>	<hr/>
	\$358,262.59	\$346,361.77
Deduct interest on loans payable.....	37,729.58	14,221.60
	<hr/>	<hr/>
	\$320,533.01	\$332,140.17
Less expenses:		
Salaries and expenses..	14,879.75	9,912.05
Taxes	7,750.00	4,550.00
	<hr/>	<hr/>
	\$22,629.75	\$14,462.05

Net profit for year carried to surplus account

	\$297,903.26	\$317,678.12
--	--------------	--------------

Surplus Account.

Credit balance at beginning of year.....	\$269,856.70	\$96,961.90
Add net profit for year ended June 30.....	297,903.26	317,678.12
	<hr/>	<hr/>
(Carried forward)	\$567,759.96	\$414,640.02

HUNT PIVOTED BUCKET CONVEYORSare reducing coal and coke

handling costs in a great many of the largest gas works. Catalogue N15-4 describes the details of design, and shows a number of typical installations. Our engineers are at your service.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

Brought forward	\$567,759.96	\$414,640.02
Deduct:		
Dividends pref. stock..	\$144,000.00	\$144,000.00
Div. 1% com. stock....	27,250.00	.....
Balance organization expense written off....	4,699.96	783.32
Adjustment of tax accrual	2,400.00	.....
Reduction book value security holding.....	18,774.45	.....
	<u>\$197,124.41</u>	<u>\$144,783.32</u>
Surplus	\$370,635.55	\$269,856.70

OFFICERS.—President, P. M. Chandler; Vice-Presidents, F. W. Bacon, Geo. W. Robertson, J. K. Trimble; Secretary, W. J. Devine; Treasurer, H. Williams, Jr.

DIRECTORS.—Caldwell Hardy, Alexander J. Hemphill, Howard A. Loeb, S. Z. Mitchell, Fergus Reid, Geo. W. Robertson, F. W. Roebeling, Jr., J. G. White, P. M. Chandler, F. T. Chandler, Parmely W. Herrick, F. W. Bacon, J. K. Trimble.

Annual meeting second Wednesday in October. Company's fiscal year ends June 30.

UNITED NATIONAL UTILITIES COMPANY, PHILADELPHIA.

Principal Address: 603 Market Street, Wilmington, Del.

The United National Utilities Company was incorporated in Delaware in March, 1917, and acquired common stock of the National Properties Co., which corporation owns and controls the American Railways Co., which in turn has acquired the National Gas, Electric Light & Power Co., the Jersey Central Traction Co., the Monmouth County Lighting Co., and subsidiary companies. The company controls and operates public utilities in Pennsylvania, New Jersey, Ohio, Delaware, New York, Illinois, Virginia, West Virginia, Indiana, Michigan, Kentucky, Missouri, and Nevada.

CAPITALIZATION.—Preferred stock, outstanding, \$2,500,000; common stock, outstanding \$3,000,000. Annual dividend on preferred stock, 6 per cent.

FUNDED DEBT.—Notes, 6%, secured, authorized and issued, \$1,800,000; dated March 1, 1917; due, March 1, 1920. Interest payable March 1 and September 1. Denomination, \$1,000. Redeemable at 101 and interest on any interest date. Trustees of bonds, The Pennsylvania Co. for Insurance on Lives and Granting Annuities. Security: Deposited with the trustee, \$2,500,000 National Properties Co. common stock (entire issue) and \$570,000 American Railway Co. collateral trust 6% bonds.

For the twelve months ending December 31,

1916, the income of the several companies in this merger, available for the interest on the noted amounted to:

Dividends on preferred stock, etc....	\$528,161.78
Interest on \$1,800,000 6% notes....	108,000.00

Avail'bl for \$2,500,000 6% pref. stock.	\$420,161.78
Preferred dividend	150,000.00

Surplus	\$270,161.78
---------------	--------------

which is equivalent to 9% on the \$3,000,000 outstanding common stock.

The companies which the United National Utilities Co. is acquiring supply electric light and power to more than fifty cities and towns; gas to eleven cities and towns, and operate 623 miles of street railway. The total gross receipts of these companies for the twelve months ended December 31, 1916, were \$11,289,694.83.

OFFICERS.—President, Van Horn Ely, Philadelphia; Vice-President, Wm. C. Sproul; Secretary and Treasurer, Walter W. Perkins.

DIRECTORS.—Henry Almstedt, L. L. Dunham, Van Horn Ely, John Gribbel, Geo. A. Huhn, Jr., Winder W. Laird, Walter H. Lippincott, J. T. Lynn, Charles R. Miller, E. Clarence Miller, Alexander C. Robinson, Henry P. Scott, Wm. C. Sproul, Thomas W. Wilson.

(No 1918 report.)

THE MANUFACTURERS' LIGHT AND HEAT COMPANY, PITTSBURGH, PA.

General Offices, Columbia Bank Building.

Incorporated in April, 1903, under the laws of Pennsylvania. (For companies owned and controlled, see "Parent Companies.")

CAPITAL STOCK.—Authorized, \$25,000,000; outstanding, \$23,000,000. Shares, \$50. Transfer agents, Colonial Trust Co., Pittsburgh. Registrars, Safe Deposit and Trust Co., Pittsburgh.

The principal of total bonded and mortgage debt, direct and indirect, at the end of the year was \$1,051,000, due and payable in annual installments as follows: 1918, \$148,000; 1919, \$445,000; 1920, \$458,000.

EXTRACT FROM GENERAL MANAGER'S REPORT, 1917.

There were 158 wells drilled and 11 wells purchased, making a total of 169 wells. Of this number, 94 wells were productive of gas, 46 wells productive of oil, and 29 wells were dry

holes. Of the productive wells, 120 wells were drilled deep, and 20 wells shallow. Of the dry holes, 27 wells were drilled deep, and 2 wells shallow. During the year there were abandoned 32 wells which formerly produced gas and 2 wells which formerly produced oil. Three gas wells were sold.

On December 31, 1917, there were in operation 1,129 gas wells and 373 oil wells, making a total of 1,502 productive wells, and 65 wells in the course of drilling.

The company now holds under lease for oil and gas purposes, 336,577.866 acres of land, situate in Pennsylvania, West Virginia, Ohio, Kentucky and Kansas. Of this acreage 118,140.276 acres are operated, and 218,437.59 acres are unoperated, making an increase of 4,696.75 acres in the operated acreage and a decrease of 1,100.75 acres in the unoperated acreage.



Tycos Temperature Instruments
 INDICATING—CONTROLLING—RECORDING
 Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester, N. Y.



APPENDIX

In the past year there were laid in the several fields 57.669 miles of pipe of all sizes (2-inch and above), and there were lifted 24.852 miles of similar sizes of pipe, showing an increase of 32.817 miles.

In the city plants there were laid 25.450 miles of pipe of all sizes (2 inches and above), and there were lifted 4.725 miles of similar sizes, showing an increase of 20.725 miles, making a total of 1,756.036 miles of pipe in use in the fields and 1,027.386 miles in the city plants, making a grand total of 2,783.422 miles of pipe of all sizes (2 inches and above) in the entire plant, showing an increase for the year of 53.542 miles.

The oil production for the year ended December, 31, 1917, was 261,321.09 barrels, or a daily average of 715.95 barrels, showing an increase of 360.49 barrels per day, compared with the previous year's production.

On December 31, 1917, the company had on its books a total of 109,371 meter accounts, of which 108,457 are domestic accounts, showing an increase for the year of 5,003 domestic accounts.

The physical condition of the property is being maintained, and such additions and betterments as are needed from time to time are being installed. The various compressing stations, machine shops, etc., are being kept in a high state of efficiency and are rendering excellent service.

During the year 1917, the company disposed of 3,982 acres of leaseholds, together with 3 small gas wells. This territory is located in Marion and Monongalia Counties, West Virginia, and is scattered through several districts. It being located at a considerable distance from the present lines of the company, and the results obtained in the wells drilled such as to indicate that it would be unprofitable to extend the lines and make the investments necessary to operate the territory, it was deemed advisable to dispose of it.

During the year 1917, 4 gasoline plants were installed and are now in operation, the combined output of which at the present time is approximately 10,000 gallons per day.

CONSOLIDATED STATEMENT OF INCOME AND CORPORATE SURPLUS FOR YEAR ENDED DEC. 31, 1917.

Gross Earnings:	
Gas	\$7,855,251.13
Oil	967,554.35
Water	2,709.78
Gasoline	223,585.19
Miscellaneous	73,117.53
Total gross earnings.....	\$9,122,217.98
Operating Expenses and Taxes:	
Operating expense, drilling new wells, gas purchased, etc.	\$5,125,442.81
Taxes	537,765.42
Total	5,663,208.23
Net earnings from operations....	\$3,459,009.75
Other Income:	
Interest earnings and dividends on stock owned	58,493.97
Gross income	\$3,517,503.72

Gross income (brought forward) ..	\$3,517,503.72
Deductions from Income:	
Interest on bonds	69,200.33
Net income	\$3,448,303.39
Profit and loss debits.....	182,459.92
Gross surplus	\$3,265,843.47
Dividends on capital stock.....	2,300,000.00
Net surplus before deducting reserve for depreciation and depletion	\$965,843.47
Reserve for depreciation and depletion	944,121.86
Net surplus for the year.....	\$21,721.61
*Corporate surplus, Dec. 31, 1916 (See Note)	\$8,292,161.21
Corporate surplus, Dec. 31, 1917....	\$8,313,882.82

CONSOLIDATED GENERAL BALANCE SHEET, DECEMBER 31, 1917.

ACCOUNTS BETWEEN COMPANIES ELIMINATED.

Assets.

Investments (property and stock in other companies)	\$41,457,053.34
Incomplete investment.....	741,895.56
Material and supplies on hand (includes oil unsold)	1,178,017.44
Treasury stock	469,600.00
Cash	928,892.05
Bills receivable	8,324.12
Employes bond subscription.....	10,382.42
Accounts receivable	1,170,074.48
Deposited with banks to pay bonds and coupons	137,380.00
Total	\$46,101,619.41

Liabilities.

Capital stock authorized \$25,000,000	
Capital stock unissued..	2,000,000
Capital stock outstanding.....	\$23,000,000.00
Bonds	1,051,000.00
Current vouchers and accts pay'bl	702,573.90
Accrued interest and taxes.....	490,393.56
Security deposits	225,244.55
Dividends payable Jan. 15, 1918..	460,000.00
Bonds and coupons paid—Not returned by trustee	137,380.00
Reserve for depreciation and depletion	11,721,144.58
*Corporate surplus	8,313,882.82
Total	\$46,101,619.41

*Corporate surplus account includes contingent surplus to adjust book values.



WILLIAMS' "Agrippa" THREADING-TOOL HOLDER

The Threading Tool with lockable-spring head will do roughing, finishing and threading at one setting in the tool post.

J. H. WILLIAMS & CO., 74 Richard St., Brooklyn, N. Y.

OFFICERS.—President, John E. Gill; Vice-Presidents, L. A. Meyran, J. I. Buchanan; Secretary and Assistant Treasurer, H. E. Seibert; Treasurer, G. W. Ratcliffe; Auditor, F. C. Leslie; General Manager, T. O. Sullivan; Assistant Manager, M. B. Layton.

DIRECTORS.—E. H. Jennings, P. C. Beers, L. A. Meyran, William Flinn, John W. Donnan, J. W. Gill, Fred. N. Chambers, A. E. Succop, Jas. P. Eagleson, John E. Gill, J. I. Buchanan, C. F. Niemann.

PHILADELPHIA COMPANY, PITTSBURG, PA.

The Philadelphia Co. was organized in 1871 and is to-day one of the largest public service corporations in the United States, being engaged—either through direct operation or stock ownership—in supplying gas (natural and artificial), electric light and power and street railway services in the City of Pittsburgh and district, serving a population in excess of 1,100,000.

Companies controlled by the Philadelphia Co. supply the whole of the artificial gas, over 96 per cent of the electric light and power, and operate the entire street railway system in the City of Pittsburgh, with lines extending into neighboring boroughs and counties, the whole system comprising some 650 miles of track.

In addition, the Company produces, transports and sells natural gas, owning directly or through stock ownership, gas rights in 641.868 7/10 acres and it sold during the financial year ending March 31, 1917, over 48,120,896,100 cu. ft. of natural gas to 139,199 domestic and 427 industrial consumers.

Computations made by independent engineers value the amount of gas estimated to be contained in the above acreage at the present selling price thereof in excess of \$240,000,000.

The Philadelphia Co. and the companies it controls are operated under franchises, which, with some unimportant exceptions, are either perpetual or were granted for 999 years.

CAPITALIZATION AND FUNDED DEBT.

The Company has now outstanding—	
5% first mortgage and 5% consolidated mortgage bonds, maturing 1949 and 1951.....	\$21,648,000
6% collateral gold notes, maturing Feb. 1 and Aug. 1, to Aug. 1, 1918	500,000
5½% two year collateral gold notes, maturing April 2, 1919.....	7,000,000
5% debentures, maturing 1919 (convertible into common stock).....	1,957,000
*5% convertible gold debentures of 1912	9,794,000
5% non-cumulative preferred stock..	1,442,450
6% cumulative preferred.....	6,763,550
Common stock	42,943,000

Of the above, the mortgage bonds cannot be increased beyond the aggregate amount of \$22,000,000. The \$1,957,000 5 per cent debentures are the unconverted balance of an original \$5,000,000. No more thereof can be issued, and an equivalent amount of common stock is reserved for their conversion.

Since 1900, annual dividends on the common stock have been regularly paid of not less than 5 per cent, increasing in 1902 to 6 per cent, in 1910 and 1911 to 6 per cent, plus 1 per cent bonus in each year, and in August, 1912, to a dividend at the rate of 7 per cent per annum.

*Bonds: Convertible 5 per cent gold debenture, authorized, \$10,000,000; outstanding, \$9,794,000; dated May 1, 1912; due May 1, 1922. Interest payable May 1 and November 1 at New York or London. Denominations, coupon, \$1,000, or £205 15s. 2d., with privilege of registration as to principal. Redeemable at the option of the Company on any interest date upon forty-five days' notice, at 102½ and accrued interest. Trustee of bonds, New York Trust Co., New York. Convertible after January 31, 1913, at any time prior to maturity or the date by call for redemption, into an equal amount in par value of Philadelphia Co. 6 per cent cumulative preferred stock.

The proceeds of these debentures are to be utilized as follows:

Six millions of dollars, or so much thereof as may be necessary, to be applied to the improvement, betterment or extension of the facilities of the street railway system owned by the Company, and the remainder of such proceeds to the acquisition of additional electric light and power properties and the extension and improvement of the facilities of the light and power system controlled by the Company; which several acquisitions, extensions and improvements are expected to result in large additional earnings. With this object in view, the Company has purchased, or contracted to purchase, light and power plants to be paid for out of the proceeds of the debentures, at a cost of \$2,525,000.

The stockholders have also authorized an issue of \$25,000,000 6 per cent cumulative preferred stock (preferred as to capital and dividend), of which \$10,000,000 is to be reserved for the conversion of the \$10,000,000 5 per cent convertible debentures; of the balance, \$6,000,000 is held in reserve for the conversion of the existing 5 per cent non-cumulative preferred stock (preferred as to dividend only) upon such terms as the Directors may determine, and the remaining \$9,000,000 is reserved for future issue.

The Company pledges itself not to create any class of stock ranking with or prior to the above 6 per cent cumulative preferred stock, without the consent of the holders of two-thirds of the amount of such stock outstanding.



HOLDERS, PLATE WORK, PIPE

R. D. Wood & Co., Phila., Pa.



PHILADELPHIA CO. (INCLUDING PHILADELPHIA CO. OF W. VA., EQUITABLE GAS CO., MONONGAHELA NATURAL GAS CO., AND PITTSBURGH AND WEST VIRGINIA GAS CO.), INCOME AND PROFIT AND LOSS ACCOUNT FOR YEAR ENDED MARCH 31, 1917.

Gross earnings	\$9,210,148.17
Operating expenses and taxes.....	4,093,992.12
Net earnings	\$5,116,156.05
Other income	2,830,882.00
Total income	\$7,947,038.05
Deductions from income	332,611.68
	\$7,614,426.37
Fixed charges	1,796,498.62
Net inc'm after ded. fixed charges.	\$5,817,927.75
Other deductions	1,426,177.87
Net income for year	\$4,391,749.88
Balance, April 1, 1916.....	\$7,110,750.21
Additions to surplus.....	35,457.00
Gross surplus	\$11,537,957.09
Deductions, dividends, etc.....	3,482,415.56
Balance, March 31, 1917.....	\$8,055,541.53

In the above statement, all inter-company transactions have been eliminated.

OFFICERS.—President, James H. Reed; Vice-President, James D. Callery; Secretary, W. B. Carson; Assistant Secretary, J. L. Foster; Treasurer, C. J. Braun, Jr.; Assistant Treasurer, J. W. Murray; Controller, C. S. Mitchell; General Manager, Joseph F. Guffey; General Superintendent, W. L. McCloy; General Purchasing Agent, J. H. Reed, Jr.; General Contracting Agent, S. B. Stewart.

DIRECTORS.—James H. Reed, James D. Callery, H. J. Bowdoin, Geo. E. McCague, Edwin W. Smith, Charles Hayden, Geo. S. Davison, Moritz Rosenthal, Russell H. Boggs, Mason B. Starring, Albert H. Wiggin, B. S. Guinness.

Annual meeting of stockholders held first Monday in June.

Company's fiscal year ends March 31.

CONSOLIDATED BALANCE SHEET, MARCH 31, 1917.

<i>Assets.</i>	
Property and plant	\$37,803,937.90
Stock and bonds of Philadelphia Co. in treasury	88,054.36
Stock and bonds of other companies	55,166,075.02
Affiliated companies	7,206,860.56
Current and working assets:	
Cash at bank and on hand	\$1,026,248.01
Special deposits	17,797.04
M'tgs receivable	2,075.00
Notes receivable	1,500.00
Accts. receivable....	681,432.39
Mats. and supplies..	664,145.49
Unexpired insurance	9,675.82
Prepaid int. and t'xs	7,793.05
	2,410,666.80
Deferred accounts	852,543.56
Excess of book value over par value of common capital stocks eliminated herein	4,054,539.00
Total	\$107,582,677.20
<i>Liabilities.</i>	
Capital stock	\$51,149,000.00
Funded debt	35,199,000.00
Affiliated companies	3,611,496.84
Current liabilities:	
Notes payable	\$3,700,000.00
Accounts payable ...	975,426.32
Unpaid dividend scrip, called Feb. 2, 1916	2,247.04
	4,677,673.36
Accrued liabilities, not due:	
Taxes	\$250,588.69
Rental	5,000.00
Interest on bonds	340,875.00
Interest on gold debentures and notes....	227,850.00
Interest on current liabilities	55,280.61
Consolidated Gas Co. guarantee	13,286.00
Reserved for dividends on pref. stock	175,098.95
	1,067,979.25
Contingent reserve	564,642.75
Invested surplus (The Philadelphia Co. of West Virginia)	3,257,343.47
Profit and loss—Surplus.....	8,055,541.53
Total	\$107,582,677.20

UNION NATURAL GAS CORPORATION, PITTSBURG, PA.

Incorporated in May, 1902, under the laws of Delaware. (For companies controlled and operated, see "Parent companies.")

CAPITALIZATION.—Capital stock, authorized \$10,000,000, outstanding \$9,840,000. Shares, \$100. Transfer Agent, company. Registrar, Colonial Trust Company, Pittsburgh, Pa. Dividend on stock, annual rate 10 per cent, payable quarterly—January, April, July, October.

FUNDED DEBT.—Bonds: Collateral trust gold 6s; authorized \$6,000,000, outstanding \$3,156,000,

in treasury, \$1,344,000, retired \$1,500,000. Dated April 1, 1913; due \$500,000 annually to 1926. Interest payable April 1 and October 1 at Colonial Trust Company, Pittsburgh, Pa., trustee. Denomination coupon, \$1,000; registerable as to principal.

Interest paid without deduction for normal income tax.

Bonds of underlying companies outstanding amount to \$1,004,000, of which \$345,000 are in the treasury.

RELIABLE
COMBINATION
GAS AND COAL
RANGES

Have you seen them? You will be agreeably surprised at their beautiful appearance and improved and durable construction. Order that sample now.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

EXTRACT FROM ANNUAL REPORT TO STOCKHOLDERS
FOR YEAR ENDED DECEMBER 31, 1917.

Since the last annual report, your company, through its underlying companies, has acquired 228,046.41 acres of new oil and gas leases and surrendered 52,995.50 acres that have proven unproductive, and now holds 631,429.23 acres. In addition, your company owns a one-half interest in 137,669.90 acres in West Virginia through its ownership of stock in the Reserve Gas Company.

During the year your company drilled 205 wells, of which 38 were oil wells, 113 were gas wells and 54 were unproductive. In addition to this 5 gas wells and 3 oil wells were purchased, making a total of 150 oil wells in Ohio and 959 gas wells in Ohio and Pennsylvania, and through its ownership of stock in the Reserve Gas Co., a one-half interest in 640 gas wells and 5 oil wells in West Virginia.

There were laid in field lines 58.23 miles; in extensions in cities and towns, 25.59 miles; a total of 83.82 miles of pipe.

The principal part of the investment during the year was: (a) The construction of 4.65 miles of 16 in. and 6.27 miles of 12 in.; 4.97 miles of 10 in.; 1.06 miles of 8 in., and 15.21 miles of 6 in. pipe lines, made necessary to reach new developments in the Ashland-Lorain field,

Ohio, and in Jefferson County, Pennsylvania. (b) The installation of a new unit, 1,425 h. p., twin tandem gas engine gas compressor at Pavonia Station, and the partial construction of a new gas compressing station at Avon, Lorain County, Ohio, of 2 units, 425 h. p. single tandem gas engine gas compressors. (c) The construction of two purifying plants at Avon and Bangs Station, O., and additions to the plants at Pavonia Station, O., and McKinley Station, Pa. (d) The purchase of 5 gas wells and leases in Ashland and Richland counties, O., 1 oil well in Ashland County, O., and 2 oil wells in Hocking County, O. (e) The purchase of distributing plants at Birmingham and Utica, O. The total investment for the year was \$1,772,003.02.

The operations of The Preston Oil Company have been successfully continued throughout the year, a net daily average of 708 barrels having been maintained.

NUMBER OF CONSUMERS.

Total consumers, January 1, 1917.....	162,584
New consumers taken on in 1917.....	4,274
	<u>\$166,858</u>
Total, close of 1917, domestic.....	164,509
Total, close of 1917, special.....	2,349
	<u>166,858</u>

STATEMENT OF INCOME AND PROFIT AND LOSS FOR THE YEAR 1917.

Gross Earnings:

Gas, etc.	\$7,240,158.90
Oil (258,434.15 barrels)	836,453.94
	<u>\$8,076,612.84</u>

Operating Expenses:

Gas purchased	1,653,860.83
Operating expenses, rentals, royalties, etc.	1,869,714.23
Drilling, 162 gas wells.....	521,190.90
Taxes—Property, etc.	410,070.22
Taxes—War income and excess profits.....	471,746.93
	<u>4,926,583.11</u>

Net earnings from operations.....	\$3,150,029.73
-----------------------------------	----------------

Other Income:

Interest earnings, dividends on stocks owned, etc.	424,647.36
---	------------

Gross income	\$3,574,677.09
--------------------	----------------

Deductions from Gross Income:

Interest on funded and current debt.....	266,812.41
--	------------

Net income	\$3,307,864.68
------------------	----------------

Profit and loss credit adjustments.....	29,512.06
---	-----------

Gross surplus	\$3,337,376.74
---------------------	----------------

Dividends declared during year 1917.....	984,000.00
--	------------

2,353,376.74

Reserved for depreciation on property.....	858,187.51
--	------------

Net surplus for the year.....	\$1,495,189.23
-------------------------------	----------------

Of the gas purchased over 81 per cent was purchased from Reserve Gas Company.

You can shut off any size gas main in half a minute with a GOOD-MAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

APPENDIX

CONSOLIDATED BALANCE SHEET, DECEMBER 31, 1917.

*Assets.**Investment:*

Plant, stocks, liberty loan bonds, etc.....	\$27,403,164.60
Material and supplies.....	881,924.92
Cash	270,301.46
Notes and accounts receivable.....	1,124,581.21
Special deposits	11,127.50
Prepaid rentals, insurance, etc.....	125,960.06
Deferred charges	70,209.76

Liabilities.

Capital stock	\$10,000,000.00	
Capital stock cancelled.....	160,000.00	
Capital stock outstanding.....		\$9,840,000.00
Bonds:		
Union corporation	\$4,500,000.00	
Less in treasury	1,344,000.00	3,156,000.00
Affiliated companies	1,004,000.00	
Less in treasury.....	345,000.00	659,000.00
Notes payable.....		958,200.00
Accounts payable		560,942.64
Matured bonds and coupons.....		5,055.00
Dividends payable January 15, 1918.....		246,000.00
Accrued interest and taxes.....		791,566.73
Deferred credits		35,357.76
Reserved for workmen's compensation.....		13,047.88
Reserved for depreciation		5,903,810.69
Surplus—Dec. 31, 1916.....	\$6,063,602.97	
Plant appraisal adjustment, etc....	159,496.61	6,223,099.58
Surplus for year 1917.....		1,495,189.23
Totals		\$29,887,269.51

OFFICERS.—President and General Manager, E. P. Whitcomb; Vice-President, S. Y. Ramage; Secretary and Treasurer, W. R. Hadley; Assistant Secretary and Assistant Treasurer, Geo. R. Brink; Auditor, A. J. Newman; Asst. Gen. Manager and purchasing Agent, A. A. Armstrong.

EXECUTIVE COMMITTEE.—E. P. Whitcomb, W. W. Splane, S. Y. Ramage.

DIRECTORS.—A. A. Armstrong, E. P. Whitcomb, H. McSweeney, Jos. Seep, S. Y. Ramage, P. W. Luper, W. W. Splane, Harry W. Davis, Robert Law, Jr.

Annual meeting of stockholders held fourth Tuesday in February. Company's fiscal year ends December 31.

EASTERN PENNSYLVANIA RAILWAYS CO., POTTSVILLE, PA.

Principal address: 43 Exchange Place, New York.

The Eastern Pennsylvania Railways Co. was incorporated in November, 1891, under the laws of Pennsylvania, and controls Eastern Pennsylvania Light, Heat & Power Co., Pottsville Union Traction Co., and Tumbling Run Park Association.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Preferred stock, 5 per cent. cumulative convertible, authorized, \$1,000,000; outstanding \$946,820. Common stock, authorized, \$5,000,000; outstanding, \$4,000,000. Shares \$100. Transfer agents, Maitland, Coppel & Co. Registrars, Central Trust Co. of New York. Dividend on preferred stock, annual rate 5 per cent.

FUNDED DEBT.—Bonds, first mortgage 30-year gold, authorized \$6,000,000, outst'g. \$4,446,500. Dated July 1, 1906; due July 1, 1936. Interest payable January and July at Central Trust Co.,

New York. Denominations, \$500 and \$1,000. Registered and coupon interchangeable. Redeemable at 110 and interest on 60 days' notice at Central Trust Co. Security, entire railway property, through ownership of stocks. First mortgage subject to \$394,000 divisional bonds. Tax free in Pennsylvania. No sinking fund.

INCOME ACCOUNT, YEARS ENDING DECEMBER 31.

	1916	1917
Total earnings (electric railway, gas and park).....	\$923,831	\$995,183
Operating expenses and taxes	591,466	680,593
Net earnings	\$332,365	\$314,590
Fixed charges	240,537	256,085
Surplus	\$91,828	\$58,505

Test Meters, steel cases, with capacities from 1/10 to 1 cubic foot per revolution, reading fractional quantities direct and adding up and indicating large volumes. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

OFFICERS.—President, J. H. Pardee; Vice-Presidents, R. Walter Leigh, Joseph R. Choate; Secretary and Treasurer, T. W. Moffatt; Manager, L. S. Cairns.

DIRECTORS.—Herbert Coppel, Philip G. Gossler, R. Walter Leigh, J. G. White, J. H. Par-

dee, Jos. K. Choate, L. A. Riley, Herbert H. Dean, S. L. Selden.

Annual meeting of stockholders held second Wednesday in March at Pottsville, Pa. Company's fiscal year ends December 31.

SCHUYLKILL COUNTY LIGHT & FUEL CO., POTTSVILLE, PA.
(Principal address, 1308 Real Estate Trust Building, Philadelphia, Pa.)

The Schuylkill County Light and Fuel Co. was incorporated under the laws of Pennsylvania. Controls the Schuylkill Valley Gas Co. and Pottsville Gas Co. through ownership of capital stock.

CAPITALIZATION.
Preferred stock none
Common stock \$1,000,000 \$500,000
Shares, \$50. Transfer agents, company.
Registrars, none.

FUNDED DEBT.—Bonds: First mortgage 5s. authorized \$350,000; issued, \$350,000; dated

January 1, 1903; due January 1, 1933; interest payable January and July 1 at Real Estate Trust Co., Trustee, Philadelphia. Denomination, \$1,000. Principal may be registered.

OFFICERS.—President, T. J. Grayson; Secretary and Treasurer, J. C. Lightfoot, Jr.

DIRECTORS.—T. J. Grayson, J. C. Lightfoot, Jr., H. A. Treat.

Annual meeting of stockholders held first Monday in May at Pottsville.

Company's fiscal year ends December 31.

PENNSYLVANIA LIGHTING COMPANY, SHAMOKIN, PA.

The Pennsylvania Lighting Co. was incorporated in 1910 under the laws of Pennsylvania and is a consolidation of Shamokin and Coal Township Light, Heat and Power Co., the Coal Township Gas Co. and the Coal Township Light, Heat and Power Co.

FRANCHISES.—No limit to electric light franchise; gas franchise runs to 2006.

CAPITALIZATION.
Preferred stock Authorized \$200,000 Outstanding \$200,000
Common stock 1,000,000 1,000,000
Shares, \$100 each. Transfer agents, Real Estate Trust Co., Philadelphia. Registrars, Commercial Trust Co.

FUNDED DEBT.—Bonds: First mortgage gold 5 per cent, authorized, \$2,500,000; issued, \$827,000; dated July 1, 1910; due July 1, 1940. Interest payable January 1 and July 1 at Commercial Trust Co., Philadelphia. Denomination, \$1,000; coupon, with privilege of registration as to principal. Redeemable at 105 and interest on any interest date after July 1, 1915. Trustee of bonds, Commercial Trust Co., Philadelphia.

SECURITY.—First mortgage; no underlying liens.

SINKING FUND.—One per cent of par value of all bonds outstanding each year after 1915.

OFFICERS.—President, P. M. Chandler; Vice-Presidents, Frank P. Llewellyn, J. K. Trimble; Secretary, W. J. Devine; Assistant Secretary, R. H. R. Toland; Treasurer, H. Williams, Jr.; Manager, J. A. Britton.

DIRECTORS.—Frank P. Llewellyn, F. W. Bacon, C. C. Leader, M. E. Barr, P. M. Chandler, J. K.

Trimble, George deB. Keim, Howard A. Loeb and H. Williams, Jr.

Annual meeting of stockholders held second Monday in February at Shamokin, Pa.

Company's fiscal year ends December 31.

BALANCE SHEET, DECEMBER 31, 1916.

<i>Assets.</i>	
Property investment	\$2,046,422.39
Current assets	139,290.32
Accrued int. receivable.....	520.83
Prepaid and deferred items.....	2,569.47
Misc. assets	10,135.43
Prepaid insurance	716.67
	\$2,198,662.37
<i>Liabilities.</i>	
Capital stock	\$1,200,000.00
First mortgage 5s.....	834,000.00
Current accrued liabilities.....	32,582.99
Reserve for depreciation.....	41,229.12
Surplus	90,850.26
	\$2,198,662.37

**COMPARATIVE STATEMENT OF EARNINGS FOR
TWELVE MONTHS ENDING DECEMBER 31.**

	1915	1916
Gross earnings	\$154,172.43	\$170,092.26
Operating expenses.....	55,339.57	63,465.61
Net operating revenue...	\$98,832.86	\$106,626.65
Miscellaneous income....	4,239.00	4,049.60
Total net income.....	\$163,071.86	\$110,676.25
Taxes, int. & depreciation	53,090.26	54,881.96
Surplus	\$49,981.60	\$55,794.29

NORTHUMBERLAND COUNTY GAS & ELECTRIC COMPANY, SUNBURY, PA.

Incorporated September 20, 1911, under the laws of the State of Pennsylvania. Is a consolidation of several gas and electric companies in Union, Snyder, Lycoming and Northumberland Counties, Pa.; owns the capital stock of Northumberland Gas, Heat & Fuel Company, Sunbury, Pa.

FRANCHISES.—Perpetual.

CAPITAL STOCK.—Authorized and outstanding 5 per cent cumulative preferred, \$350,000. Authorized \$1,000,000; outst'g., \$800,000 com. stock. Par value of both issues, \$50. Transfer agent and Registrar, Philadelphia Trust, Safe Deposit & Insurance Company, Philadelphia, Pa.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street **PHILADELPHIA, PA.**

Dividends on preferred stock payable yearly. If dividends of 5 per cent shall be paid upon preferred and also upon common stock then preferred shall share equally with common in further dividends until both shall have received dividends of 7 per cent, whereupon further dividends shall be upon the common stock only.

BONDED DEBT.—First mortgage 5 per cent sinking fund gold bonds, dated October 2, 1911; due September 1, 1946. Interest at 5 per cent per annum, payable March 1 and September 1 at the office of Henry & West, Philadelphia, Pa.

Coupon, denominations \$500 and \$1,000. Trustee and registrar of bonds, Philadelphia Trust, Safe Deposit & Insurance Company, Philadelphia, Pa. Bonds redeemable on any interest due date at 105 and accrued interest upon eight weeks' published notice. Authorized issue, \$2,000,000; issued, \$1,051,500.

Normal Federal income tax paid by company.

Annual meeting of stockholders second Tuesday in January.

This company is controlled by Lehigh Power Securities Corporation.

CHESTER COUNTY GAS COMPANY, WEST CHESTER, PA.

Incorporated November 10, 1905, under the laws of Pennsylvania, as a consolidation of Chester County Gas Co., Chester County Fuel Gas Co., Malvern Gas Light Co., Interborough Gas Co., Gas Company of West Chester, and Downingtown Gas Co.

CAPITAL STOCK.—Authorized, \$500,000; issued, \$300,000. Shares, \$100.

FUNDED DEBT.—Outstanding, consists of the following: \$350,000 (authorized \$500,000) first consolidated mortgage 5 per cent 20-year gold

bonds, due December 1, 1925; interest June and December 1, at office of the trustee, Chester County Trust Co., West Chester, Pa. The bonds are subject to redemption at 102½ and interest on sixty days' notice, on any interest date.

OFFICERS.—President, Walton Clark; Vice-Presidents, Lewis Lillie, Paul Thompson; Treasurer, James Ball; Secretary, G. W. Curran.

DIRECTORS.—Samuel T. Bodine, Walton Clark, G. W. Curran, W. G. Gaston, Lewis Lillie, W. H. Marshall, Paul Thompson.

THE WILKES-BARRE COMPANY, WILKES-BARRE, PA.

The Wilkes-Barre Co. was incorporated in June, 1910, under the laws of Pennsylvania, and is a merger of Wilkes-Barre Gas and Electric Co., Standard Electric Co., Anthracite Electric Light, Heat and Power Co., Union Light and Power Co., and Wilkes-Barre Heat, Light and Motor Co.

FRANCHISES.—Perpetual.

CAPITAL STOCK.—Authorized, \$1,500,000; outstanding, \$1,500,000. Shares, \$50. Transfer agent, Secretary of the Wilkes-Barre Co. Registrars, Wyoming Valley Trust Co.

FUNDED DEBT.—Bonds: Gas and Electric Co. first consolidated 5s, authorized, \$3,000,000; issued, \$3,000,000; dated January 3, 1905; due January 1, 1955. Interest payable January 1 and July 1 at Fidelity Trust Co. Denomination, \$1,000; coupon. Redeemable at 110 on any interest date. Trustee of bonds, Fidelity Trust Co., Philadelphia.

SECURITY.—First mortgage on property formerly Wilkes-Barre Gas and Electric Co.

Bonds: The Wilkes-Barre Co. first and refunding 5s, authorized, \$7,500,000; issued, \$2,106,000; outstanding, \$1,772,800; dated January 1, 1910; due January 1, 1960. Interest payable January 1 and July 1 at Girard Trust Co., Philadelphia. Denominations, \$1,000, \$500 and \$100; coupon bonds; registerable as to principal and interest. Redeemable at 105. Trustees of bonds, Girard Trust Co., Philadelphia. (\$333,200 in treasury.)

SECURITY.—Second mortgage on property formerly Wilkes-Barre Gas and Electric Co.; first mortgage on balance of property.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$817,682.62
Operating expenses, renewals and replacements	476,542.76
Net earnings	\$341,139.86
Fixed charges	243,548.00
Surplus	\$97,591.86

OFFICERS.—President, W. H. Conyngham; Vice-President, E. G. Connette; Secretary and Treasurer, A. L. Minor; Assistant Treasurer, G. F. Bird; Assistant Secretary, J. A. McKenna; General Manager, E. A. Wakeman.

DIRECTORS.—W. H. Conyngham, C. B. Dougherty, Howard S. Graham, F. T. Homer, E. G. Connette, E. W. Davis, C. W. Laycock, G. Bullock, Isaac M. Thomas, R. J. Flick, J. Williamson.

EXECUTIVE COMMITTEE.—Gen. C. B. Dougherty, E. W. Davis, E. G. Connette, Geo. Bullock, C. W. Laycock.

Annual meeting of stockholders held fourth Wednesday in January at Wilkes-Barre.

Company's fiscal year ends December 31.

PROVERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our provers are the most modern and up-to-date now on the market. Our new type CUBIC FOOT BOTTLES bottle, moving tank form has been approved of by the U. S. Bureau of Standards

LEHIGH POWER SECURITIES CORPORATION, WILLIAMSPORT, PA.

Principal address, 71 Broadway, New York City.

The Lehigh Power Securities Corporation was incorporated in July, 1917, under the laws of Delaware, and controls the Lehigh Navigation Electric Company and companies formerly controlled by the Northern Central Company. The companies of the Northern Central group supply electric light and power and gas in Lycoming, Union, Snyder, Northumberland, Montour, Columbia and Luzerne counties, Pa., and gas in Williamsport, Pa., and Hagerstown, Md.

FRANCHISES.—Free from burdensome restrictions and a substantial part of them are perpetual.

CAPITALIZATION.—Capital stock (no par value), authorized 605,000 shares, outstanding 305,000 shares.

FUNDED DEBT.—Notes: Ten-year 6 per cent secured gold, authorized \$50,000,000, outstanding \$14,138,300; dated August 1, 1917; due August 1, 1927. Interest payable February 1 and August 1. Denominations, \$1,000, \$500 and \$100. Principal may be registered. Redeemable as a whole or in part on any interest date at 101 per cent and accrued interest. Guaranty Trust Company of New York, trustee. Interest payable without deduction of normal federal income tax of 2 per cent; Pennsylvania four mills tax refunded.

OFFICERS.—E. K. Hall, President; G. E. Claffin, Wm. Darbee and E. W. Hill, Vice-Presidents; A. E. Smith, Treasurer; A. C. Ray, Wm. Reiser and E. P. Summerson, Assistant Treasurers;

E. P. Summerson, Secretary; A. C. Ray, Wm. Reiser and A. E. Smith, Assistant Secretaries.

DIRECTORS.—Irving W. Bonbright, G. E. Claffin, G. M. Dahl, George H. Frazier, E. K. Hall, Alexander J. Hemphill, S. Z. Mitchell, (Chairman), Lewis E. Pierson, D. E. Pomeroy, P. B. Sawyer, A. E. Smith, S. D. Warriner, William West, C. E. Groesbeck, Col. H. C. Trexler.

EARNINGS.

The earnings of the companies controlled for the twelve months ended December 31, 1917, were as follows:

(Intergroup charges eliminated.)	
Gross earnings	\$6,991,858
Operating expenses, including taxes, maintenance and depletion charges	4,291,762
Net earnings from operation.....	\$2,700,096
Other income	133,007
Total income	\$2,833,103
Depreciation allowance	330,215
Balance	\$2,502,888
Interest charges and discounts.....	1,489,074
Balance	\$1,013,814
Proportion accruing to Lehigh Power Securities Corporation on the basis of securities owned Feb. 7, 1918....	\$933,540

BLACKSTONE VALLEY GAS AND ELECTRIC CO., PAWTUCKET, R. I.

The Blackstone Valley Gas and Electric Co., incorporated under the laws of Rhode Island, controls through stock ownership, the entire gas and electric light and power business in the Blackstone Valley of Rhode Island, including the cities of Pawtucket, Woonsocket and Central Falls, and the towns of Lincoln, Cumberland and other adjacent towns.

FRANCHISES.—In all important cases, without fixed termination.

CAPITALIZATION.

Stock.—(Shares, \$100 par.) Non-taxable in Rhode Island.

Preferred, outstanding	\$1,294,200
Unissued	55,800

Authorized (by stockholders)..... \$1,350,000
Redeemable at 115.

Preferred as to dividends and in case of liquidation.

Common, authorized, \$2,650,000, outstanding, \$2,475,000.

NOTE.—Capital stock authorized by charter, \$8,000,000. As much of the unissued stock shall

be preferred as the stockholders may determine, but the preferred stock shall not exceed 75 per cent of the total issue.

Stock registrar, American Trust Company, Boston. Transfer Agents, Stone & Webster, Boston.

DIVIDENDS.—Preferred stock, 6 per cent cumulative, payable June 1 and December 1. Common stock paid March 1, 2 per cent; June 1, 2 per cent; September 1, 2 per cent; December 1, 2 per cent.

BONDS.—First and general mortgage, 5 per cent gold, due January 1, 1939:

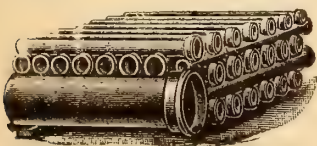
Outstanding	\$2,043,000
Treasury	50,000
In sinking fund cancelled.....	145,000
Unissued	2,762,000

Authorized

Callable as a whole or in part at 110 and interest on any interest day.

Registerable both as to principal and interest.

NOTE.—The issued bonds bear interest at the



CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

rate of 5 per cent, but the authorized and unissued bonds may bear interest at a lower rate as determined by the Board of Directors.

SINKING FUND.—1 per cent per annum of bonds outstanding, payable January 1.

Coupons, January 1 and July 1, payable at office of trustee.

Trustee and registrar of bonds, Slater Trust Company, Pawtucket, R. I.

NOTES.—Three-year 4½ per cent gold coupon notes; due April 1, 1919; authorized and outstanding, \$750,000. Callable at 100½ and interest on any interest date.

OFFICERS.—President, Frederick P. Royce; Secretary, William T. Crawford; Treasurer, Henry B. Sawyer; General Managers, Stone & Webster.

Annual meeting, second Tuesday in February.

COLUMBIA RAILWAY, GAS AND ELECTRIC COMPANY, COLUMBIA, S. C.

The Columbia Railway, Gas and Electric Co. was incorporated December 16, 1891, under the laws of South Carolina and does, without competition, all of the railway, gas, electric light and steam and hydro-electric power business in Columbia and environs.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$1,000,000	\$831,600
Common stock.....	2,000,000	2,000,000

Shares, \$100. Transfer agents, Redmond & Co., 31 Pine street, New York. Registrars, Columbia Trust Co., New York City.

Dividend on preferred stock, annual rate 6 per cent, payable quarterly.

FUNDED DEBT.—Bonds: 30-year 5 per cent first mortgage gold, authorized, \$7,500,000; issued, \$2,685,000; dated July 1, 1911; due July 1, 1936. Interest payable January 1 and July 1 at Redmond & Co., 31 Pine street, New York City. Denomination, \$1,000; coupon (registration optional). Redeemable at 105 and accrued interest on any interest date at 60 days' previous notice after December 15, 1915. Trustee of bonds, Columbia Trust Co.

SINKING FUND.—Begins December 15, 1915, 1 per cent of outstanding bonds.

SECURITY.—First lien subject to \$200,000 underlying canal bonds, to guarantee which \$200,000 mortgage bonds are reserved.

FINANCIAL STATEMENT FOR YEAR ENDING DECEMBER 31, 1916.

Gross earnings	\$918,294.69
Operating expenses	601,787.51
Net earnings	\$316,507.18
Deductions:	
Interest on bonds.....	\$147,587.78
Interest on floating debt	6,056.31
Taxes	31,927.39
	<u>185,571.48</u>
Surplus	\$130,935.70
Dividends on preferred stock.....	49,896.00
Net surplus	\$81,039.70

EARNINGS AND EXPENSES (COMBINED COMPANIES) FOR 12 MONTHS ENDING DECEMBER 31, 1917.

Gross earnings	\$1,991,843.87
Operating expenses and taxes.....	1,350,174.43
Net earnings	\$641,669.44
*Deductions	105,500.00
Balance	\$536,169.44
Interest charges	166,338.37
Balance	\$369,831.07
Sinking fund requirements.....	32,327.67
Balance	\$337,503.40
Dividends:	
Preferred stock 6%.....	\$77,652
Common stock, 8%.....	198,000
	<u>275,652.00</u>
Bal. for reserves and replacements	\$61,851.40
*Interest charges on bonds and dividends on outstanding preferred stock of the Pawtucket Gas Co. of New Jersey.	

CONDENSED BALANCE SHEET, DECEMBER 31, 1916.

Assets.

Cost of property:

Plant and franchises.....	\$359,266.51
Railway construction.....	1,067,582.55
Electric construction.....	344,902.64
Power construction.....	2,003,260.81
Gas construction.....	167,643.99
	<u>\$3,942,656.50</u>

Investments and real estate:

Parr Shoals stock.....	\$2,000,000.00
Other securities.....	346,140.00
Real estate	185,865.79
	<u>2,532,005.79</u>

Materials and supplies.....

32,493.83

Bills receivable:

Bills receivable	\$170,064.16
Parr Shoals account	123,592.30
	<u>293,656.46</u>

Current accounts:

Accounts receivable:	
Customers	\$33,055.13
Miscellaneous	58,068.14
	<u>91,123.27</u>

Treasury bonds

60,000.00

Cash

11,030.35

Total.....\$6,962,966.20

Liabilities.

Preferred stock.....	\$831,600.00
Common stock	2,000,000.00
	<u>\$2,831,600.00</u>
Bonded debt	2,945,000.00
Current liabilities	142,948.18
Bills payable	182,000.00
Surplus account	861,418.02
	<u>\$6,962,966.20</u>

OFFICERS.—President, Edwin W. Robertson; Vice-President, Henry Parsons; Secretary, R.



SMOKE STACK AND CHIMNEY PAINTS

We have different kinds of smoke stack and chimney paints depending upon the temperature to be met with and on other conditions; write and we will submit specifications. For most service we recommend our No. 750 Smoke Stack Black.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

Charlton Wright; Treasurer, Edwin W. Robertson; General Manager, A. L. Kenyon.

DIRECTORS.—William Elliott, M. C. Heath, Edwin W. Robertson, Geo. W. Newman, R. Charlton Wright, John J. Earle, Columbia, S. C.; F.

Q. Brown, Jas. G. White, Henry Parsons, New York City.

Annual meeting of stockholders held second Wednesday in January at Columbia, S. C.

Company's fiscal year ends December 31.

SOUTH CAROLINA LIGHT, POWER AND RAILWAYS CO., SPARTANBURG, S. C.

The South Carolina Light, Power and Railways Co. was incorporated under the laws of Massachusetts, June, 1912, and acquired the properties of The Spartanburg Railway, Gas and Electric Co. and the Electric Manufacturing and Power Co., both of South Carolina. The Company does the entire gas and street railway business of the City of Spartanburg, South Carolina, and supplies, without competition, power and electric light for manufacturing, commercial, domestic and municipal use in Spartanburg, Gaffney, Cowpens, Woodruff and Blacksburg, South Carolina.

FRANCHISES.—The franchises under which the Company operates do not contain any objectionable restrictions and run beyond the life of the bonds.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock 6 per cent cumulative	\$1,500,000	\$700,000
Common stock	3,000,000	2,500,000

Dividends on preferred stock payable quarterly.

Transfer agents, Old Colony Trust Co., Boston, and Fidelity Trust Co., Pittsburg.

FUNDED DEBT.—Bonds: First mortgage 5 per cent sinking fund gold, authorized, \$5,000,000; issued, \$3,000,000. Dated November 1, 1912; due May 1, 1937. Interest payable May 1 and November 1 in New York and London. Denomination, \$1,000, or £205 9s. 8d. each. Coupon, registerable as to principal. Redeemable at 105 and interest on any interest date. Trustee of bonds, The New York Trust Co. Registrar, American Trust Co., Boston.

SECURITY.—First mortgage.

SINKING FUND.—Annually beginning November 1, 1915, the Company is required to make a sinking fund payment to the trustee of 1 per cent of the bonds outstanding.

OFFICERS.—President, P. G. Gossler; Vice-President, F. H. Knox; Secretary and Treasurer, F. B. Lasher.

DIRECTORS.—A. B. Leach, P. G. Gossler, Olaf Ussing, F. H. Knox, W. S. Glenn, Alfred Moore, C. M. Smith, G. P. Toby, D. L. Babcock, F. B. Lasher, C. B. Campbell.

NASHVILLE GAS AND HEATING CO., NASHVILLE, TENN.

Incorporated July 5, 1911, under the laws of Tennessee to acquire the stock of the Nashville Gas Co.

CAPITAL STOCK.—Authorized, \$1,600,000 common stock and \$1,500,000 6 per cent cumulative preferred. Issued, \$1,600,000 common; \$800,000 preferred. Preferred stock is subject to redemption after May 1, 1915, at 105 and accumulated dividends and may exercise voting power only in case 18 per cent in dividends shall at any time remain unpaid thereon.

FUNDED DEBT.—Outstanding, consists of \$2,000,000 first mortgage 5 per cent 25-year sinking fund gold bonds due May 1, 1937, but subject to redemption in whole on and after May 1, 1922, or in part for sinking fund on and after May 1, 1927, at 105 and interest. Authorized issue, \$6,000,000. Coupon bonds, \$1,000, registered as to principal. Interest payable May 1 and Novem-

ber 1 at office of the trustee, Girard Trust Company, Philadelphia, Pa. Unissued bonds are issuable for improvements or new property at not more than 85 per cent of cost, but only when the net earnings, after taxes and rentals, shall be not less than one and one-half times the interest on all bonds of this issue outstanding, and those about to be issued. Annual sinking fund of \$25,000 begins May 1, 1927, bonds to be drawn by lot at 105 and interest, if not purchasable for less. Secured by a first mortgage on all property of the Company.

OFFICERS.—President, C. H. Geist; Vice-Presidents, Walton Clark, Lewis Lillie, S. E. Linton; Treasurer, James Ball; Secretary, G. W. Curran; Assistant Treasurers, E. MacMorris and V. K. Stevenson; General Manager, S. E. Linton.

DIRECTORS.—Walton Clark, G. W. Curran, C. H. Geist, Lewis Lillie, Paul Thompson.

AMERICAN PUBLIC SERVICE CO., ABILENE, TEX.

Executive office, 72 W. Adams St., Chicago, Ill.

The American Public Service Co. was organized under the laws of Delaware in 1912, and acquired the entire capital stocks and all the outstanding bonds of its constituent companies. The properties owned and controlled by the constituent companies of the American Public Service Company include all the electric light and power and ice properties in the cities of Abilene,

Anson, Hamlin, Marshall, Longview, Cisco, Jefferson, Baird and Merkel, Texas, and Henryetta, Hugo, Okmulgee, Towson, Kusa, and Morris, Oklahoma; the electric light and power property in Stamford, Texas; the gas properties in Abilene and Cisco, Texas; the water works in Abilene, Texas, and the street railway system in Marshall, Texas. The cities

THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio



in which the companies operate are enterprising and rapidly growing communities, serving a combined population of approximately 97,300.

CAPITALIZATION.

	Authorized	Outstanding
Common stock	\$15,000,000	\$1,601,600
Pref. stock, 7%, cumulative	10,000,000	687,600
1st lien 6% bonds, due 1942		2,171,100
6% convertible gold notes		
1919	500,000	500,000

First lien 6 per cent gold bonds, dated December 1, 1912; due December 1, 1942. Callable at 105 and interest on any interest date. Interest payable June 1 and December 1 in New York, without deduction of normal federal income tax. Coupon Bonds, \$1,000, registerable as to principal only or exchangeable for fully registered bonds. Also issued in \$500 and \$100 denominations. Registered bonds, \$1,000 or multiples, or exchangeable for coupon bonds of \$1,000 denomination.

SECURITY OF BONDS.—These bonds are secured by a first collateral lien which is practically equivalent to a direct first mortgage on the entire property now owned by the constituent companies. The entire capital stocks and all the bonds of these companies have been deposited with the trustee, giving the bondholders not only the lien as represented by the first mortgage bonds of the subsidiary companies, but also equities as represented by their stocks, and no additional stocks or bonds can be issued by the constituent companies unless deposited as additional security under the first lien mortgage.

THE DALLAS GAS CO., DALLAS, TEX.

The Dallas Gas Co. was incorporated June 5, 1905, under the laws of Texas.

FRANCHISES.—Gas in Dallas, Tex.—Indeterminate, providing for service at cost and 8 per cent return on capital invested.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$500,000.00	\$500,000.00
Common stock	500,000.00	350,000.00

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold bonds, authorized, \$1,000,000; issued, \$1,000,000. Dated June 12, 1905; due May 1, 1925. Interest payable May 1 and November 1 H. D. Walbridge & Co., 14 Wall Street, N. Y. City. Denomination, \$1,000. Coupon, registerable as to principal. Redeemable at 12 weeks' published notice on any interest date at 105 and

NOTES.—\$500,000 6 per cent convertible gold, dated March 1, 1916; due March 1, 1919; convertible at option of holder into bonds and stocks. Callable at 101 on any interest date upon 30 days' notice. Interest payable June 1 and December 1 without deduction of normal federal income tax. Denomination, coupon \$1,000, registerable as to principal. New York Trust Co., Trustee.

STATEMENT OF EARNINGS, 12 MONTHS, ENDED DECEMBER 31, 1917.

Gross earnings	\$960,390
Operating expenses, maintenance and taxes	670,934
Net earnings	\$289,456
Annual interest on \$2,171,100 first lien 6% bonds	130,266
Annual interest on \$500,000 convertible gold notes	30,000
Balance	\$129,190
Net earnings approximately 2¼ times annual bond interest.	

OFFICERS.—President, Samuel Insull; Vice-Presidents, Martin J. Insull and Fred W. Insull; Treasurer, R. W. Waite; Secretary, E. J. Doyle; Assistant Secretary, O. E. McCormick.

DIRECTORS.—Edward J. Doyle, Martin J. Insull, Fred W. Insull, Samuel Insull, L. E. Myers, R. W. Waite, Bernard Flexner, H. L. Stuart.

Annual meeting, third Wednesday in March, at Wilmington, Del.

interest. H. D. Walbridge & Co., registrar of bonds. Trustee, Lincoln Trust Co., New York City.

SECURITY.—First mortgage.

OFFICERS.—President, H. D. Walbridge; Vice-President, H. C. Morris; Secretary, R. G. Soper; Treasurer, C. W. Bertch; Assistant Secretary and Assistant Treasurer, L. A. Wood; General Manager, H. C. Morris; General Auditor, F. E. Haag.

DIRECTORS.—Wm. G. Breg, H. C. Morris, R. G. Soper, H. A. Kahler, H. D. Walbridge, Fred F. Sliney, C. A. Caldwell, John P. Tucker and Carl C. Kizer.

Annual meeting of stockholders held fourth Tuesday of January at Dallas, Tex.

Company's fiscal year ends December 31.

TEXAS POWER AND LIGHT CO., DALLAS, TEX.

The Texas Power and Light Co. was incorporated May 27, 1912, under the laws of the State of Texas to acquire and operate electric light and power and gas properties in Texas.

The Company does the entire commercial electric light and power business in Waco, Denison, Sherman, Paris, Temple, Palestine, Tyler, Cleburne, Gainesville, Brownwood, Waxahachie,

Hillsboro, Ennis, Taylor, Bonham, Belton, Honey Grove, comprising 86 communities, and also a gas business in Waco, Denison, Paris, Cleburne and Brownwood. It also supplies at wholesale electric light and power service for Corsicana and Terrell.

The estimated present population of the entire territory served is approximately 304,575.

HUNT COAL AND COKE VALVES—simplex, duplex, Seaton or "S," Briggs, etc., especially designed for controlling coal and coke, movement in gas works are described in detail in Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

FRANCHISES.

The franchises under which the Company operates in the various municipalities are satisfactory from a business standpoint and have no unusual or burdensome requirements. The majority of the franchises were granted for periods which extend, in the opinion of counsel, at least to 1952; and with a single exception all were granted for periods which extend beyond 1937.

CAPITAL STOCK AND DIVIDENDS.

The authorized and outstanding capital stock of the Texas Power & Light Company as of December 31, 1917, was as follows:

	Authorized	Outstanding
Preferred stock	\$4,000,000	\$3,500,000
Second preferred stock..	4,000,000	450,000
Common stock.....	10,000,000	10,000,000

All of the authorized stock was issued as preferred stock, but a part of it subsequently was made second preferred stock and subordinated to the preferred stock.

The preferred stock is entitled to cumulative dividends at the rate of 7 per cent per annum, and dividends at this rate have been paid regularly since date of issue. Payments are made quarterly, on February 1, May 1, August 1, and November 1. The preferred stock has preference over common stock as to assets in case of liquidation. It is redeemable on any dividend date at 115 per cent and accrued dividends. Old Colony Trust Company of Boston is the transfer agent, and the State Street Trust Company of Boston is the registrar for the stock.

The second preferred stock is entitled to cumulative dividends at the rate of 6 per cent per annum from the date of issue to December 31, 1915, and thereafter is entitled to cumulative dividends at the rate of 7 per cent per annum. It has preference over the common stock as to assets in case of liquidation. It is redeemable on any dividend date at par and accrued dividends. It is convertible at the option of the Company by lot into preferred stock when for twelve consecutive months within the immediately preceding thirteen months earnings for dividends are equal to at least twice the dividend requirements on the preferred stock then outstanding and the additional preferred stock to be issued in exchange.

All of the second preferred stock and common stock, except directors' shares, is owned by the Southwestern Power & Light Company.

FUNDED DEBT.—Bonds: First mortgage gold 5s, authorized, \$30,000,000; issued, \$10,035,000. Dated June 1, 1912; due June 1, 1937. Interest payable June 1 and December 1 in New York. Denomination, \$1,000; coupon with privilege of registration as to principal. Redeemable at 105 and interest on any interest date on and after June 1, 1917. Trustee of bonds, Bankers Trust Co., New York.

The bonds are secured by a first lien on all properties, rights and franchises of the Company now owned or hereafter acquired.

SINKING FUND.—The mortgage provides for a sinking fund calling for the deposit annually on June 1 with the trustee of the following amounts: 1915 to 1917 inclusive a sum equal

to 1 per cent of the bonds outstanding per annum; 1918 to 1920 inclusive a sum equal to 1½ per cent of the bonds outstanding per annum; 1921 to 1936 inclusive a sum equal to 2 per cent of the bonds outstanding per annum.

The funds so deposited may be used either to retire bonds or for extensions and additions which might otherwise have been made the basis of the issuance of bonds.

SERVICE AND PROPERTY.

The total number of customers served by the Texas Power & Light Company and the physical equipment of its properties as of December 31, 1917, as compared with the previous year, follow:

	1917	1916
Electric customers.....	39,451	35,331
Artificial gas customers	2,613	2,449
Natural gas customers..	6,674	6,286
Total customers	48,738	44,066
Kilowatt generating capacity	21,725	21,792
Kilowatt generating capacity under construction	4,000	500
Kilowatt-hour feeder output for 12 months....	93,968,661	76,857,462
Miles of overhead electric distributing pole lines (6,600 volts or less) in service, irrespective of the number of circuits carried....	893	753
Miles of high voltage transmission lines (over 6,600 volts) in operation, irrespective of the number of circuits carried	835	759
Miles of high voltage transmission lines (over 6,600 volts) under construction, irrespective of the number of circuits carried....	44	117
Artificial gas holder capacity (cu. ft.).....	496,500	396,500
Artificial gas holder capacity (cu. ft.) under construction		100,000
Artificial gas output (cu. ft.) for 12 months....	74,026,000	52,165,000
Natural gas output (cu. ft.) for 12 months....	608,025,000	595,732,000
Miles of gas mains.....	160	153

OFFICERS.—President, J. F. Strickland; Vice-Presidents, F. G. Sykes, A. S. Grenier, F. R. Slater, E. W. Hill and W. B. Head; Treasurer and Assistant Secretary, M. H. Arning; Secretary and Assistant Treasurer, C. E. Calder; Assistant Secretary and Assistant Treasurer, W. C. Lang; Assistant Secretary and Assistant Treasurer, J. E. Van Horn; General Manager, F. R. Slater.

DIRECTORS.—J. F. Strickland, M. B. Templeton, R. A. Ferris, W. J. Neale, F. G. Sykes, W. W.

WE ARE SPECIALISTS in the construction of plants to remove gasoline from Natural Gas by either the Compression or Absorption Method.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

Seley, A. S. Grenier, C. E. Calder, J. Dabney Day, W. R. Brents, F. P. West, G. L. Blackford, S. Z. Mitchell, S. J. McFarland, E. W. Hill, W. B. Head, Harry L. Seay, F. R. Slater, G. E. King, Howell E. Smith, Geo. W. Coleman.

BALANCE SHEET AS OF DECEMBER 31, 1917.

<i>Assets.</i>	
Plants	\$23,416,607.87
Current assets	1,365,361.10
Treasury bonds, pledged to secure 2-year 6% notes.....	1,205,000.00
Trust funds	39,708.21
Suspense	89,243.91
Bond discount and expense.....	930,552.79
Total.....	\$27,046,473.88
<i>Liabilities.</i>	
Capital stock:	
Preferred, 7%	\$3,550,000.00
Second preferred, 7%.....	450,000.00
Common	10,000,000.00
Bonds, first mortgage 5%.....	10,035,000.00
Two-year 6% secured gold notes..	900,000.00
Current liabilities	*1,846,043.45
Reserves	66,583.58
Surplus	198,846.85
Total.....	\$27,046,473.88

* Of this amount \$976,171.77 is due American Power & Light Company.

COMPARATIVE STATEMENT FOR THE 12 MONTHS' EARNINGS

A statement of earnings for the year ended December 31, 1917, compared with the two previous years, follows:

	1917	1916	1915
Gross earnings..	\$2,600,816	\$2,253,846	\$1,900,702
Exp. and taxes..	1,589,517	1,246,551	1,174,660
Net earnings....	1,011,299	1,007,295	726,042
Interest charges..	552,094	426,707	340,314
Income after charges	459,205	580,588	385,728
Dividends on preferred stock...	245,000	186,667	135,539
Balance	214,205	393,921	250,189

Note: The above statement shows the earnings of all properties now owned, irrespective of the dates of their acquisition.

The gross earnings for the twelve months ended December 31, 1917, as shown above, were derived from various classes of business as follows:

	Amount	Percentage of total
Electric light and power..	\$2,318,579	89
Artificial gas	78,477	3
Natural gas	203,760	8
Total.....	\$2,600,816	100

HOUSTON GAS AND FUEL CO., HOUSTON, TEX.

The Houston Gas and Fuel Co. was incorporated in March 26, 1912, under the laws of Texas and is successor to Houston Gas Co.

FRANCHISES.—Expire July 1, 1940.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 7 per cent cumulative (redeemable at 110 and accrued dividend)	\$500,000	\$500,000
Common stock (owned by United Gas and Electric Corp.).....	1,500,000	1,500,000

Shares, \$100. Transfer agents, State Street Trust Co. Registrars, First National Bank, Boston. Dividends payable January 1 and quarterly.

FUNDED DEBT.—Bonds: First mortgage 5s, authorized, \$1,000,000; issued, \$961,000. Dated March 1, 1905; due March 1, 1920. Interest payable March 1 and September 1 at Harris, Forbes & Co. Denomination, \$1,000; coupon; not redeemable. Trustee of bonds, Bankers Trust Co.

SECURITY.—First mortgage on entire property.

Bonds: Refunding and improvement 5s, authorized, \$6,000,000; outstanding, \$580,000. Dated September 1, 1912; due September 1, 1932.

Interest payable March 1 and September 1 at Fidelity Trust Co., Philadelphia. Denomination, \$1,000; coupon bonds; registerable as to principal. Redeemable at 105 and interest. Trustee, Fidelity Trust Co. and William P. Gest.

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

Gross earnings	\$582,665.61
Operating expenses, renewals and replacements	372,230.87
Net earnings	\$210,434.74
Fixed charges	82,263.82
	\$128,170.92
Preferred stock dividend.....	37,625.00
Surplus	\$90,545.92

OFFICERS.—President, James A. Baker; Vice-President, E. G. Connette; Secretary and Treasurer, J. A. McKenna; Assistant Secretary and Assistant Treasurer, Wm. A. Raymond; Manager, F. D. Murphy.

DIRECTORS.—James A. Baker, W. H. Gill, F. D. Murphy, Francis T. Homer, J. A. McKenna, C. L. Carter, E. G. Connette.

Annual meeting of stockholders held first Monday in November at Houston, Tex. Company's fiscal year ends December 31.

GAS EXHAUSTERS

High Efficiency



GAS BOOSTERS

*Low Operating
Expense*

UTAH VALLEY GAS & COKE CO., PROVO, UTAH.

The Utah Valley Gas & Coke Company was incorporated in 1915 under the laws of Utah and is the successor to Utah Valley Gas & Power Company.

FRANCHISES.—Provo franchise expires in 1938. Springville and Spanish Fork in 1966.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$200,000.00	\$41,000.00
Common stock	500,000.00	150,000.00

Shares, \$100. Transfer agents and registrars, P. W. Brooks & Co., Inc., New York city. Dividend on preferred stock, annual rate, 7 per cent.

FUNDED DEBT.—Bonds: First mortgage 6s, authorized, \$500,000; issued, \$185,000; dated March 1, 1915; due March 1, 1935; interest payable March 1 and September 1; denominations, \$100, \$500 and \$1,000; callable on or after February 1, 1920, at 105. Trustee of bonds, Logan Trust Co. of Philadelphia.

SECURITY.—First mortgage on all property, rights and franchises.

SINKING FUND.—1 per cent of the amount of outstanding bonds, becomes operative March 1, 1921, until March 1, 1927, inclusive. From March 1, 1928 to 1934, there is a sinking fund of 2 per cent of outstanding bonds.

Earnings for the year ended December 31, 1917, were reported as follows:

Gross earnings	\$20,814.30
Operation, insurance and taxes, less residuals	8,027.43
Net earnings	\$12,786.87
Interest	7,100.00
Surplus	\$5,686.87

OFFICERS.—President, A. W. Brooks; Vice-President, Secretary and Treasurer, A. F. Beringer; Assistant Secretary and Assistant Treasurer, Walter Adams.

DIRECTORS.—A. W. Brooks, Thos. F. Pierpont, W. H. Brereton, A. F. Beringer and Walter Adams.

Annual meeting of stockholders held third Thursday in January at Provo, Utah. Company's fiscal year ends December 31.

BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Plant, property and franchise	\$398,037.73
Materials and Supplies:	
On hand	\$15,861.68
Leased	1,565.77
	17,427.45
Accounts Receivable:	
Gas	3,891.74
Merchandise	9,172.53
	13,064.27
Cash:	
In State Bank of Provo.	1,434.65
In office	74.00
	1,508.65
Suspense	23.48
Treasury bonds	5,500.00
Treasury stock (\$41.800 par value pfd (market value)	31,350.00
	\$466,911.58

Liabilities.

Capital stock—common	\$150,000.00
Capital stock—preferred	82,800.00
First mortgage bonds	185,000.00
Accounts payable (inc. 14,800 P. W. B. & Co., Inc.)	27,805.60
Wages accrued	1,162.74
Bench repair reserve	355.23
Accrued depreciation	2,000.00
Interest accrued	3,700.00
Notes payable:	
State Bank of Provo....	\$4,200.00
S. A. Stum	1,000.00
	5,200.00
Profit and loss at Dec. 30, 1916	\$7,353.64
Net earnings to Dec. 31, 1917	12,786.87
	\$20,140.51
Less interest to Dec. 31, 1917.	7,100.00
	\$13,040.51
Less preferred stock dvds....	2,152.50
	\$10,888.01
Less chg. for depreciation .	2,000.00
	8,888.01
	\$466,911.58

UTAH GAS AND COKE CO., SALT LAKE CITY, UTAH.

The Company is controlled and operated by the American Public Utilities Co., who own 87 per cent of the stock.

FRANCHISES.—Franchise expires 1955.

CAPITALIZATION.

	Authorized	Outstanding
Pref. stock, 7 per cent....	\$500,000	\$500,000
Common stock	\$2,500,000	2,500,000
Shares, \$100.		

FUNDED DEBT.—Bonds: First mortgage 5 per cent, authorized, \$3,000,000; outstanding, \$1,919,000. Dated July 2, 1906; due January 1, 1936. Interest payable January 1 and July 1 at Continental and Commercial Trust and Savings Bank, Chicago, trustee. Denomination, \$1,000; coupon; principal may be registered. Callable, either for sinking fund purposes or as a whole at 110 and interest from January, 1911.

WASH OIL PUMPS

Dependability

P.H. & F.M. ROOTS CO.
Connersville

Indiana

New York

Chicago

until 1920, and at 105 and interest from January, 1921, until 1935.

SECURITY.—First lien on entire property.

SINKING FUND.—From 1911 to 1920, 1 per cent per annum of bonds outstanding; from 1921 to 1935, 2 per cent annually.

OFFICERS.—President, J. H. Brewer; Vice-

President, C. B. Kelsey; Secretary, Blaine Gavett; Treasurer, W. J. Ripley; Manager, Geo. H. Waring.

DIRECTORS.—C. B. Kelsey, J. H. Brewer, Blaine Gavett, W. J. Ripley, Chas. McPherson.

Annual meeting of stockholders held third Thursday in January.

UTAH LIGHT AND TRACTION COMPANY, SALT LAKE CITY, UTAH.

Utah Light and Traction Company was incorporated September 18, 1914, under the laws of Utah. It owns the electric light and power and street railway properties in Salt Lake City and the electric light and power and gas properties in Ogden, formerly owned by the Utah Light & Railway Company. The electric light and power and gas properties are leased for 99 years from January 1, 1915, to the Utah Power & Light Company, which company owns all the outstanding capital stock, except directors' shares, of the Utah Light and Traction Company. The street railway properties in Salt Lake City continue to be operated by the Utah Light and Traction Company.

The company has outstanding \$1,000,000 capital stock, all of one class. All of this stock, except directors' shares, is owned by the Utah Power & Light Company.

The company has outstanding \$12,136,000 first and refunding mortgage 5 per cent gold bonds. The mortgage under which these bonds are issued is an open mortgage. The bonds are dated September 18, 1914, and are due October 1, 1944. Interest is payable April 1 and October 1 at the office of the Bankers Trust Company, New York, trustee. The bonds so far issued are known as series "A" and bear interest at the rate of 5 per cent. Under the terms of the mortgage the interest rate on any subsequent issue of bonds cannot exceed 6 per cent. They are in \$1,000 denomination and are in coupon form, but principal may be registered. Under the terms of the mortgage bonds may be issued in coupon form in \$1,000, \$500 and \$100 denominations, and in fully registered form in \$1,000 de-

nomination. Coupon bonds in any denomination may be registered as to principal.

The bonds are secured by a first lien on all properties, rights and franchises of the company now owned or hereafter acquired, subject to the rights of the underlying bonds on the property as shown below.

The bonds are redeemable as a whole on any interest day, or in part for sinking fund after December 31, 1917, as described below, at 105 per cent and accrued interest.

A sinking fund is established by the mortgage requiring payment to the trustee on December 31 of each year as follows: 1 per cent from 1917 to 1919, inclusive; 2 per cent from 1920 to 1934, inclusive; 2½ per cent from 1935 to 1943, inclusive. Money in the sinking fund may be issued for the redemption of bonds at not more than 105 per cent and accrued interest, or it may be used to reimburse the company for the cost of permanent additions, improvements, etc., which might otherwise have been made the basis for the issuance of bonds. If bonds for redemption, as stipulated in the sinking fund provision, are not obtainable in the market at 105 per cent and accrued interest, or a lower price, they may be called by lot at 105 per cent and accrued interest.

Additional bonds may be issued only to reimburse the company for not exceeding 80 per cent of the cost of permanent additions, improvements, etc.

All bonds so far issued are guaranteed, principal and interest, by the Utah Power & Light Company.

The Utah Light and Traction Company has underlying bonds outstanding as follows:

	Total outstanding	Held between companies	Owned by public
Utah Light & Power Co. 5% prior lien gold bonds	\$750,000	\$6,000	\$744,000
Utah Light & Power Co. 4% consolidated mortgage gold bonds	2,600,000	1,487,000	1,113,000
Consolidated Railway & Power Co. 5% first mortgage gold bonds	1,440,000	.....	1,440,000
Utah Light & Railway Co. 5% consolidated mortgage gold bonds	1,485,000	999,000	486,000

All mortgages under which the above named underlying bonds were issued are now closed and no additional amounts of bonds can be issued.

Utah Light & Power Company 5 per cent prior lien gold bonds are dated January 1, 1900, and are due January 1, 1930. Interest is payable January 1 and July 1 at the office of the Central Trust Company, New York, trustee.

Utah Light & Power Company 4 per cent consolidated mortgage gold bonds are dated Jan-

uary 1, 1900, and are due January 1, 1930. Interest is payable January 1 and July 1 at the office of the Equitable Trust Company, New York, trustee.

Consolidated Railway & Power Company 5 per cent first mortgage gold bonds are dated September 1, 1901, and are due July 1, 1921. Interest is payable January 1 and July 1 at the office of Equitable Trust Company, New York, trustee.

Utah Light & Railway Company 5 per cent



Tycos Temperature Instruments for Gas Works
H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.
Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



consolidated mortgage gold bonds are dated January 2, 1904, and are due January 2, 1934. Interest is payable January 1 and July 1 at the office of the Bowling Green Trust Company, New York, trustee.

OFFICERS.—C. W. Whitley, President; C. E. Groesbeck, O. J. Salisbury, William Darbee, D. F. McGee, Vice-Presidents; W. E. Blodgett, Secretary and Treasurer; S. A. Whitney, Assistant Secretary; E. O. Howard, Assistant Treasurer;

E. P. Summerson, Assistant Treasurer; L. W. Osborne, Assistant Secretary.

DIRECTORS.—O. J. Salisbury, S. A. Whitney, David A. Smith, J. Frank Judge, J. M. Bidwell, R. C. Gemmell, E. O. Howard, C. E. Groesbeck, Lawrence Greene, J. Scowcroft, D. C. Jackling, C. W. Whitley.

For financial statements, see "Received too late."

UTAH POWER & LIGHT COMPANY, SALT LAKE CITY, UTAH.

Utah Power & Light Co. was incorporated on September 6, 1912, under the laws of the State of Maine, for the purpose of carrying on a general electric and gas business, and serves with electric light and power an extensive and steadily growing territory in Utah and south-eastern Idaho. It also serves through its subsidiary, The Western Colorado Power Company, an important section in southwestern Colorado. In addition, the company has leased for a term of ninety-nine years from January 1, 1915, the electric light and power and gas properties of the Utah Light & Traction Company, all of the capital stock of which, except directors' shares, is owned by the Utah Power & Light Company. Through this lease the Utah Power & Light Company now does the entire electric light and power business in Salt Lake City and the entire electric light and power and gas business in Ogden.

FRANCHISES.—The principal franchises under which the Utah Power & Light Co. operates are the following, expiring upon the dates indicated: Salt Lake City (U. L. & P.), 1955; Ogden City, 1946; Provo, 1940; Logan, 1936; Bingham, 1953; Lehi, 1962; Preston, 1956.

CAPITALIZATION.

Stock:	Authorized	Outstanding
Common	\$35,000,000	\$30,000,000
Preferred	15,000,000	5,900,000
Second preferred....	10,000,000	4,937,000
Bonds: First mortgage 5s.....		19,005,000

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold; dated February 2, 1914; due February 1, 1944; interest payable February 1 and August 1. Guaranty Trust Co., trustee of bonds. Denomination, \$1,000; coupon, with privilege of registration as to principal or exchangeable for fully registered bonds. Callable at 105 and interest on any interest date on or after February 1, 1919.

SINKING FUND.—The mortgage provides for payment to the trustee of 1 per cent of the amount of the bonds outstanding each year on December 31, from 1916 to 1918, inclusive; 2 per cent of the amount of the bonds outstanding each year on December 31, from 1919 to 1933, inclusive; 2½ per cent of the amount of the bonds outstanding each year on December 31, from 1934 to 1943, inclusive.

The funds so received may be either to retire bonds or for permanent improvements, extensions or additions to the property which might otherwise have been made the basis of the issuance of bonds.

SECURITY.—The first mortgage 5 per cent gold bonds of the Utah Power & Light Company are secured, in the opinion of counsel, by a direct first mortgage on all the property, franchises and rights of the company, located in the States of Utah and Idaho, and through the deposit of securities, as herein described, by a first lien on the property located in Colorado. The Utah Power & Light Company owns all of the securities (first mortgage bonds and capital stock) of The Western Colorado Power Company, which corporation owns and operates certain hydro-electric generating stations and transmission lines in the State of Colorado. All of its securities are pledged under the first mortgage of the Utah Power & Light Company, the first mortgage of the latter company thus covering the Colorado properties as a first collateral lien. No additional bonds or stock of The Western Colorado Power Company can be issued except to the Utah Power & Light Company and then must be deposited under its first mortgage.

OFFICERS.—D. C. Jackling, President; S. Z. Mitchell, Chairman of the Board; W. S. McCornick, G. E. Claffin, C. E. Groesbeck, E. K. Hall, E. W. Hill, Vice-Presidents; E. P. Summerson, Treasurer and Assistant Secretary; George B. Thomas, Secretary and Assistant Treasurer; A. E. Smith, Assistant Secretary and Assistant Treasurer.

DIRECTORS.—R. E. Breed, New York, N. Y.; T. R. Cutler, Salt Lake City, Utah; Charles Hayden, Boston, Mass.; John M. Hayes, Salt Lake City, Utah; D. C. Jackling, Salt Lake, Utah; C. E. Loose, Provo, Utah; W. S. McCornick, Salt Lake City, Utah; S. Z. Mitchell, New York, N. Y.; P. J. Moran, Salt Lake City, Utah; C. W. Nibley, Salt Lake City, Utah; J. R. Nutt, Cleveland, Ohio; G. B. Thomas, Salt Lake City, Utah; Bulkeley Wells, Telluride, Colo.; C. E. Groesbeck, Salt Lake City, Utah; M. S. Browning, Ogden, Utah; G. G. Wright, Idaho Falls, Utah.

For financial statements, see "Received too late."



1803

R. D. WOOD & CO., PHILA., PA.

1918



UTAH SECURITIES CORPORATION.

Utah Securities Corporation was incorporated September 10, 1912, under the laws of Virginia to acquire securities of companies operating and controlling electric light and power, gas, railway and waterworks properties. It is a holding company and does not operate any properties. The specific powers conferred upon Utah Securities Corporation in its certificate of incorporation are as follows: To construct, equip, improve or work upon any and all kinds of plants for the manufacture of ice, or the storage, utilization, supply and disposition of electricity, gas, water or steam, or of power produced thereby, and to do a general contracting business; to subscribe, to purchase or otherwise acquire, hold, guarantee or become surety in respect to, pledge, sell or otherwise dispose of stocks, bonds or other securities and obligations of any corporation, domestic or foreign.

Utah Securities Corporation controls, through the ownership of all its outstanding capital stock, except directors' shares, the Utah Power & Light Company, which latter company controls The Western Colorado Power Company, through the ownership of all its issued securities, except directors' shares of stock, and the Utah Light and Traction Company, through the ownership of all its capital stock, except directors' shares.

CAPITAL STOCK.—The authorized and outstanding capital stock of the Utah Securities Corporation as of December 31, 1916, was as follows:

	Authorized	Outstanding
Capital stock (all of one class)	\$35,000,000	\$30,775,100

All of the outstanding capital stock, except directors' shares, is in a voting trust terminating October 1, 1922. The voting trustees are R. E. Breed, James Campbell, Chas. Hayden, S. Z. Mitchell and J. R. Nutt. The Guaranty Trust Company of New York is the agent for the voting trustees.

BONDS.—The company has no authorized or outstanding bonds.

NOTES.—The authorized and outstanding notes of the Utah Securities Corporation as of December 31, 1916, were as follows: Ten-year 6 per cent gold notes: Authorized, \$30,000,000; subscribed, \$27,500,000; issued, \$26,984,500; retired, \$19,518,000; outstanding, \$7,466,500.

Under the terms of the trust agreement securing the notes it is provided that all securities which the Utah Securities Corporation may acquire by the use of the proceeds of the sale of the notes shall be deposited with the trustee as security for the notes. When any of the securities so deposited are sold the proceeds must be used by the trustee for the purchase, redemption and cancellation of the notes. The trustee is required to advertise for tenders of notes and to buy those notes first which are offered at the lowest price, and if notes cannot be purchased at 101 per cent and accrued interest, or at lower prices, then notes may be called by lot at 101 per cent and accrued interest.

The notes are dated September 14, 1912, and are due September 15, 1922. Interest is payable March 15 and September 15 at the office of the Guaranty Trust Company of New York, trustee. The notes are in \$1,000 and \$500 denominations, and are in coupon form, but principal may be registered. They are redeemable as a whole, or in part on any interest date at the option of the company at 101 per cent and accrued interest.

OFFICERS.—S. Z. Mitchell, President; D. C. Jackling, G. E. Claffin, E. H. Hall, E. W. Hill, Vice-Presidents; A. E. Smith, Secretary and Treasurer; E. P. Summerson, Assistant Secretary and Assistant Treasurer.

DIRECTORS.—A. C. Bedford, Irving Bonbright, R. E. Breed, G. E. Claffin, E. K. Hall, Charles Hayden, Alexander Hemphill, D. C. Jackling, James Mitchell, S. Z. Mitchell, Rollin P. Grant, D. E. Pomeroy, J. R. Nutt, Frederick Strauss.

RUTLAND RAILWAY, LIGHT & POWER COMPANY.

Chartered in February, 1906, in Vermont, as a consolidation of the Rutland Street Railway, The People's Gas Light Co., the Chittenden Power Co., and the Vermont Internal Improvement Co. Merged the Rutland City Electric Co. in April, 1908. The Rutland Street Railway was chartered in perpetuity in 1882; road opened in 1885 by horsepower; electricity substituted November 26, 1894. Road rebuilt and extended to Fair Haven in 1902 and to Poultney (7 miles) in 1911. This road serves the city of Rutland with two belt lines, and extends through Centre Rutland, West Rutland, Castleton, Castleton Corners, Hydeville, Fair Haven, with a branch line to Lake Bomoseen and Poultney. Road surveyed to Whitehall, N. Y. Length of track, 33.5 miles. Gauge, 4 ft. 8½ in. Rail (T), 60 lbs. Cars, 49.

CAPITAL STOCK.—Common, authorized, \$2,000,000; outstanding, \$1,700,500. Shares, \$100. Annual meeting second Monday in July; books close ten days in advance.

FUNDED DEBT.—Authorized and outstanding, \$2,000,000. First mortgage 5 per cent 40-year gold bonds, due March 1, 1946; interest March and September, at office of the trustee, Lincoln Trust Co., New York, N. Y. Coupon and registered bonds, \$1,000. Bonds are redeemable at 110 and interest, as a whole or in amounts not less than \$50,000 on any interest day after March 1, 1916. Sinking fund of ½ per cent to 2 per cent annually on bonds outstanding began March 1, 1916.

MANAGERS.—The W. S. Barstow Management Ass'n, Inc., New York, N. Y.

OFFICERS.—W. S. Barstow, President; F. S. Nicholson, Vice-President and General Manager; H. L. Hansen, Clerk and Treasurer; G. Tracy Rogers, Chairman of Board.

DIRECTORS.—Herbert Nash, Jr., Boston, Mass.; H. L. Hansen, F. S. Nicholson, Rutland, Vt.; G. Tracy Rogers, Binghamton, N. Y.; W. S. Barstow, W. Buchsbaum, Joseph B. Taylor, New York, N. Y.



Williams' "Agrippa" Boring-Tool Holder

The Boring Tool takes any size or shape of bar and requires no bushings. Its sleeve bar permits either straight or angular adjustment of cutter without resetting.

J. H. Williams & Co., 74 Richards St., B'klyn, N. Y.

**NEWPORT NEWS AND HAMPTON RAILWAY, GAS AND ELECTRIC COMPANY,
NEWPORT NEWS, VA.**

Newport News and Hampton Railway, Gas and Electric Co. was organized in 1914 as a consolidation of the Newport News and Old Point Railway and Electric Co., the Citizens Railway, Light and Power Company, Hampton Roads Traction Company, Newport News Gas Company and Hampton, Phoebus and Fort Monroe Gas Corporation, and provides railway, gas and electric light and power facilities for the Virginia Peninsula.

CAPITAL STOCK.

	Authorized.	Issued.
Preferred stock, 7% cumulative	\$2,000,000	\$1,005,900
Common stock	2,000,000	1,275,000

TRANSFER AGENT.—Alex Brown & Sons, Baltimore, Md.

REGISTRAR.—Safe Deposit & Trust Co., Baltimore, Md.

FUNDED DEBT.—Newport News and Hampton Railway, Gas and Electric Co. first and refunding 5s; dated February 2, 1914; due January 1, 1944; payable January 1 and July 1 at the office of Alexander Brown & Sons, Baltimore, Md., or at its agency in New York. Coupon bonds, \$100, \$500 and \$1,000; principal may be registered. Maryland Trust Co., Baltimore, Md., trustee. Authorized, \$7,500,000; issued, \$3,735,500; \$2,738,000 are held in escrow to provide funds to pay for improvements and extensions in the future; \$1,083,000 bonds are reserved to retire prior liens described below. Subject to call at 105 and interest on any interest day upon one month's notice.

Newport News and Old Point Railway and Electric Co. first gold 5s, authorized, \$900,000; issued, \$900,000; dated November 1, 1898; due November 1, 1938; interest May 1 and November 1 at Alexander Brown & Sons, Baltimore, Md. Maryland Trust Co., Baltimore, Md., trustee. Coupon, \$1,000; principal may be registered. Subject to call on any interest date on 60 days' notice. A first lien on 19.38 miles of line owned and on all other property. Interest paid without deduction for normal income tax.

Citizens Railway, Light and Power Company first gold 5s, authorized, \$800,000; outstanding, \$69,000; dated May 1, 1900; due May 1, 1940, but subject to call on any interest date at 110 on 60 days' notice; interest May 1 and November 1 at office of Alexander Brown & Sons, Baltimore, Md. Coupon, \$1,000; principal may be registered. Maryland Trust Co., Baltimore, Md., trustee.

Hampton Roads Traction Company first gold 4½s, authorized, \$700,000; outstanding, \$66,000; dated December 30, 1905; due January 1, 1930; interest July and January. West End Trust Company, Philadelphia, trustee.

Newport News and Old Point Railway and Electric Co. general 5s, authorized, \$4,000,000; outstanding, \$44,000; dated March 1, 1901; due March 1, 1941; interest payable March and September at Alexander Brown & Sons, Baltimore,

Md., and company's agency in New York. Maryland Trust Co., Baltimore, Md., trustee. Coupon, \$1,000; principal may be registered.

The bonds of the above company are exempt from federal income tax so far as the individual holders are concerned. The date of the annual meeting is the third Tuesday in March.

OFFICERS.—J. N. Shannahan, President; Edward F. Peck, Vice-President and General Manager; Wm. Stewart, Treasurer; Richard M. Booker, Secretary and Assistant Treasurer; G. H. Caskey, General Auditor.

DIRECTORS.—T. C. Cherry, F. W. Darling, Moreau Delano, Chas. D. Dickey, Homer L. Ferguson, B. Howell Griswold, Jr., Chas. H. Hewins, John B. Kimberley, Wm. I. Taber, L. B. Stearns, John N. Shannahan, Wm. B. Vest, E. F. Peck, Morrell W. Gaines, L. S. Zimmerman.

Home office, Newport News, Va.

**CONSOLIDATED PROFIT AND LOSS ACCOUNT AND
STATEMENT OF SURPLUS, YEAR ENDING
DECEMBER 31, 1917.**

Gross earnings	\$1,357,307.64
Operating expenses	767,089.58
Net earnings	\$590,218.06
Adjustment of mat. and supplies undistributed	7,787.04
	\$598,005.10
Deduct taxes	57,721.49
Net earnings after taxes	\$540,283.61
Add non-operating revenue	2,917.85
Gross income	\$543,201.46
Income deductions:	
Interest on bonds	\$242,252.25
Interest on bills payable and cons'mrs deposits	6,292.08
Rental and misc. items	7,373.81
	255,918.14
	\$287,283.32
Depreciation	106,618.76
Profit, year 1917	\$180,664.56
Dividend paid	632.00
	\$180,032.56
Dividends declared on preferred stock during 1917	59,956.50
	\$120,076.06
Add: Surplus at Jan. 1	84,881.92
	\$204,957.98
Sundry adjustments to period prior to Jan. 1, 1917	\$3,709.04
5% dividend on common stock paid May 1, 1917	56,250.00
	59,959.04
Surplus as per balance sheet	\$144,998.94

RELIABLE**RANGES**

The most perfect combination of beautiful appearance, self-maintaining durability, all around efficiency and quick salability ever effected in gas range construction. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

APPENDIX

CONSOLIDATED BALANCE SHEET, DECEMBER 31, 1917.

		<i>Assets.</i>	
Land, plants and equipment:			
January 1, 1917.....		\$6,943,725.27	
Additions to December 31, 1917 (net)		225,851.72	
			\$7,169,576.99
Organization expenses			23,942.68
			<u>\$7,193,519.67</u>
Investments:			
First mortgage scrip, Hampton Roads Traction Co.		\$806.36	
3,450 shares Hampton & Langley Field Railway Co. (par value \$10 per share)	\$30,000.00		
10 shares International Tool Co.....	1,000.00		
95 shares Proebus Coal & Ice Co.....	9,500.00		
Other investments at nominal values.....	2.00		
		40,502.00	
			41,308.36
United States government bonds:			
3½% Liberty Loan:			
Full paid	\$25,000.00		
Paid in part.....	\$3,900.00		
Deposits by employees.....	3,330.00		
	570.00		
		\$25,570.00	
4% Second Liberty Loan:			
Paid in part.....	\$6,220.00		
Deposits by employees.....	702.00		
		5,518.00	
			31,088.00
Current assets:			
Materials and supplies.....	\$105,484.41		
Accounts and notes receivable, less reserves.....	154,899.15		
Cash	46,115.36		
	\$306,498.92		
Cash deposited with bankers for bond interest, etc.	134,360.57		
			440,859.49
Prepaid insurance and taxes.....			3,570.91
Deferred charges—Bond discount.....			49,328.41
			<u>\$7,759,674.84</u>
		<i>Liabilities.</i>	
Capital stock:			
Preferred stock, 7% cumulative:			
Authorized	\$2,000,000.00		
Authorized and issued.....		\$1,005,900.00	
Common stock:			
Authorized	\$2,000,000.00		
Authorized and issued.....	\$1,275,000.00		
Common stock of Newport News Distilled Ice Co., in hands of public.....	7,900.00		
		\$1,282,900.00	
Capital surplus		\$14,732.91	
			<u>\$2,303,532.91</u>
Funded debt:			
Citizens Railway, Light & Power Co. first 5s.....	\$800,000.00		
Less—Deposited as collateral security for first and re-funding bonds	731,000.00		
		\$69,000.00	
Newport News Gas Co. first 6s.....	\$76,000.00		
Less—Deposited as collateral security for first and re-funding bonds	76,000.00		
Newport News & Old Point Railway & Electric Co.'s first 5s		900,000.00	
Carried forward		\$969,000.00	



Brought forward	\$969,000.00	
Newport News & Old Point Railway & Electric Co's general mortgage 5s.....	\$1,094,000.00	
Less—Deposited as collateral security for first and re- funding bonds.....	1,050,000.00	
		44,000.00
Hampton Roads Traction Co. first 4½s.....	\$700,000.00	
Less—Deposited as collateral security for first and refunding bonds.....	\$632,000.00	
In treasury	2,000.00	
	634,000.00	
		66,000.00
		\$1,079,000.00
Newport News & Hampton Railway, Gas & Electric Co. first and refunding 5s.....	\$3,737,000.00	
Less—In treasury	1,500.00	
		3,735,500.00
		4,814,500.00
Current liabilities:		\$7,118,032.91
Bills payable	\$20,000.00	
Old Dominion Land Co.....	3,000.00	
Accounts payable	\$144,534.40	
Consumers' deposits	31,487.46	
		176,021.86
Bond and other interest matured and accrued	109,491.53	
Provision for excess profits and income tax.....	20,077.83	
Reserve for preferred stock dividend payable January 1, 1918...	29,956.50	
		358,547.72
Reserves:		
Depreciation	\$131,168.21	
Other reserves	6,927.06	
		138,095.27
Surplus, as per annexed account.....		144,998.94
		\$7,759,674.84

ILLUMINATING AND POWER SECURITIES CORPORATION, RICHMOND, VA.
Boston office: 19 Congress Street.

The Illuminating & Power Securities Corporation was incorporated May 31, 1912, under the laws of the State of Virginia, to carry on the business of buying, selling and dealing in stocks, bonds and other securities and properties of electric power, electric lighting, gas, and other public service companies or enterprises.

CAPITALIZATION.

Seven per cent cumulative preferred stock, par value \$100—
Authorized

Authorized	\$1,500,000
Issued	1,250,000

Common stock, par value \$50—
Authorized and issued..... 2,500,000
Transfer agent, Old Colony Trust Co., Boston, Mass.

The preferred stock is preferred both as to assets and dividends and is entitled in preference to the common stock to dividends cumulative at the rate of 7 per cent per annum from August 1, 1912, payable quarterly or semi-annually on such dates as the directors shall determine, and is redeemable on any dividend date after three years at 115.

OFFICERS.—President, C. P. Hamilton; Vice-Presidents, S. W. Childs, R. C. Morse; Secretary and Treasurer, W. F. Pope; Assistant Secretary and Assistant Treasurer, W. H. Nash.

DIRECTORS.—C. P. Hamilton, S. W. Childs, R. C. Morse, W. S. Clough, C. A. Coffin.

Annual meeting, second Monday in May, at Richmond, Va.

SOUTHWESTERN UTILITIES CORPORATION, RICHMOND, VA.

The Company, incorporated in June, 1912, under the laws of Virginia, is a holding company owning all the capital stock (except directors' shares) of the Southwestern Power and Light Co.

CAPITALIZATION.

Common stock, authorized, \$15,000,000; outstanding, \$15,000,000, all owned by the American

Power & Light Co. Shares, \$100. Transfer agents, stock is in voting trust and agent for voting trustees is Bankers Trust Co.

NOTES.—Five year 6 per cent gold notes, authorized, \$15,000,000; issued, \$10,000,000; outstanding December 31, \$2,576,000. Dated June 15, 1912; due June 15, 1917. Interest payable June and December 15 at Bankers Trust Co.,

For twenty years the largest Gas Companies in America and England have used the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

New York. Denominations, \$500 and \$1,000; coupon form, but principal may be registered. Redeemable at 101 on any interest date. Trustee of bonds, Bankers Trust Co.

Under the terms of the trust agreement securing the notes it is provided that all securities which the Southwestern Utilities Corporation may acquire by the use of the proceeds of the sale of the notes shall be deposited as security for the notes. When the securities so deposited are sold the proceeds must be used by the trustee for the purchase, redemption and cancellation of the notes. The trustee is required to advertise for tenders of notes and to buy those first which are offered at the lowest price, and if notes can not be purchased at 101 per cent and accrued interest, then notes are to be redeemed by lot at that price.

Southwestern Utilities Corporation is an investment company and does not operate any properties. It owns all the outstanding second preferred and common stock, except directors' shares, of the Southwestern Power & Light Company.

OFFICERS.—President, F. G. Sykes; Vice-Presidents, E. W. Hill, A. S. Grenier and William Darbee; Secretary and Treasurer, M. H. Arning; Asst. Secretary and Asst. Treasurer, Walter C. Lang.

DIRECTORS.—A. E. Smith, E. P. Summerson, F. G. Sykes, E. W. Hill, A. S. Grenier.

Annual meeting of stockholders held third Tuesday in June at Richmond, Va.

BALANCE SHEET AS OF DECEMBER 31, 1917.

<i>Assets.</i>	
Investments	\$5,962,052.88
Current assets	608,275.63
Trust funds	586.35
Total	\$6,570,914.86
<i>Liabilities.</i>	
Capital stock:	
\$15,000,000 par value outstanding	
issued under the laws of Vir-	
ginia for assets valued at	\$2,851,000
One year 6% notes	2,500,000
Current liabilities	*1,038,594.62
Reserves	90,031.38
Surplus	91,288.86
Total	\$6,570,914.86

* Of this amount \$1,023,744.41 is due American Power and Light Company.

SOUTHWESTERN POWER & LIGHT COMPANY.

The Southwestern Power & Light Company was incorporated July 30, 1912, under the laws of Maine. It is an investment company, controlling the Texas Power & Light Company, Fort Worth Power & Light Company, El Paso Gas Company, Paris Transit Company, Wichita Falls Electric Company, Wichita Falls Water Company, West Texas Electric Company, Sweetwater Ice & Cold Storage Company, International Electric Company and Eagle Pass Water Company and Galveston Gas Company. It owns all the common stock, except directors' shares, of the Texas Power & Light Company, more than 93 per cent of the common stock of the Fort Worth Power & Light Company and all of the capital stock and other securities (except directors' shares) of the other companies. It also controls the Hutchinson Gas and Fuel Company and the Newton Gas and Fuel Company through ownership of all their capital stock, except directors' shares. The total population of the communities served is estimated at 592,875.

FRANCHISES.—None of the franchises under which the controlled companies operate expire prior to 1935, while most of them do not expire until 1950 or later, and some of them are unlimited in time. All are ample in their provisions and are free from burdensome restrictions.

CAPITAL STOCK.—The authorized and outstanding capital stock of the Southwestern Power & Light Company as of December 31, 1917 was as follows:

	Authorized	Outstanding
Preferred	\$12,000,000	\$2,423,000
Second preferred	3,000,000	1,964,000
Common	20,000,000	15,125,000

All of the outstanding stock of all classes, except directors' shares, is held by the Southwestern Utilities Corporation and is deposited under the agreement securing the five-year 6 per cent gold notes of the Southwestern Utilities Corporation.

The preferred stock is entitled to 7 per cent cumulative dividends from November 1, 1912, and to preference over the second preferred stock and common stock as to assets in case of liquidation. It is redeemable on any dividend date at 115 per cent and accrued dividend.

The second preferred stock is entitled to 7 per cent cumulative dividends. It is also entitled to preference over common stock as to assets in case of liquidation. It is redeemable on any dividend date at par and accrued dividends. The second preferred stock is convertible at the option of the company by lot into preferred stock when for twelve consecutive months within the immediately preceding thirteen months earnings for dividends are two and one-half times the dividend requirements on the preferred stock then out and the additional preferred stock to be issued in exchange.

Transfer agent, Registrar and Transfer Co. of Jersey City, N. J. Registrars, Corporation Trust Co. of Jersey City, N. J.

BONDS.—First lien 5 per cent gold, outstanding (December 31, 1917), \$3,797,000. Interest June and December. Dated June 1, 1913; due June 1, 1943. Denominations, \$100, \$500 and \$1,000. Coupon; principal registerable. \$1,000 bonds may be fully registered. Redeemable at 105 and interest on or after June 1, 1918.

The bonds are secured by a first lien on all

Precision Orsats or Flue Gas Analyzers for either 50 or 100 CCs always in stock. Prices and Bulletins on request.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

property now owned by the El Paso Gas Company, Wichita Falls Electric Company, Wichita Falls Water Company, West Texas Electric Company, Paris Transit Company, International Electric Company, Eagle Pass Water Company and Sweetwater Ice & Cold Storage Company through the deposit with the trustee of the entire capital stock and all bonds of each company; and are further secured by the deposit with the trustee of all the common stock, except directors' shares, of the Texas Power & Light Company and all the common stock of the Fort Worth Power & Light Company owned by the Southwestern Power & Light Company.

The mortgage provides for sinking fund payments on the total amount of bonds outstanding on June 1 of each year as follows: 1 per cent from 1918 to 1922, inclusive; $1\frac{1}{2}$ per cent from 1923 to 1927, inclusive, and 2 per cent from 1928 to 1942 inclusive. If the Company's earnings are equal to at least three times the interest charges on all bonds outstanding the sinking fund for any of the years from 1928 to 1942, inclusive, may be only $1\frac{1}{2}$ per cent. The sinking fund is to be applied to the purchase of bonds at not more than 105 per cent and accrued interest. If the bonds are not obtainable in the market at that or a lower price they may be called by lot at 105 per cent and accrued interest.

Additional bonds may be issued only to reimburse the Company for not exceeding 80 per cent of the cost of permanent additions, improvements, etc., and then only provided net earnings of the Company for twelve consecutive months within the fifteen months preceding any proposed issue are equal to at least twice the annual interest charge on the total bonds then outstanding and those applied for.

SERVICE AND PROPERTY.

All of the companies controlled by the Southwestern Power & Light Company operate as separate units. They furnish electric light and power service to 102 communities (including wholesale service to 2 communities), gas service to 10 communities, water service to 3 communities, street railway service to 1 community and ice and fuel service to 1 community. The total population of the communities served in 1910 was 449,074, according to the United States Census and estimates for the two Mexican communities. Since 1910 this population has been largely increased and is now estimated at 592,875.

The total number of customers served by the companies controlled by the Southwestern Power & Light Company and the physical equipment and output of their properties as of December 31, 1917, as compared with the previous year, follow:

	1917	1916
Electric customers....	58,609	52,817
Artificial gas customers	17,495	16,181
Natural gas customers	11,823	11,814
Water customers.....	3,975	3,719
Total customers.....	91,902	84,531
Kw. generating capacity	39,356	38,950
Kw. generating capacity under construction..	19,135	15,850
Kw. hr. feeder output for 12 months.....	132,831,368	104,904,559
Miles of overhead electric distributing pole lines (6,600 volts or less) in service, irrespective of the number of circuits carried	1,282	1,116
Miles of high voltage transmission lines (over 6,600 volts) in operation, irrespective of the number of circuits carried....	1,002	884
Miles of high voltage transmission lines (over 6,600 volts) under construction, irrespective of the number of circuits carried	44	117
Artificial gas holder capacity (cu. ft.)...	2,696,500	1,596,500
Artificial gas holder capacity (cu. ft) under construction.....	.....	1,100,000
Artificial gas output (cu. ft.) for 12 mos.	533,384,000	458,733,400
Natural gas output (cu. ft.) for 12 mos.....	1,537,027,000	2,346,395,000
Miles of gas mains....	415	401
Miles of street railway lines in operation..	5	5
Miles of water mains	49	46

BALANCE SHEET.

A copy of the balance sheet of the Southwestern Power and Light Co. as of December 31, 1917, follows:

<i>Assets.</i>	
Securities of other companies....	\$24,100,026.35
Current assets	370,752.84
Trust funds	37,706.48
Treasury bonds	150,000.00
Suspense	23,724.57
Bond discount and expense.....	523,730.99
Total.....	\$25,205,941.23
<i>Liabilities.</i>	
Capital stock:	
Preferred, 7%	\$2,423,000.00
Second preferred, 7%.....	1,964,000.00
Common	15,125,000.00
Bonds, first lien 5%.....	3,797,000.00
Current liabilities	*1,709,604.19
Surplus	187,337.04
Total.....	\$25,205,941.23

* Of this amount \$547,200 is due Southwestern Utilities Corporation and \$1,063,675.66 is due American Power & Light Co.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

APPENDIX

EARNINGS.

A statement of earnings for the year ended December 31, 1917, compared with the previous year, follows:

	1917	1916
Gross earnings of all subsidiaries	\$4,677,378	\$4,193,265
Balance of subsidiary companies' earnings, after deducting all charges and all expenses, applicable to Southwestern Power & Light Co.	1,007,605	1,153,313
Expenses of Southwestern Power & Light Co.	127,812	61,429
Balance	879,793	1,091,884
Interest on Southwestern Power & Light Co.'s bonds	178,750	152,140
Balance	701,043	939,744
All other interest	80,853	68,721

Balance	620,190	871,023
Dividends on preferred stock	169,610	157,360
Balance	450,580	713,663

Note: The above statement shows the earnings of all properties now owned by the subsidiary companies, irrespective of the dates of their acquisition.

The gross earnings for the twelve months ended December 31, 1917, were derived from various classes of business as follows:

	Amount	Percentage of total
Electric light and power ..	\$3,436,337	73
Artificial gas	645,590	14
Natural gas	423,547	9
Water	107,115	2
Railway	43,251	1
Miscellaneous	21,538	1
Total	\$4,677,378	100

UTILITIES SECURITIES CORPORATION.

Corporate Office, Mutual Building, Richmond, Va.; New York Office, 60 Broadway, New York.

Incorporated in Virginia, Dec. 16, 1912, for the purpose of acquiring, holding and dealing in the securities of public utility and other corporations, and of municipalities and governments.

Capital Stock.	Authorized	Outstanding
Preferred 7% cumulative (additional 3% non-cumulative)	\$1,000,000	\$250,000
Common	500,000	250,000
Dividends on preferred payable quarterly, March 27, etc.		

Initial dividend, 1 $\frac{3}{4}$ per cent, March 27, 1913.

Transfer agent, Guaranty Trust Co. of New York. Registrar, Columbia-Knickerbocker Trust Co., New York.

OFFICERS.—President, W. M. Coleman; Vice-President, F. L. Dame; Treasurer, L. J. Hart; Secretary, E. W. Freeman; Assistant Secretary and Assistant Treasurer, L. J. Kilmarx.

DIRECTORS.—F. L. Dame, William M. Coleman, E. W. Freeman, L. J. Hart, W. B. Mahony.

VIRGINIA RAILWAY AND POWER CO., RICHMOND, VA.

Principal address, Seventh and Franklin Streets.

The Company was incorporated in 1909 under the laws of Virginia. The Company owns and controls the entire street railway and the commercial electric lighting and power business now operating in Richmond and Petersburg, Virginia, and an interurban electric railroad connecting the two cities. The Company also owns and controls the street railway lines and electric lighting and power properties of Norfolk, Portsmouth and Suffolk, Virginia, including the City Gas Company of Norfolk. The total territory served has a population of about 325,000 and is increasing rapidly.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$8,000,000	\$7,999,400
Common stock	12,000,000	11,950,500

Transfer agents, Bank of Richmond, Inc., Victor Cumberson, Daniel Safford, New York. Registrars, Virginia Trust Co., Richmond, The Equitable Trust Co., New York.

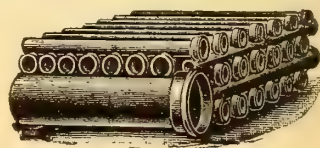
FUNDED DEBT.—Bonds, first mortgage and refunding 5 per cent; authorized, \$15,000,000; outstanding and in treasury, including prior liens, \$12,285,000. Dated July 1, 1909; due July 1, 1934; interest payable January 1 and July 1 at New York. Denomination, \$1,000; coupon, registerable as to principal. Callable at 105 on any interest date. Trustee of Bonds, Equitable Trust Co. of New York.

SECURITY.—First lien on practically the entire property.

Company and Character of Bond or Debt.	Due.	Outstanding June 30, 1917
Underlying bonds:		
Virginia Ry. & Pr. Co.		
1st and refund. mtg. July 1, 1934		\$12,285,000
Richmond Ry. & El. Co. 1st mtg.	July 1, 1920	32,000
Norfolk & Portsmouth Traction Co. 1st mtg.	July 1, 1936	6,496,000
Norfolk & Atlantic Terminal Co. 1st mtg.	Mar. 1, 1929	500,000
Norfolk Ry. & Lt. Co. 1st consol. mtg.	Jan. 1, 1949	2,950,000
Norfolk St. R. R. Co. 1st mtg.	Jan. 1, 1944	1,040,000
Virginia El. Co. 1st mtg.	Apr. 1, 1928	10,000
City Gas Co. of Norfolk 1st mtg.	June 1, 1926	500,000
Richmond & Alleghany R. R. Co.		36,000
Total		\$23,849,000

The combined assets and liabilities of all companies in the system, including Norfolk Railway and Light Company, and City Gas Company of Norfolk, on June 30, 1917, with all charges between companies eliminated, summarized, were as follows:

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
 R. D. WOOD & CO. : PHILADELPHIA, PA.



APPENDIX

755

Assets.

Capital assets—Property, plant, franchises and privileges	\$41,200,307.73	
New construction and betterments.....	4,397,226.34	
Real estate available for sale.....	72,640.29	
Work in progress.....	119,779.69	
		\$45,789,954.05
Investments		901,035.85
Trustees of sinking funds: Sinking fund bonds redeemed	\$759,000.00	
Cash deposit to redeem sinking fund bonds.....	1,585.26	
Proceeds sale of property deposited.....	119,000.37	
Deposit to redeem bond scrip.....	33.97	
		879,619.60
Deferred charges, etc.: Premium and discount on bonds	\$515,977.66	
Suspense account	21,707.06	
Interest receivable accrued.....	6,815.94	
Prepaid accounts	46,562.79	
		591,063.45
Current assets: Material and supplies.....	\$448,148.11	
Bills receivable	332,989.31	
Accounts receivable, consumers.....	167,864.19	
Accounts receivable, subsidiary companies.....	457,688.40	
Accounts receivable, sundry.....	159,177.32	
Deposits to pay interest coupons.....	361,523.92	
Deposits to pay dividends.....	1,274.25	
Cash	632,084.98	
		2,560,750.48
Total.....		\$50,722,423.43

Liabilities.

Capital stock: Common.....	\$14,100,500.00	
Preferred	7,999,400.00	
		\$22,099,900.00
Funded debt		23,848,626.25
Current liabilities: Pay rolls and accounts payable	\$321,398.27	
Matured interest on bonds.....	361,200.00	
Dividends payable	241,292.25	
Consumers' and employes' credits.....	64,240.94	
Unredeemed tickets	18,366.41	
Interest accrued	60,333.33	
Taxes and rentals accrued.....	170,448.31	
Accrued sinking fund installments.....	27,617.91	
Suspense items	4,128.30	
		\$1,269,025.72
Reserves: Depreciation	\$1,342,781.92	
Injuries and damages	39,752.17	
For service rewards.....	3,690.00	
From sale of property.....	386,736.05	
		1,772,960.14
Trustee accounts: Sinking fund bond retirement.....		760,585.26
Surplus account		971,326.06
Total.....		\$50,722,423.43

The difference in amounts for property, etc., investments, common stock and funded debt is principally due to the elimination of the Norfolk and Ocean View Railway Company from this year's report.

INCOME FOR YEAR ENDED JUNE 30, 1917.

The gross earnings, income and disbursements of the combined properties owned, leased and operated by the Virginia Railway and Power Company for the fiscal year, after excluding off-setting transactions between companies and departments, are given below:

Gross earnings	\$6,044,495.41
Operating expenses	2,941,293.27
Operating revenue over operating expenses (carried forward).....	\$3,103,202.14

Operating revenue brought forward.....	\$3,103,202.14
Other income	98,391.22

Gross income	\$3,201,593.36
Taxes and licenses.....	387,672.12

Income applicable to fixed charges and rentals	\$2,813,921.24
Fixed charges and rentals:	
Int. on outstanding funded debt.....	\$1,195,650.00
Sinking fund payments.....	134,735.00
Norfolk Railway & Light Co., rental	99,000.00
Total fixed charges, etc.....	\$1,429,385.00

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM.

**UNITED LEAD COMPANY
111 BROADWAY, NEW YORK**

Surplus over fixed charges and rentals	\$1,384,536.24
Other charges:	
Proportion of discount on sale and purchase of bonds and other securities	30,315.60
Net miscellaneous charges, not operation, charged direct to surplus	162,133.05
Total direct charges	\$192,448.65
Surplus over fixed and other charges	\$1,192,087.59
OFFICERS.—President, Thos. S. Wheelwright; Vice-Presidents, Fritz Sitterding, Henry W.	

Anderson and C. B. Buchanan; Secretary and Treasurer, Geo. B. Williams; Assistant Secretary and Assistant Treasurer, Geo. H. Taylor; Assistant Treasurer, W. J. Kehl; Assistant Secretary, A. E. Dickson.

DIRECTORS.—Henry W. Anderson, Nathaniel A. Campbell, Percy M. Chandler, Arthur W. Kelly, Caldwell Hardy, Fergus Reid, F. W. Roebing, Jr., Finley J. Shepard, Fritz Sitterding, George H. Taylor, Thos. S. Wheelwright, R. Lancaster Williams, Coleman Wortham and W. J. Parrish.

Annual meeting of stockholders held in November at Richmond, Va.

Company's fiscal year ends June 30.

ROANOKE GAS LIGHT CO., ROANOKE, VA.

Principal Office, 1127 Land Title Building, Philadelphia, Pa.

The Roanoke Gas Light Co. was incorporated March, 1912, under the laws of Virginia, and acquired the gas business of Roanoke Gas and Water Co.

FRANCHISES.—Expire 1928.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$500,000	\$400,000
Common stock	1,000,000	1,000,000

Shares, \$100. Transfer agents, The C. H. Geist Co. Registrars, Philadelphia Trust Co., Philadelphia, Pa. Dividend on preferred stock, annual rate 6%, payable quarterly.

FUNDED DEBT.—Bonds: First mortgage 5 per cent gold, authorized, \$2,000,000; issued, \$744,000. Dated April 1, 1912; due April 1, 1927. Interest payable April 1 and October 1 at The

Phila. Trust, Safe Deposit and Insurance Co. Denomination, \$1,000; may be registered as to principal. Redeemable at 102 and interest on April 1, 1917, or any interest due date thereafter. Trustee of bonds, Philadelphia Trust Co., Philadelphia, Pa.

SECURITY.—First lien on all property now owned or which may be hereafter acquired.

OFFICERS.—President, C. H. Geist; Vice-President, W. H. Lewis; Secretary, C. H. Weak; Treasurer, H. A. Lang; Manager, W. J. McCorkindale.

DIRECTORS.—C. H. Geist, C. H. Weak, H. A. Lang, J. A. Slattery, W. H. Lewis.

Annual meeting of stockholders held first Tuesday in April at Roanoke, Va. Company's fiscal year ends March 31.

PUGET SOUND GAS CO., EVERETT, WASH.

Puget Sound Gas Co. was incorporated in August, 1917, under the laws of Washington, as successor to the Everett Gas Co.

FRANCHISES.—Gas franchises expire 1950.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,000,000	\$225,000
Common stock	1,000,000	950,000

Shares, \$100. Transfer agents and registrars, Continental and Commercial Trust and Savings Bank, Chicago, and Guaranty Trust Co., New York City.

No funded debt.

EARNINGS FOR FOUR MONTHS ENDED DECEMBER 31, 1917.

Gross earnings	\$36,160.82
Operating expenses	30,576.03

Net earnings

OFFICERS.—President, Elmer Dover; Vice-Presidents, F. W. Stehr, O. E. Osthoff, F. C. Gordon; Secretary and Treasurer, R. J. Graf.

DIRECTORS.—Elmer Dover, H. M. Byllesby, O. E. Osthoff, J. J. O'Brien and A. S. Huey.

CONDENSED GENERAL BALANCE SHEET, DEC. 31, 1917.

Assets.

Property rights, plant and franchises	\$1,455,775.92
Materials and supplies	17,340.20
Accounts receivable	\$8,856.29
Less—Reserve for bad debts	353.04
Cash	8,503.25
Unexpired insurance	10,885.55
Deferred charges	316.38
Total	\$1,493,739.31

Liabilities.

Preferred stock	\$225,000.00
Common stock	950,000.00
Standard Gas & Electric Co.	5,736.44
Accounts payable	9,618.72
Taxes accrued	10,671.62
Consumers' deposits	3,900.65
Dividends accrued—preferred capital stock	3,750.00
Depreciation reserves	283,332.17
Surplus	1,729.71
Total	\$1,493,739.31



FOR GAS HOLDERS IN EXPOSED POSITIONS

No. 26 Battleship Gray or Low Visibility Gray, used where red paint is objectionable, or where it is desirable to make a gas holder less prominent, as for instance on the seashore.

Write for
Review of Technical Paints.

CHEESMAN & ELLIOT, 100 William St., New York

PUGET SOUND TRACTION, LIGHT AND POWER CO., SEATTLE, WASH.

This Company purchased and consolidated the properties formerly owned by The Seattle Electric Company, Pacific Coast Power Company, Puget Sound Power Company, Seattle-Tacoma Power Company and Whatcom County Railway & Light Company. It also owns most of the capital stock of Puget Sound Electric Railway and all the capital stock of Pacific Northwest Traction Company, which owns the capital stock of the Puget Sound International Railway & Power Company.—lessee of Everett Railway, Light and Water Company.

The Company through ownership or control does substantially all the electric street and interurban railway and the greater part of the commercial electric lighting and power business in the Puget Sound district, including the cities of Seattle, Tacoma, Bellingham and Everett, Washington. The Company owns or controls hydro-electric power plants with a present development of 87,500 h. p. and an ultimate development of about 175,000 h. p.; steam stations with a present capacity of 34,400 h. p.; and street and interurban railways aggregating 493.6 miles of equivalent single track.

FRANCHISES.—The franchises under which operation is carried on in the various cities and towns are satisfactory in terms, and expire, with unimportant exceptions, on dates ranging from 1930 to 1952. Gas franchise expires in 1941. The interurban railways and long distance power transmission lines are located principally on private right of way.

CAPITALIZATION.

Capital Stock.	Authorized	Outstanding
Common stock, 4%.....	\$25,000,000	\$20,110,400*
Pref. stock, 6% cum....	15,000,000	14,793,600*
Shares, \$100 par.		

* Of these amounts \$4,889,600 of common stock and \$206,400 of preferred stock are represented by non-interest bearing receipts exchangeable par for par for stock certificates.

Preferred stock redeemable at 125. Preferred as to dividends and in case of liquidation.

Dividends: Preferred stock, 6 per cent cumulative, payable January 15, April 15, July 15 and October 15. Stock registrar, Old Colony Trust Co., Boston.

BONDS.—Five-year 6 per cent mortgage gold bonds, due February 1, 1919:

Outstanding	\$10,057,000
Unissued	4,943,000

Authorized

Callable as a whole on any interest day at 101 and interest until and including February 1, 1917, and at 100 and interest thereafter.

NOTE.—These bonds are issued in coupon form in \$500 and \$1,000 denominations registerable as to principal only; in registered form in \$1,000, \$5,000 and \$10,000 denominations. Bonds in coupon form of \$1,000 denomination are interchangeable with bonds in registered form of any denomination. Bonds in registered form only are in exchangeable denominations.

Coupons, February 1 and August 1, payable at office of trustee.

Trustee and registrar of bonds, Old Colony Trust Company, Boston.

Bonds assumed or outstanding on properties controlled through stock ownership:

Everett Ry. & Elec. Co.....	\$825,000
Everett Ry. Lt. & Water Co.....	171,000
Pacific Coast Power Co.....	3,990,000
Puget Sound Electric Railway.....	3,596,000
Puget Sound Power Co.....	2,920,000
The Seattle Electric Co.....	9,527,000
The Seattle Elec. Co., Seattle-Everett	2,962,000
Seattle Railway Co.....	356,000
Tacoma Railway & Power Co.....	1,236,000
Whatcom County Railway & Light Co.	1,407,000
	<hr/>
	\$26,990,000

CONDENSED RESULTS OF OPERATIONS FOR TWELVE MONTHS ENDING DECEMBER 31, 1917.

Earnings and Expenses: (consolidated statement): For 12 months ending Dec. 31, 1917:

Gross earnings

Operating expenses and taxes....

Net earnings

Interest charges

Balance

Sinking fund requirements.....

Balance

Dividends: Pfd. stock, 3%.....

Balance for reserves and replace-

ments

12 mos. ending Dec. 31.	Gross Earnings-	Net Earnings after Operating Expenses and Taxes.	Balance for Sinking Fund, Reserves, De- preciation and Dividends.
1912 ..	\$8,313,847.87	\$3,541,549.29	\$1,789,173.71
1913 ..	8,613,599.74	3,605,224.35	1,793,788.66
1914 ..	8,450,973.85	3,443,965.92	1,583,141.72
1915 ..	7,559,582.53	2,804,819.58	926,040.55
1916 ..	8,107,371.28	2,986,376.24	1,126,000.38
1917 ..	9,454,861.06	3,600,842.79	1,621,781.61

Under management of Stone & Webster.

Annual meeting first Monday in March.

SPOKANE GAS AND FUEL COMPANY, SPOKANE, WASH.

Incorporated November 15, 1909, under the laws of the State of Washington. Owns all the stock of the Union Gas Co., which owns all of the preferred stock and 99.2 per cent of the common stock of the Spokane Falls Gas Light Co.

Operated by the Doherty organization. Controlled by Cities Service Co.

FRANCHISE.—Dated June 14, 1904: forty-one years.

CAPITAL STOCK.—Authorized and outstanding:



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Auto Owners.

Because of its records in service and wide distribution.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

Common, \$2,000,000; 6 per cent preferred, \$300,000. Total, \$2,300,000. Preferred is cumulative after July 14, 1912. Shares, \$100. In September, 1910, the Cities Service Co. secured a contract for the acquisition of the entire common stock of this Company. Transfer agents, Henry L. Doherty & Co., New York, N. Y.

FUNDED DEBT.—\$864,000 first and refunding mortgage 5 per cent 35-year sinking fund bonds, dated December 1, 1909; due August, 1944; interest payable February 1 and August 1 at office of Henry L. Doherty & Co., New York. Trustee, Central Trust Co., New York. Coupons, \$1,000; registerable as to principal. Redeemable on any interest date at 105 and interest. Sinking fund on all outstanding bonds, including prior lien, July each year, 1911 to 1916, $\frac{1}{2}$ per cent of bonds; after July, 1916, 1 per cent of bonds until all bonds are redeemed. Secured on all property. Authorized, \$5,000,000, of which a sufficient amount is reserved to retire prior liens at par.

\$550,000 Union Gas Co. first and collateral

trust mortgage; dated July 1, 1905; due July 1, 1935; interest 5 per cent, payable January 1 and July 1 at N. W. Halsey & Co., New York. Coupon bond may be registered as to principal and denomination \$1,000. Sinking fund, 1 per cent of outstanding bonds commencing with July 1, 1911, up to and including July 1, 1916; thereafter 2 per cent. Bonds to be kept alive in sinking fund. Additional bonds may be drawn for 80 per cent of improvements. U. S. mortgage & Trust Company, New York City, Trustee.

OFFICERS.—President, Henry L. Doherty; First Vice-President, F. W. Frueauff; Second Vice-President, Harry Warner; General Manager, Harry Warner; Secretary, B. Aubrey Smith; Treasurer, Harry Warner.

DIRECTORS.—Henry L. Doherty, F. W. Frueauff, A. A. Salmon, C. O. Walter, W. J. Schneider, Harry Warner, R. B. Stitzer, C. G. Allenbach, R. R. Rogers, A. E. Gallagher, M. R. Bump, B. Aubrey Smith, H. H. Scott.

Annual meeting, second Tuesday in January.

TACOMA GAS COMPANY, TACOMA, WASH.

The Tacoma Gas Co. was incorporated in August, 1909, under the laws of Delaware.

FRANCHISE.—Expires in 1934.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$5,000,000	\$750,000
Common stock.....	2,500,000	1,550,000
Shares, \$100. Transfer agents, Continental and Commercial Trust and Savings Bank, Chicago and Guaranty Trust Co., New York, Registrars, Continental and Commercial Trust and Savings Bank, Chicago.		

UNDERLYING BONDS.—\$1,559,000 Tacoma Gas Light Co. 5s, due June 1, 1926; \$416,000 Tacoma Gas and Electric Light Co. 5s, due June 1, 1926.

Tacoma Gas Co. is still in hands of Mr. Elmer Dover, the receiver appointed by the courts. It is believed that the reorganization of this company will be consummated before the end of 1918. This property is showing increased

gross earnings, but high fuel cost has so far prevented the net earnings from responding. Tacoma, the city nearest to what is said to be the largest national army cantonment in the United States (Camp Lewis), is enjoying unparalleled business activity and prosperity, due not only to the influx of people brought about by the cantonment, but also to the revival of the lumber trade and the establishment of large shipbuilding and other new industries. The company has increased its gas rates, as authorized by the Washington Public Service Commission.

EARNINGS STATEMENT FOR YEAR ENDED DECEMBER 31, 1917, OF TACOMA GAS COMPANY AND OLYMPIA GAS COMPANY.

Gross earnings	\$302,059.57
Operating expenses	239,769.63
Net earnings	\$62,289.94

WENATCHEE VALLEY GAS AND ELECTRIC CO., WENATCHEE, WASH.

The Wenatchee Valley Gas and Electric Co. was incorporated in July, 1910, under the laws of the State of Washington, and is a consolidation of Wenatchee Electric Co., Entiat Light and Power Co., Valley Power Co., Brown Electric Co. The Wenatchee Valley Gas and Electric Co. is operated wholly as an electric company. The gas business is handled through a subsidiary company, the Central Washington Gas Co., of which the Wenatchee Valley Gas & Electric Co. owns all the stock.

FRANCHISES.—City of Wenatchee (electric), 1950; Chelan County, 1954; Douglas County, 1945 and 1961.

CAPITALIZATION.—Common stock, authorized, \$750,000; outstanding, \$621,800. Shares, \$100.

FUNDED DEBT.—Bonds, general first mortgage, authorized, \$2,000,000; issued, \$654,000; dated

October 1, 1910; due October 1, 1930. Interest payable April and October at Spokane & Eastern Trust Co., Spokane, Wash. Denomination, \$1,000. Coupon, registerable as to principal. Redeemable at 105 on any interest date. Security, first lien (except some minor exceptions). Sinking fund, 5 per cent gross income. Also \$57,000 Entiat Light & Power Co. first mortgage 6s, due 1928, which are being gradually retired.

\$200,000 Wenatchee Valley Gas & Electric Co. 6 per cent five-year collateral trust coupon notes, dated October 1, 1914, due October 1, 1919. Interest payable April 1 and October 1 at the West End Trust Company, Philadelphia, Pa., Trustee. Outstanding, \$132,500. Denomination, \$500. Secured by deposit with the trustee of \$400,000 Wenatchee Valley Gas & Electric Company 6 per cent 20-year bonds, which are a direct lien on all the company's

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

property subject only to the general first mortgage bonds.

OFFICERS.—President, Geo. D. Brown; Vice-President, Chas. F. Brown; Secretary, Fred M. Crollard; Treasurer, R. C. Kennedy; Manager, Geo. D. Brown.

HUNTINGTON DEVELOPMENT AND GAS CO., HUNTINGTON, W. VA.

Huntington Development and Gas Co. was incorporated in June, 1916, under the laws of Delaware, and acquired properties of the Huntington Development & Gas Co. (of W. Va.), Guyandot Land Association, Lincoln County Land Association, Interval Gas & Oil Co., Duval Oil Co., Four Mile Oil Co., Mingo Coal Co., Irvine Coal Co., and the lands in Wayne county, Virginia, owned by the Virginia Investment Association.

FRANCHISES.—Huntington (1962). Ceredo (1963) and Kenova, W. Va. (1963); Catlettsburg (1933) and Ashland, Ky. (1933).

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$1,500,000	\$1,500,000
Common stock	4,000,000	4,000,000

Shares, \$100. Registrars, E. W. Clark & Co., Philadelphia, Pa. Dividend on preferred stock, annual rate 6 per cent, payable quarterly.

FUNDED DEBT.—Bonds: 20-year 6 per cent sinking fund gold, authorized, \$20,000,000; issued, \$2,935,000. Dated June 1, 1916; due June 1, 1936. Interest payable June 1 and December 1 at E. W. Clark & Co., Philadelphia, Pa. Denominations, \$500 and \$1,000. Redeemable at 102½ per cent and interest on any interest date at Philadelphia Fidelity Trust Company.

The property consists of coal, oil, natural gas and timber lands in Lincoln, Wayne, Cabell, Putnam, Logan and Mingo Counties, West Virginia, aggregating approximately 330,000 acres, of which about one-half is owned in fee simple and one-half in mineral fee, with full mining rights. In addition, about 6,000 acres of oil and gas leases. Of these lands about 189,500 acres have been leased for oil and gas purposes to other companies on a royalty basis and about 209 wells have been drilled by these lessees, of which 164 produce gas and 45 oil. The Columbia Gas & Electric Co., one of the lessees, transports gas from the company's lands to Cincinnati, Ohio. The coal and other minerals are not included in the leases to other companies. On the remaining acreage which has not been leased for oil and gas purposes, the company owns 152 wells, of which 132 produce gas and 20 oil. In addition, the company has the exclusive output from 36 gas wells, drilled by other companies on land not owned by this company.

The company has natural gas distribution systems and field lines of over 168 miles, including 12-inch main pipe lines 65 miles in length, together with a pumping and compressor station with a capacity of 30,000,000 c. f. of gas per day. The company serves over 3,800 industrial and domestic consumers in Huntington and Kenova, W. Va., and Ashland, Ky.

DIRECTORS.—R. C. Kennedy, J. H. Stout, Chas. F. Brown, Geo. D. Brown, Fred M. Crollard, R. T. Lovell, H. Remley.

Annual meeting of stockholders held fourth Tuesday in January. Company's fiscal year ends December 31.

BALANCE SHEET AS OF DECEMBER 31, 1917.

Assets.

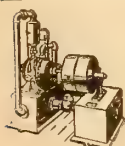
Plant, property and franchise	\$8,920,266.23	
Bills and accounts receivable	\$97,887.70	
Cash in bank	2,868.95	100,756.65
Bonds in treasury		322,000.00
Cash in hands of trustee		484.04
Advance payments		20,227.22
		\$9,363,734.14

Liabilities.

Capital stock:		
Preferred	\$1,500,000.00	
Common	4,000,000.00	
		\$5,500,000.00
First mortgage 6% bonds	3,257,500.00	
Bills and accounts payable	475,297.40	
Accrued accounts	15,176.98	
Advance earnings	21,817.16	
Suspense items	9,696.79	
Reserve for contingencies	25,697.50	
Profit and loss	58,548.31	
		\$9,363,734.14

EARNINGS AND SALES—TWELVE MONTHS, JAN. 1 TO DEC. 31, 1917.

Sales of gas	6,888,532,000 c. f.	
Average monthly sales	574,044,000 c. f.	
Average selling price per 1,000 c. f.		7.17c.
Gross revenue	\$644,289.07	
Operating expenses, rentals, etc.	218,428.17	
Net	\$425,860.90	
Taxes	60,823.29	
Net after optg. rentals and taxes	\$365,037.61	
Interest charges	190,816.05	
Balance	\$174,221.56	
Dividends paid on preferred stock	90,000.00	
Balance for 1917	\$84,221.56	
Balance for 1916	56,451.75	
Total	\$140,673.31	
Depreciation	82,125.00	
Surplus, December 31, 1917	\$58,548.31	



SERVE YOUR COUNTRY by eliminating gas wastes by inefficient combustion. Install the **NEEDHAM HIGH PRESSURE GAS SYSTEM** for industrial economy.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

OFFICERS.—President, G. L. Estabrook; Vice-Presidents, W. B. Kurtz and E. J. King; Secretary and Assistant Treasurer, William Lilley; Treasurer, G. A. Northcott.

DIRECTORS.—E. W. Clark, G. L. Estabrook, Wm. B. Campbell, Geo. W. Kendrick, 3d; W. B.

Kurtz, Wm. Lilley, D. E. Abbott, E. J. King, J. T. McClintock, G. A. Northcott, W. C. W. Renshaw.

Annual meeting of stockholders held first Monday in December at offices of the company. Company's fiscal year ends December 31.

WEST VIRGINIA TRACTION & ELECTRIC CO., WHEELING, W. VA.

New York address: 50 Pine Street.

(Controlled by Eastern Power & Light Corporation.)

Incorporated July 11, 1912, in West Virginia, and acquired the properties formerly owned by the Union Utilities Co., and the City & Elm Grove Railroad Co. and subsidiaries. The City & Elm Grove Railroad Co. owned control of the City Railway Co., the Wheeling & Elm Grove Railway Co., the Wheeling Park Association and the Suburban Light & Water Co. Also owns the entire common stock of the City & Suburban Gas Co., which has outstanding in the hands of the public \$100,000 7 per cent preferred stock and \$600,000 first mortgage 6 per cent bonds (out of an authorized issue of \$1,000,000), the principal and interest of which are guaranteed by West Virginia Traction & Electric Co.

The Company owns and operates a part of the electric railways in the city of Wheeling, the railways, electric lighting, gas and water utilities in the growing residential Elm Grove suburban district of that city, and an amusement park of 33 acres served by its railway system and largely patronized by the people of Wheeling, and in addition owns valuable real estate adjacent to Wheeling. It also owns leases on some 27,000 acres of natural gas fields about one-quarter developed, lying between Wheeling and Morgantown, from which it derives its supply of natural gas. Also owns and operates the water, electric light and gas utilities and an electric railway in the city of Morgantown, W. Va. Operates 39.5 miles of track, including city lines, in Wheeling and suburban lines to Elm Grove and West Alexander; also 8.5 miles in Morgantown and from Morgantown to Sebraton. Total track operated, 48 miles. Gauge, standard; cars, motor 74, other 6; power plants, 2.

CAPITAL STOCK.—Authorized, \$2,000,000 common and \$2,000,000 7 per cent cumulative preferred; outstanding, \$1,250,000 common and \$619,600 preferred; par \$100. The Eastern Power & Light Corporation owns the entire outstanding common stock, with the exception of 13 shares. Transfer agent and registrar, Equitable Trust Co., New York. Preferred dividends payable semi-annually, April and October.

BONDED DEBT.—\$1,800,000 6 per cent two-year gold notes; dated May 1, 1917; due May 1, 1919. Interest payable May 1 and November 1, at New York Trust Co., trustee, New York City. Subject to call at 100½ per cent on 40 days' notice. Secured by pledge of \$2,500,000 first refunding and improvement mortgage 30-year gold bonds.

\$15,000,000 general and refunding mortgage 25-year gold bonds; issued \$2,500,000; dated May 1, 1917, due May 1, 1942. Interest payable May and November 1 at New York Trust Company, Trustee, New York City. Redeemable at 101 and interest at company's option.

\$1,119,000 City & Elm Grove Railroad consolidated collateral trust gold 5s; dated July 1, 1906; due July 1, 1936; interest January 1 and July 1 at Union Trust Co., Pittsburgh, Pa., Trustee. Coupon, \$1,000; subject to call on any interest date at 105 and interest. Authorized \$2,500,000, of which \$1,000,000 are reserved to retire prior liens. These bonds are a first lien on the City Railway property and a second lien on the Wheeling & Elm Grove Railroad property, Wheeling Park and the Suburban Water & Light Co. property.

\$794,500 Wheeling & Elm Grove Railroad second mortgage 5s; dated April 1, 1901; due April 1, 1931; interest April 1 and October 1 at Wheeling Title and Trust Co., Trustee. Coupon, \$1,000; principal may be registered. Amount originally authorized, \$1,250,000, was reduced in February, 1906, to \$1,000,000, of which \$205,500 is reserved to retire a like amount of first mortgage bonds, due March 1, 1928.

Wheeling & Elm Grove Railroad Co. first mortgage 5 per cent 30-year bonds, dated March 1, 1898; due March 1, 1928; interest March 1 and September 1; authorized, \$225,000; outstanding, \$155,500, at December 31, 1917; \$5,000 retired in sinking fund each year on March 1.

\$1,183,000 Union Utilities Co. first sinking fund gold 5s; dated July 1, 1909; due July 1, 1944; interest January 1 and July 1 at Farmers' Loan & Trust Co., New York, Trustee. Coupon, \$1,000; principal may be registered. Authorized, \$1,500,000; balance may be issued to cover 75 per cent of cost of additions and improvements, only when net earnings for preceding year equal 2½ times interest on bonds issued and to be issued. Sinking fund provides for redemption annually of not less than 2 per cent of outstanding amount at not exceeding 105. A first lien on entire property. Subject to call at 105 and interest on any interest date, on thirty days' notice.

OFFICERS.—President, W. S. Barstow; Vice-President, J. D. Whittemore; Secretary, C. N. Wilson; Treasurer, A. P. Taliaferro.

DIRECTORS.—L. H. Tyng, J. D. Whittemore, W. S. Barstow, J. B. Taylor, O. C. Swenson.

General manager, W. S. Barstow Management Assn., Inc., New York.

COMPRESSOR FOR AIR OR GAS, direct connected gas engines driven with high speed "Biplane" Valves exceedingly compact, efficient and economical.

HOPE ENGINEERING & SUPPLY COMPANY,
Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

WISCONSIN TRACTION, LIGHT, HEAT & POWER CO., APPLETON, WIS.

The Wisconsin Traction, Light, Heat & Power Co. was incorporated in March, 1900, under the laws of Wisconsin, and is a consolidation of Fox River Valley Electric Railway Co., Appleton Electric Light & Power Co. and Fox River Valley Gas & Electric Co.

CAPITALIZATION.—Common stock, authorized, \$1,000,000; outstanding, \$699,400. Shares, \$100.

FUNDED DEBT.—Bonds, Fox River Valley Gas & Electric Co., issued, \$350,000; dated April 1, 1901; due April 1, 1921. Interest payable 5 per cent, semi-annually at Merchants Loan & Trust Co., Chicago, Ill. Denomination, \$1,000; coupon form.

OFFICERS.—President, John I. Beggs; Vice-President, Chas. F. Pfister; Secretary, A. K. Ellis; Treasurer, A. K. Ellis; General Manager, John I. Beggs.

DIRECTORS.—John I. Beggs, Chas. F. Pfister, Fred Vogel, Jr., H. C. Mackay and A. K. Ellis.

Annual meeting of stockholders held third Friday in January at Milwaukee, Wis. Company's fiscal year ends December 31.

BALANCE SHEET YEAR ENDED DEC. 31, 1917.

<i>Assets.</i>	
Property	\$3,571,438.20
Treasury stock	300,600.00
Sundry investments stocks and bonds of other companies.....	182,358.81
Cash	111,135.84
Accounts receivable	77,411.03
Material and supplies	166,902.82
Prepaid accounts	506.39
Notes and bills receivable	13,061.85
Open work orders	1,430.61
	<u>\$4,424,845.61</u>

<i>Liabilities.</i>	
Capital stock, common.....	\$1,000,000.00
Funded debt	1,850,000.00
Accounts payable	470,325.11
Deposits	1,230.13
Sundry current liabilities.....	1,442.67
Taxes accrued	14,467.62
Interest accrued	4,375.00
Reserve, sinking and special funds..	344,887.87
Profit and loss	738,117.21
	<u>\$4,424,845.61</u>

STATEMENT OF EARNINGS AND EXPENSES FOR YEAR ENDING DECEMBER 31, 1917.

	Railways.	Electric.	Gas.	Total.
Operating revenues	\$165,332.53	\$328,448.93	\$171,959.18	\$665,740.64
Operating expenses, current ordinary	87,611.32	196,658.35	131,981.95	416,251.62
Total operating expenses.....	128,944.44	242,641.18	158,061.19	529,646.81

WISCONSIN POWER, LIGHT & HEAT CO., BARABOO, WIS.

Principal address, 72 W. Adams St., Chicago, Ill.

The Wisconsin Power, Light & Heat Company was incorporated in April, 1916, under the laws of Wisconsin and is a consolidation of Baraboo Gas & Electric Company and Berlin Public Service Company and others.

FRANCHISES.—Operates under Wisconsin indeterminate permits.

CAPITALIZATION.—Authorized, \$1,000,000; outstanding, \$363,500. Shares, \$100. Transfer agents, office of the company.

FUNDED DEBT.—Bonds: First and refunding mortgage bonds, outstanding, \$950,000; dated June 1, 1916; due June 1, 1946; interest payable June 1 and December 1 at First Trust Company, Milwaukee. Denominations, \$1,000, \$500 and \$100, coupon (principal may be registered). Re-

deemable at 102 on any interest date at First Trust Company, trustee.

SECURITY.—First mortgage on all property.

SINKING FUND.—1 per cent after 1922.

OFFICERS.—President, Marshall E. Sampsell; Vice-President, Martin J. Insull; Secretary, Henry M. Brooks; Treasurer, Henry M. Brooks; General Superintendent, G. C. Neff.

DIRECTORS.—John I. Beggs, Martin J. Insull, W. G. Souders, L. E. Myers, Marshall E. Sampsell.

Annual meeting of stockholders held third Friday in July at Milwaukee.

Company's fiscal year ends June 30.

BELOIT WATER, GAS AND ELECTRIC COMPANY, BELOIT, WIS.

The Beloit Water, Gas and Electric Co. was incorporated in January, 1906, under the laws of Wisconsin, and is a consolidation of Beloit Gas Light and Coke Co., Beloit Electric Co., Beloit Water Works Co., all located in Beloit, Wis.

FRANCHISES.—Now operating under an indeterminate permit from the Railroad Commission of Wisconsin.

CAPITALIZATION.—Preferred stock, 7 per cent cumulative, \$500,000; common stock, \$500,000.

Shares, \$100 each. Transfer agents located at Beloit, Wis. Registrars, Peoples Savings Bank and Trust Co., Chicago, Ill.

Dividend on preferred stock, annual rate 7 per cent, payable quarterly, January, April, July and October.

FUNDED DEBT.—Bonds: First mortgage 5 per cent 25-year sinking fund gold. authorized, \$3,000,000; issued \$1,300,000; dated March 1, 1912; due March 1, 1937. Interest payable semi-an-



Tycos Temperature Instruments are the result

of more than 50 years of experience as makers of high grade, accurate instruments. Tycos products are as different from ordinary instruments as unusual skill, great care and the highest standard of manufacture can make them. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



ually at Spencer Trask & Co., New York City. Denominations, \$100, \$500 and \$1,000; principal may be registered. Redeemable at Cincinnati, Ohio, on any interest date at 103 after January 1, 1916. Trustee of bonds, Union Savings Bank and Trust Co., Cincinnati, O.

SECURITY.—First mortgage.

OFFICERS.—President, E. G. Cowdery; Vice-President and General Manager, B. F. Lyons;

Secretary, C. H. Deppe; Assistant Secretary, E. L. Moorman; Treasurer, H. A. Von Oven.

DIRECTORS.—B. F. Lyons, Beloit, Wis.; E. G. Cowdery, Chicago, Ill.; Chas. H. Deppe, Cincinnati, Ohio; Otto Armleder, Cincinnati, Ohio; C. B. Wright, Cincinnati, Ohio.

Annual meeting of stockholders held in August at Beloit, Wis.

Company's fiscal year ends June 30.

WISCONSIN-MINNESOTA LIGHT & POWER CO., EAU CLAIRE, WISCONSIN.

The Wisconsin-Minnesota Light & Power Co. was incorporated in 1914 under the laws of Wisconsin and is a consolidation of La Crosse Gas & Electric Co., Winona Gas Light & Coke Co., Red Wing Gas Light & Power Co., Eau Claire Gas Light Co., Chippewa Valley Railway & Light & Power Co.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$5,000,000	\$4,622,000
Common stock	5,000,000	2,500,000

Shares, \$100. Transfer agents, Boston Safe Deposit and Trust Co. Registrars, New England Trust Co. Dividend on preferred stock, 3½ per cent quarterly.

All common stock owned and properties managed by American Public Utilities Co.

FUNDED DEBT.—Bonds: First and refunding 5 per cent, authorized \$20,000,000, issued \$8,414,000. Dated May 1, 1914; due May 1, 1944. In-

terest payable semi-annually, January and July, at Harris Trust and Savings Bank, Chicago. Denominations, \$500 and \$1,000. Trustee of bonds, Harris Trust and Savings Bank and Albert W. Harris.

SECURITY.—First and refunding.

SINKING FUND.—1 per cent per year first ten years, 1½ per cent second ten years, 2 per cent thereafter. Retiring bonds or extensions and additions.

OFFICERS.—President, Jos. H. Brewer; Vice-Presidents, W. B. Parsons and P. D. Kline; Secretary, Blaine Gavett; Treasurer, C. A. Boalt; Asst. Secretary and Asst. Treasurer, W. J. Ripley.

DIRECTORS.—J. H. Brewer, C. B. Kelsey, W. B. Parsons, C. A. Boalt, P. D. Kline, J. H. Blodgett, A. H. Brandt, G. G. Whitworth, Blaine Gavett, W. J. Ripley.

Company's fiscal year ends June 30.

EASTERN WISCONSIN ELECTRIC CO., SHEBOYGAN, WIS.

The Eastern Wisconsin Electric Company was incorporated February 21, 1917, to take over the properties of the Sheboygan Electric Company, the Eastern Wisconsin Railway and Light Company, and the Wisconsin Electric Railway Company. The company operates as one unit the properties and plants incident to doing the following public utility business: The electric lighting, power and street railway systems in Sheboygan and Fond du Lac, the gas business in Fond du Lac, the street railway business in Oshkosh, and about seventy miles of interurban and suburban lines serving Sheboygan, Fond du Lac and Oshkosh.

FRANCHISES.—The entire business of the company is conducted under indeterminate permits as provided by the Wisconsin Public Utilities Law, in accordance with which, subject to the supervision of the Railroad Commission, it is protected from competition from any other company doing a similar public utility business.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock, 7% cum..	\$5,000,000	\$1,200,000
Common stock	2,000,000	700,000

Transfer agents, Boston Safe Deposit and Trust Company. Dividends payable June 1 and quarterly.

FUNDED DEBT.—Bonds: First and refunding, 5%, authorized \$20,000,000, issued \$1,084,500.

Reserved to retire underlying bonds, \$2,997,500; total funded debt \$4,082,000.

EARNINGS STATEMENT.

The following is a combined statement of earnings of subsidiary companies for the twelve months ended January 31:

	1917	1916
Gross earnings	\$958,633.09	\$860,809.38
Operating expenses, maintenance and taxes	547,410.85	514,321.84
Net earnings.....	\$411,222.24	\$346,487.54
Bond interest.....	204,100.00	
Balance	\$207,122.24	
Preferred dividends..	84,000.00	
Surplus	\$123,122.24	

OFFICERS.—President, Joseph H. Brewer; Vice-President, Raymond H. Smith; Secretary, Blaine Gavett; Treasurer, W. J. Ripley; Manager, Raymond H. Smith.

DIRECTORS.—Joseph H. Brewer, Henry K. Hooker, John H. Blodgett, Charles McPherson, Blaine Gavett, Willis J. Ripley, Raymond H. Smith.

Annual meeting of stockholders held first Monday after first Tuesday in August at Grand Rapids, Mich. Company's fiscal year ends June 30.



Proof-Tested Chains

**Williams' Improved "Vulcan"
Drop-Forged Chain Pipe Wrench**

J. H. WILLIAMS & CO., 74 Richards St.,
BROOKLYN, N. Y.

WISCONSIN PUBLIC SERVICE COMPANY, GREEN BAY, WIS.

Principal address, 1410 First National Bank, Milwaukee, Wis.

The Wisconsin Public Service Co. (formerly Green Bay Traction Co.) was incorporated May 29, 1905, under the laws of Wisconsin, and is a consolidation of Green Bay Traction Co., Green Bay Gas & Electric Co., Northern Hydro Power Co. and Minahan Electric Co., all of Green Bay, Wis.

FRANCHISE.—Perpetual.

CONTROL.—The Company is controlled by the Wisconsin Securities Company.

CAPITAL STOCK.—Authorized and outstanding, \$600,000 6 per cent cumulative preferred and \$1,000,000 common. Shares, \$100. Registrar and transfer agent, Secretary of the Company. Annual meeting second Thursday of August of each year; books close ten days in advance.

FUNDED DEBT.—Outstanding January 1, 1915, as follows: \$2,438,000 first mortgage and refunding 5 per cent gold coupon bonds, registerable as to principal; dated January 1, 1912; due January 1, 1942; denomination, \$1,000; redeemable at option of the Company in whole or in part on any interest day at 105 and interest. Interest January and July at Wisconsin Trust Company, Milwaukee, Wisconsin, Trustee. Authorized, issue \$15,000,000.

SINKING FUND.—Beginning year 1917 and annually thereafter shall set aside 2 per cent of amount of bonds outstanding.

UNDERLYING BONDS.—Green Bay Gas & Electric Company first mortgage and refunding 5 per cent gold bonds, \$445,000; dated May 1, 1905; due May 1, 1935; coupon, registerable as to principal. Interest May and November at Wisconsin Trust Company, Trustee, Milwaukee. Green Bay Light & Power Company bonds, \$28,-

000; dated February 1, 1889; interest February and August at First National Bank of Milwaukee, Trustee; \$28,000 of Green Bay Gas & Electric Company bonds are in the hands of a trustee to retire these Green Bay Light & Power Company bonds; additional bonds may be issued as follows: (1) \$1,000,000 for additional property, either for a par amount not exceeding 75 per cent of cost or at not exceeding 100 per cent of cost, provided in the latter case the net earnings equal $1\frac{3}{4}$ times a year's interest on all bonds then outstanding, including any underlying bonds and those sought to be issued; (2) for a par amount not exceeding 85 per cent of cost of additions, provided net earnings are $1\frac{3}{4}$ times said interest; (3) at par to retire at par any underlying bonds or mortgage debt of any company whose property or stock is acquired. Secured by mortgage on all properties, subject only to bonds outstanding on Green Bay Gas & Electric Company property.

OFFICERS.—President, Clement C. Smith; Vice-Presidents, C. R. Phenicie and Henry L. Rice; Secretary and Treasurer, Howard Greene; Acting Secretary and Acting Treasurer, J. P. Pulliam; Assistant Secretary, Geo. J. Chaffee; Assistant Treasurer, Theodore F. Kaap; Auditor, A. L. Buscher.

DIRECTORS.—Clement C. Smith, John I. Beggs, William Bigelow, Robert Camp, Oliver C. Fuller, Howard Greene, J. W. P. Lombard, Ludington Patton, C. R. Phenicie, J. P. Pulliam, Henry L. Rice, Fred Vogel, Jr.

Annual meeting of stockholders second Thursday of August at Milwaukee, Wis.

Company's fiscal year ends June 30.

EARNINGS AND EXPENSES AS OFFICIALLY REPORTED TWELVE MONTHS ENDING DECEMBER 31.

	1917	1916	1915
Total revenues	\$564,570.86	\$533,734.47	\$510,960.82
Total operating expense.....	269,978.57	250,406.29	232,606.67
Taxes	33,600.00	29,500.00	31,480.00
Gross income	260,992.29	253,828.18	246,874.15
Interest on first security bonds.....	131,681.97	123,687.50	105,483.33
Balance.....	\$129,310.32	\$130,140.68	\$141,390.82
Interest on temporarily second security bonds..	14,201.37	22,395.83	41,000.00
Balance.....	\$115,108.95	\$107,744.85	\$100,390.82
Interest on floating debt.....	10,524.04	7,162.74	7,475.63
Balance.....	\$104,584.91	\$100,582.11	\$92,915.19

NEW GAS LIGHT COMPANY, JANESVILLE, WIS.

Incorporated under the laws of Wisconsin.

CAPITAL STOCK.—Authorized and issued, \$250,000. Shares, \$50.

FUNDED DEBT.—Outstanding, consists of \$229,000 first mortgage 5 per cent 40-year bonds, due June 1, 1934; interest June 1 and December 1, at Real Estate Trust Co., Philadelphia. Secured upon all property and franchises of the Company.

OFFICERS.—President, Walton Clark; Vice-Presidents, Lewis Lillie and Paul Thompson; Treasurer, James Ball; Secretary, Louise Merrill; Comptroller, G. W. Curran.

DIRECTORS.—Walton Clark, G. W. Curran, Lewis Lillie, Louise Merrill, Mary R. Merrill.

Annual meeting, first Monday in July.



1803

1918

R. D. WOOD & CO., PHILA., PA.

**HOLDERS, CAST IRON PIPE,
SCRUBBERS, CONDENSERS, ETC.**

1803

1918



MADISON GAS AND ELECTRIC CO., MADISON, WIS.

The Madison Gas and Electric Co. was incorporated in 1896 under the laws of Wisconsin.

FRANCHISES.—Perpetual.

CAPITAL STOCK.—Authorized, \$400,000; outstanding, \$400,000. Shares, \$100. Transfer agents, Emerson McMillin & Co. Registrars, American Light and Traction Co.

FUNDED DEBT.—Bonds: First mortgage 6s, authorized, \$400,000; issued, \$400,000; dated April 1, 1896; due April 1, 1926. Interest payable April 1 and October 1 at Emerson McMillin & Co., Bankers, New York. Denominations, \$500 and \$1,000; coupon; registerable as to principal. Callable at 110 and interest on any interest date. Trustee of bonds, Central Trust Co., New York.

Bonds: First refunding gold 5s, authorized,

\$3,000,000; issued, \$463,500; dated October 1, 1910; due October 1, 1940. Interest payable April 1 and October 1. Denomination, \$1,000; coupon; registerable as to principal. Callable at 110 and interest on any interest date. Trustee of bonds, Bankers Trust Co., New York.

OFFICERS.—President, Alanson P. Lathrop; Vice-President and General Manager, John St. John; Secretary and Treasurer, Charles E. Bennett.

DIRECTORS.—John St. John, John Corscot, C. F. Cooley, John Grinde, A. E. Proudfit, F. W. Hoyt, Alanson P. Lathrop.

Annual meeting of stockholders held in January at Madison, Wis.

Company's fiscal year ends December 31.

MILWAUKEE GAS LIGHT COMPANY, MILWAUKEE, WIS.

The Milwaukee Gas Light Co. was incorporated in 1852 under the laws of Wisconsin. The American Light & Traction Co. owns over 97% of the stock of the Milwaukee Gas Light Co.

FRANCHISES.—Perpetual.

CAPITAL STOCK.—Authorized, \$5,500,000; outstanding, \$5,000,000. Shares, \$50. Transfer agents, Emerson McMillin & Co. Registrars, American Light and Traction Co.

FUNDED DEBT.—Bonds: First mortgage gold 4s, authorized \$10,000,000, issued \$8,697,000; dated May 1, 1902; due May 1, 1927. Interest payable May 1 and November 1 at Emerson McMillin & Co., Bankers, New York. Denomination, \$1,000; registerable as to principal. Callable at 110 and interest on any interest date.

Trustee of bonds, Central Trust Co. of New York.

OFFICERS.—Chairman of Board, Emerson McMillin; President, Alanson P. Lathrop; Vice-Presidents, S. J. Glass and N. P. Hulst; Secretary, Ewald Haase; Treasurer, Ewald Haase; Manager, R. B. Brown; Assistant Secretary, H. C. Schafer.

DIRECTORS.—Emerson McMillin, E. J. Lindsay, N. P. Hulst, A. K. Hamilton, H. A. Luedke, Alanson P. Lathrop, R. B. Brown, F. W. Rogers, S. J. Glass.

Annual meeting of stockholders held first Monday in July at Milwaukee, Wis.

Company's fiscal year ends December 31.

THE WISCONSIN EDISON COMPANY, MILWAUKEE, WIS.

New York office, 30 Broad Street.

This Company was incorporated November 7, 1912, under the laws of New York State, and is organized to take over the holdings of the North American Co. in the public utilities which it controls within the State of Wisconsin. The Company now owns the capital stock of the Milwaukee Light, Heat and Traction Co., which in turn controls the Milwaukee Electric Railway and Light Co., Wisconsin Gas and Electric Co. (a consolidation of the Racine Gas Light Co., Kenosha Electric Railway Co. and Kenosha Gas and Electric Co., Watertown Gas and Electric Co. and Burlington Light and Power Co.), North Milwaukee Light and Power Co., and Wells Power Co.

CAPITALIZATION.

	Authorized	Outstanding
Capital stock (all one class, without nominal or par value).....	400,000 shs.	215,000 shs.
Debtenture bonds, 6% convertible 10-year, dated May 1, 1914	\$10,000,000	\$6,500,000

Registrar of stock: The Equitable Trust Co. of New York. Transfer agent, Robert Randall, 30 Broad street, New York City.

Dividends in aggregate amount of \$3 per share were paid during the year 1917 as follows: \$1 on April 16; 50 cents on July 16, and \$1.50 on December 31.

OFFICERS.—James D. Mortimer, President; Edwin Gruhl, Assistant to President; Henry H. Pierce, Vice-President; George R. Sheldon, Treasurer; James F. Fogarty, Secretary; Robert Sealy and Ferdinand Sherwood, Assistant Treasurers; Robert Randall, Assistant Secretary.

DIRECTORS.—John I. Beggs, Edwin M. Bulkley, William Nelson Cromwell, James F. Fogarty, Charles F. Pfister, Henry H. Pierce, James D. Mortimer, George R. Sheldon, Francis S. Smithers.

RELIABLE

ANGLIRON

RANGES

So readily apparent are the many desirable features of "RELIABLE 'ANGLIRON'" ranges and so strongly do they appeal to the most exacting that sales are effected with least effort. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

INCOME ACCOUNT FOR FISCAL YEAR ENDED
DECEMBER 31, 1917.

Total gross earnings.....	\$1,446,410.65
Dividends received or accrued....	1,282,625.00
Interest received or accrued.....	163,785.65

Total expenses and interest.....	\$617,375.70
Interest paid or accrued.....	557,320.39
Taxes	40,753.41
Miscellaneous expenses and charges	19,301.90

Net income	\$829,034.95
Dividends	645,000.00

Balance to surplus account..... \$184,034.95

Gross earnings of the company for the year 1917 increased \$15,528.60, or 1.08 per cent; expenses and interest increased \$158,113.60, or 34.43 per cent, and net income decreased \$142,585, or 14.67 per cent.

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Stocks	\$19,641,960.90
Bonds	225,854.72
Cash	31,278.87
Loans	3,593,296.80
Accounts receivable	992,390.63
Interest receivable	2,250.00

\$24,487,031.92

Liabilities.

Capital stock (215,000 shares)....	\$11,598,567.28
Ten-year 6% convertible gold debenture bonds, dated May 1, 1914	6,500,000.00
Accounts payable	5,053,477.58
Interest accrued	65,000.00
Taxes accrued	18,000.00
Surplus, December 31, 1917.....	1,251,987.06

\$24,487,031.92

WISCONSIN GAS AND ELECTRIC COMPANY, RACINE, WIS.

This Company is the successor, by change in name and amendment of articles of incorporation, of the Racine Gas Light Co. It has also acquired the property and business of the Kenosha Gas and Electric Co. and the Kenosha Electric Railway Co., the Watertown Gas and Electric Co. and Burlington Electric Light and Power Co.

FRANCHISES.—Electric light and power and gas, perpetual; street railway, expires in 1952.

CAPITALIZATION.

Preferred stock, 6% cumulative.....	Outstanding \$376,700
Common stock	1,747,500

FUNDED DEBT.—Bonds: First mortgage gold 5s, issued \$2,997,000; dated June 1, 1912; due June 1, 1952. Interest payable June 1 and December 1. Denominations, \$1,000, \$500 and \$100, with privilege of registration as to principal. Optional at 105 and interest on June 1, 1917, or on any interest date thereafter. Trustee of bonds, Harris Trust and Savings Bank, Chicago.

BONDS.—First mortgage gold 5s Watertown Gas and Electric Co.; \$130,000, dated June 1, 1905; due June 1, 1921; interest payable June and December at Bank of Watertown. Wisconsin Trust Co., Milwaukee, trustee. Callable on any interest day at 102½.

SECURITY.—First mortgage on the entire property.

INCOME ACCOUNT FOR FISCAL YEAR ENDING DEC. 31.

	1916	1917
Operating revenues....	\$1,143,791.43	\$1,510,679.06
Operating expenses....	699,893.78	1,059,591.55
Depreciation (reserve credit)	92,994.92	76,294.04
Taxes (reserve).....	57,407.62	64,547.71

Net operating revenues	\$293,495.11	\$310,245.76
Non-operating revenues	25,549.28	31,008.29

Gross income.....	\$319,044.39	\$341,254.05
Interest charges.....	139,559.02	181,695.21

Net income.....	\$179,485.37	\$159,558.84
-----------------	--------------	--------------

CONDENSED BALANCE SHEET FOR YEAR ENDING
DECEMBER 31.*Assets.*

Property and plant.	1916	1917
general account.....	\$4,495,782.70	\$5,173,332.94
Cap. exp., current fiscal year	677,550.24	920,128.23
Treasury bonds.....	37,400.00	76,800.00
Cash	25,122.15	31,019.48
Notes and bills receivable	145.00	290.00
Accounts receivable....	183,518.22	253,898.98
Material and supplies	219,341.81	457,530.98
Prepaid accounts.....	3,656.60	4,376.24
Open accounts.....	289,024.86	297,284.08
	\$5,931,541.58	\$7,214,660.93

Liabilities.

Capital stock:		
Preferred	\$200,000.00	\$376,700.00
Common	1,657,500.00	1,747,500.00
Funded debt	2,759,500.00	3,127,000.00
Notes and bills payable		172,500.00
Accounts payable....	574,706.10	942,570.67
Matured interest unpaid	21,327.08	23,634.18
Deposits	13,501.10	16,405.80
Taxes accrued	18,808.32	20,301.83
Dividends accrued....	6,000.00	6,564.25
Dividends unpaid.....		5.25
Sundry accrued liabilities	5,995.88	15,759.25
Open accounts	281.85	655.25
Reserve sinking and special funds.....	400,527.62	486,461.73
Income account, current fiscal year, surplus	92,897.87	88,084.09
Profit and loss—profit	180,495.76	190,518.63

\$5,931,541.58 \$7,214,660.93

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

OFFICERS.—James D. Mortimer, President; S. B. Way, Vice-President; F. J. Boehm, Secretary and Treasurer; James F. Fogarty, Assistant Secretary; Robt. Sealy, Assistant Treasurer; D. E. Callender, General Manager; E. Jorgenson, Auditor.

DIRECTORS.—James D. Mortimer, Charles F. Pfister, James D. Shaw, R. B. Stearns, S. B. Way.

General office: Racine, Wis.

SUPERIOR WATER, LIGHT AND POWER CO., SUPERIOR, WIS.

The Superior Water, Light and Power Co. was incorporated in August, 1889, under the laws of Wisconsin, and is a consolidation of Superior Water Works Co., Superior Light and Fuel Co. and Superior and Duluth Electric Co., all in Superior, Wis.

FRANCHISES.—Water, thirty years from 1887, with 30-year renewal provision; gas and electric, perpetual (indeterminate permits).

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock.....	\$500,000	\$500,000
Common stock	750,000	500,000

Shares, \$100. Transfer agents, Empire Trust Co., New York. Registrars, United States Mortgage and Trust Co., New York.

Dividend on preferred stock, annual rate 6 per cent, payable January 1, April 1, July 1 and October 1.

Dividend on common stock, annual rate, 4 per cent, payable January 1, April 1, July 1, October 1.

FUNDED DEBT.—Bonds: First mortgage 30-year 4 per cent gold, authorized, \$2,000,000; issued, \$1,900,000 (\$110,000 in treasury); dated May 1, 1901; due March 1, 1931. Interest payable May 1 and November 1 at United States Mortgage and Trust Co., New York. Denomination, \$1,000; coupon. Redeemable at 103 and interest on any interest date at office of trustee. Trustee of bonds, United States Mortgage and Trust Co., New York.

SECURITY.—First mortgage on company's entire property.

SINKING FUND.—One per cent per annum, beginning May 1, 1910, on outstanding bonds; bonds purchased for fund are kept alive and draw interest, which is added to the fund. Bonds purchased for fund at current market price, not over 103 and interest, or may be drawn by lot at that figure; \$185,000 par value of bonds now in sinking fund.

Refunding bonds, 5 per cent, closed mortgage, \$200,000, September 1, 1909, 20-year; interest March 1 and September 1 at United States Mortgage and Trust Co. Denominations, \$250, \$500 and \$1,000. Trustee, United States Mortgage and Trust Co. Subject to call at par and interest. All but \$59,750 of these bonds had on Jan. 1, 1918, been exchanged for 1st consols. described below.

First consol. 5s, November 1, 1915, 50-year, authorized \$7,500,000; \$2,000,000 reserved for retirement of first mortgage; \$200,000 issued for exchange for refunding 5s; \$140,250 exchanged to Jan. 1, 1918. Interest May and November at United States Mortgage and Trust Co., New York. Coupon, \$250, \$500 and \$1,000.

OFFICERS.—President, Thos. B. Scott; Vice-President, W. H. Winslow; Secretary, C. D. Se Cheverell; Treasurer, A. N. Anderberg; Manager, W. H. Winslow.

DIRECTORS.—W. R. Merriam, Washington, D. C.; C. A. Chase, P. G. Stratton, H. H. Grace, W. H. Winslow, Superior, Wis.; J. C. Bishop, Philadelphia; T. B. Scott, New York.

COMPARATIVE INCOME ACCOUNT FOR YEAR ENDING JUNE 30.

	1916	1917
Total operating revenues.....	\$426,537.00	\$433,434.50
Operating expenses, taxes and depreciation.....	260,858.12	266,813.13
Net operating revenue.....	\$165,678.88	\$166,621.37
Non-operating revenue....	3,576.76	3,378.29
Gross income	\$169,255.64	\$169,999.66
Interest on funded debt..	80,952.88	81,600.00
Sinking fund requirements	16,328.34	16,275.00
Bond acct. amortization..	4,780.58	4,720.66
Total deductions.....	\$102,061.80	\$102,595.66
Net income	\$67,193.84	\$67,404.00

GENERAL BALANCE SHEET AS OF JULY 1, 1917.

Assets.	Liabilities.
Property and plants.....	Common capital stock.....
Extensions to plants.....	Preferred capital stock.....
First mortgage bonds unsold.....	First mortgage 4% gold bonds.....
Investments	First consol. 5% bonds.....
Sinking fund	Five per cent refunding bonds.....
Cash in office and banks.....	Sinking fund capital.....
Accounts, bills and interest receivable	Bills payable
Merchandise and material.....	Accounts payable
Prepaid taxes, insurance and expenses	Surety d'psts and advance payments
Unamortized bond discount.....	Reserve for depreciation.....
	Reserve for bond interest, sinking fund, maintenance, etc.....
	Profit and loss.....
\$3,938,784.77	\$3,938,784.77

EVERYWHERE men in charge of Street Mains welcomed the GOODMAN STOPPER 20 years ago.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

WESTERN LIGHT & POWER CO., CHEYENNE, WYO.

Incorporated May 1, 1906, in Colorado as the Northern Colorado Power Co. Name changed as above in 1914.

The Western Light & Power Co. serves with electric light and power an extensive agricultural, manufacturing and mining area some 50 miles in length and 20 miles in width, situated in the northern part of the State of Colorado, adjacent to Denver. The population of the territory served increased 66 per cent between 1900 and 1910, and is now about 75,000. The Company owns the street railway system in Boulder, Colorado, and through a subsidiary, the Cheyenne Light, Fuel & Power Co., serves the city of Cheyenne, Wyoming, with electricity, steam heat and manufactured gas. The business field includes Boulder, Louisville, Lafayette, Fort Collins, Greeley, Loveland and several other towns.

CAPITALIZATION.—Preferred stock, 7 per cent cumulative: Authorized, \$1,500,000; outstanding, \$1,000,000. Common stock: Authorized, \$2,000,000; outstanding, \$2,000,000.

FUNDED DEBT.—Bonds: First mortgage, 5 per cent sinking fund gold, authorized \$6,000,000, outstanding \$2,100,000; dated May 1, 1915; due

May 1, 1925. Interest payable May 1 and November 1. Denominations, \$100, \$500 and \$1,000; coupon bonds, registerable as to principal. Redeemable on any semi-annual interest date at 100 and accrued interest. Franklin Trust Co. of New York, trustee.

SECURITY.—The bonds, subject only to \$128,000 divisional bonds covering the Cheyenne property alone, are secured by an absolute first mortgage on the entire property of the Company.

SINKING FUND.—2 per cent of the gross earnings, beginning 1917, the percentage gradually increasing until it reaches 4 per cent in 1923.

OFFICERS.—President, Guy E. Tripp; Vice-President, H. U. Wallace; Secretary and Treasurer, John Seager; General Manager, H. U. Wallace.

DIRECTORS.—A. Ludlow Kramer, T. A. Wilkinson, N. C. McPherson, J. R. Hall, Rudolph Titkin, F. L. Tomlins, John Seager, J. H. Grassman, A. R. Miller, W. J. Barker, H. U. Wallace, J. A. Davis and T. H. Eves.

Annual meeting of stockholders held first Saturday in April.

Company's fiscal year ends December 31.

BRANDON GAS AND POWER COMPANY, LTD., BRANDON, MANITOBA, CANADA.

The Brandon Gas and Power Co. was incorporated in 1908 in the Province of Manitoba.

FRANCHISES.—Extend to June 19, 1941. It is provided that in 1933 the city may purchase the gas plant at an appraised figure, which right, if not then exercised, lapses for another period of five years, when the same right of public purchase again accrues. In case of the non-user of such right of the municipality at that time, the franchise thereupon again becomes automatically renewed and extended for a like additional period of five years, the same process being indefinitely repeated.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock (7 per cent cumulative).....	\$25,000	\$25,000
Common stock (par \$100)	500,000	300,000

FUNDED DEBT.—Bonds: First mortgage 6 per cent gold, authorized, \$500,000; issued, \$216,000; dated October 1, 1909; due October 1, 1929. Interest payable April 1 and October 1 at P. W.

Brooks & Co., New York City. Denominations, \$100, \$500 and \$1,000; coupon; registerable as to principal. Callable on any interest date on or after October 1, 1914, at 105 and accrued interest. Trustee of bonds, Columbia Trust Co., New York City.

SECURITY.—First lien on entire property.

SINKING FUND.—One per cent, beginning April 1, 1915, which may be applied either to purchase of any of the outstanding bonds at a price not over 105 per cent and accrued interest; or in lieu of such purchase may be used for the redemption of as many of the outstanding bonds as can be called by lot in the usual manner; or if neither of the above applications of the sinking fund is made, such money shall be invested in securities approved by P. W. Brooks & Co.

OFFICERS.—Secretary, C. S. Eaton; Treasurer, G. H. Harper; General Manager, M. L. Kane.

DIRECTORS.—W. H. Abbott, G. H. Harper, Geo. W. York, C. S. Eaton, A. F. House.

No 1918 report.

NEW BRUNSWICK POWER COMPANY, ST. JOHN, NEW BRUNSWICK.

The New Brunswick Power Co., chartered by special act of the Province of New Brunswick for the purpose of operating public utilities and acquiring and developing hydro-electric powers, has acquired by purchase the properties, rights and privileges of the St. John Railway Co., and has been granted rights and privileges on the Magaguadavic and the Lepreaux rivers, 34 and 18 miles, respectively, from St. John, N. B.

The company owns and operates without com-

petition the electric light and power business, the gas business and the system of street railways in St. John, N. B., and vicinity, serving a present estimated population of 60,000. The company's steam power plant is conveniently located in St. John, a short distance from tide-water, and is so constructed as to permit of future expansion.

The territory served includes St. John, East and West St. John, Fairville, Glen Fall and vicinity.

Metropolitan No. 2 Argand Burners, specified for candlepower test use by the London Gas Referee. The only burner which approaches perfect combustion of any kind of gas, whether coal gas, enriched coal gas or coal gas mixed with carburetted water gas. Write for Bulletin

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

CAPITALIZATION.

Bonded debt:	Authorized	Outstanding
1st mortgage 5s, due 1937..	\$5,000,000	*\$1,750,000
Capital stock:		
1st pref. (7% cum.).....	3,500,000	1,000,000
2d pref. (7% non-cum.)...	1,500,000	350,000
Common	2,000,000	2,000,000

The 7 per cent cumulative preferred stock is preferred as to assets and dividends; redeemable as a whole or in part at \$115 and accumulated

* The remaining bonds may be issued only under conservative restrictions.

dividends; dividends payable March 1 and quarterly. Par value \$100.

Registrar, The First National Bank of Boston.

OFFICERS.—President, L. R. Ross; General Manager, Secretary and Purchasing Agent, H. M. Hopper; Assistant General Manager, M. E. McCormick; Treasurer, G. M. O. Peters; Chief Engineer, John Geary.

DIRECTORS.—L. R. Ross, P. W. Thomson, F. R. Taylor, H. P. Robinson, W. E. McGregor, L. C. Gerry, R. B. Emerson.

Annual meeting fourth Monday in February
Company's fiscal year closes December 31.

STATEMENT OF ASSETS AND LIABILITIES. DECEMBER 31, 1917.

Investments:		<i>Assets.</i>	
Property accounts:			
Cost of fixed capital acquired March 1, 1917.....		\$5,235,495.74	
Net additions for ten months ending December 31, 1917.....		111,132.37	
Organization		4,189.67	
Total property accounts.....		\$5,350,817.78	
Other investments		49,420.80	
Total		\$5,400,238.58	
Deduct surplus at March 1, 1917, of the Eastern Electric Co., Ltd.		53,596.52	
Total investments			\$5,346,642.06
Current assets:			
Cash		\$7,233.83	
Petty Cash		2,500.00	
Special deposits		22,593.29	
Accounts receivable		59,438.69	
Materials and supplies.....		80,911.05	
Total current assets.....			172,676.86
Unadjusted debits:			
Prepaid insurance, rents, etc.....		\$6,456.17	
Debt discount and expense.....		1,273.89	
Accrued interest receivable.....		420.48	
Total unadjusted debits.....			8,150.54
			\$5,527,469.46
		<i>Liabilities.</i>	
Capital stock outstanding:			
First preferred stock 7% cumulative.....		\$1,000,000.00	
Second preferred stock 7% non-cumulative.....		350,000.00	
Common stock		2,000,000.00	
			\$3,350,000.00
Funded debt—First mortgage 5% 20-year gold bonds			1,750,000.00
Current liabilities:			
Notes payable		70,000.00	
Accounts payable		41,166.32	
Bond interest matured.....		287.50	
Bond interest accrued.....		29,166.68	
Sundry interest accrued.....		1,394.38	
Other accrued liabilities.....		3,241.40	
Total current liabilities.....			145,256.28
Deferred liabilities:			
Consumers' deposits		9,436.62	
Employees' deposits		40.00	
Total deferred liabilities.....			9,476.62
Liabilities (carried forward).....			\$5,254,732.90

WE BUY SPENT OXIDE FROM COAL GAS WORKS
SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

Liabilities (brought forward).....	\$5,254,732.90
Unadjusted credits:	
Dividends accrued	7,875.00
Tickets outstanding	6,907.16
Reserve for uncollectible accounts.....	956.13
Contingent reserve	17,656.59
Renewal and replacement reserve.....	223,277.00
Reserve for inventory shrinkage.....	3,298.66
Total unadjusted credits.....	259,970.54
Surplus:	
Surplus for one year ending Dec. 31, 1917.....	62,471.54
Less amounts applying prior to March 1, 1917.....	49,705.52
Surplus March 1, 1917, to Dec. 31, 1917.....	\$12,766.02
Surplus December 31, 1917.....	12,766.02
	<u>\$5,527,469.46</u>

NOVA SCOTIA TRAMWAYS & POWER COMPANY, LTD., HALIFAX, NOVA SCOTIA.

The Nova Scotia Tramways & Power Co., Ltd., was incorporated under a special act of the legislature of Nova Scotia in 1914, with authority, among other special powers, to purchase the properties and franchises of the Halifax Electric Tramway Co., Ltd., comprising all street railways, commercial electric light and power and gas properties in the City of Halifax, and to acquire water powers, lands, etc., on the Gaspeaux River, 55 miles from Halifax, capable of hydro-electric development of approximately 12,000 horsepower. Franchises, perpetual.

CAPITALIZATION.

	Authorized	Outstanding
First mtg. 5% gold bonds..	\$10,000,000	\$2,250,000
Preferred stock, 6% cum..	2,500,000	2,076,000
Common stock	3,500,000	2,500,000

First mortgage 5% gold bonds are dated December 1, 1916; due December 1, 1946. Interest payable June 1 and December 1, in New York, Montreal and London, without deduction for Canadian taxes or U. S. Federal taxes. Coupon bonds of \$1,000 and \$500 denominations, registerable as to principal only. Callable as a whole or in part for sinking fund, at 105 and accrued interest on any interest date. Trustees, Union

Trust Co. of New York, and The Royal Trust Co., Montreal.

Sinking Fund or Improvement Fund.—The mortgage provides for an annual sinking fund or improvement fund of 1% of the total bonds issued, the first payment to be on December 1, 1917. The company must use this fund either for additional properties or improvements, or else to purchase or call these bonds at not exceeding 105 and interest.

EARNINGS.—The company has shown the following earnings for the last five years:

	Gross	Net after Taxes
Year ending Dec. 31, 1911....	502,399	245,525
Year ending Dec. 31, 1912....	539,953	253,393
Year ending Dec. 31, 1913....	605,933	268,924
Year ending Dec. 31, 1914....	645,241	269,818
Year ending Dec. 31, 1915....	718,840	331,753
Year ending Dec. 31, 1916....	759,726	311,882

OFFICERS.—President, E. A. Robert; Vice-President, O. E. Smith; Secretary, Treasurer and Managing Director, H. R. Mallison.

DIRECTORS.—E. A. Robert, O. E. Smith, H. H. Smith, W. G. Ross, W. H. Covert, F. P. Royce, F. H. Wilson, J. W. McConnell, H. R. Mallison.

Company's fiscal year closes December 31.

DOMINION GAS COMPANY.

Incorporated under the laws of the State of Maine in June, 1912. A holding company owns over 99 per cent of the stocks of the following companies: Dominion Natural Gas Co., Ltd., of Ontario, Canada, Woodstock Gas Light Co., Ltd., Beaver Oil & Gas Co., Ltd., Ingersoll Gas Light Co., and 86.58% of the stock of the Brantford Gas Co. It also has contracts on which partial payments have been made to acquire over 99% of the stocks of the Thorold Natural Gas Co., Ltd., and 93.7% of the stock of the United Gas Companies, Ltd.

All of the above properties are located in the south central part of the Province of Ontario, Canada.

CAPITALIZATION.

Common Stock—	
Authorized	\$3,000,000
Issued	3,000,000
Bonds—	
Authorized	5,000,000
Issued	4,820,000

BOND DATA.—Dominion Gas Company five per cent collateral trust gold bonds, dated July 1, 1912; due July 1, 1952; interest 5 per cent, payable January 1 and July 1, at office of agency, New York. Coupon bonds may be registered as to principal. Denominations, \$1,000, \$500, \$250 and \$100. May be redeemed on any interest date at 105 and accrued interest, commencing

MONEL METAL

American Meter Company
561 W. 47th St., New York, N. Y.

METERS. These are high grade experimental meters for use with corrosive gases, such as oxygen gas.

with January 1, 1914. Sinking fund 2 per cent on or before January 1, 1919. In lieu of cash payment bonds hereby secured, with unmaturred coupons attached, will be equivalent to a cash payment of 105 per cent and accrued interest. Bonds to be kept alive in the sinking fund. Additional bonds to be delivered from time to time upon request of company. Broadway Trust Company, New York, Trustee.

OFFICERS. — President, Frank W. Frueauff; Vice-President, Louis F. Musil; Secretary and Treasurer, E. H. Johnston; Assistant Secretary, E. E. McWhiney; Assistant Treasurer, T. A. Wallace.

DIRECTORS.—Louis F. Musil, E. H. Johnston, Frank W. Frueauff, T. A. Wallace, Frank L. Blackburn.

Annual meeting, first Monday in October.

UNITED GAS AND FUEL COMPANY OF HAMILTON, LTD., HAMILTON, ONT, CANADA.

Company's office, 72 James Street, North.

The United Gas and Fuel Co., Ltd., is a consolidation of the Ontario Pipe Line Co. and the Hamilton (Ont.) Gas Light Co., having acquired all the property of the latter company. The company was incorporated in 1904 under the laws of the Province of Ontario, and the new company began operations in 1913.

CAPITALIZATION.

	Authorized	Outstanding
Capital stock	\$1,000,000	\$1,000,000
First mortgage five-year		
6% gold bonds.....	\$3,500,000	942,600

*This issue is secured, in opinion of counsel, by a direct first mortgage upon all the property, rights, franchises, etc., of the United Gas and Fuel Company of Hamilton, Ltd., now owned or hereafter acquired. The trust deed provides that \$1,000,000 of the escrowed bonds may be issued for betterments and extensions at 80 per cent of actual cost, and under other conservative restrictions, including a provision that the annual net earnings must equal an amount $1\frac{3}{4}$ times the interest charges on bonds outstanding, together with those proposed to be issued. \$1,500,000 of bonds are set aside for specific corporate purposes and may be issued, with the approval of the trustees, at 80 per cent of actual cost, to provide funds with which to purchase in its entirety the Hamilton By-Product Coke Ovens, Ltd., under the optional purchase contract with the Coke Ovens Company hereinafter mentioned.

BONDS.—Are dated November 1, 1913; due November 1, 1918; redeemable at 101 and interest November 1, 1914, or any interest payment date thereafter. Principal and interest (May 1 and November 1) payable in gold at Canadian Bank of Commerce, Toronto and Montreal; Central Trust Company, New York, or Central Trust Company of Illinois, Chicago, at the option of the holder. Coupon bonds. Principal may be registered. Denominations, \$100, \$500,

\$1,000, \$5,000. Central Trust Company of Illinois, Chicago, and Donald A. Cameron, Toronto, Trustees.

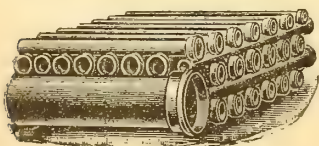
Concerning that provision of the United States federal income tax law relative to the deduction of the so-called normal tax of 1 per cent from interest payments, the American trustee will pay, from funds provided by the company, the interest on these bonds in full and where a deduction of said normal tax of 1 per cent is required and actually made the bondholder will be reimbursed by the said trustee.

CONDENSED BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>		
Property and plant.....	\$2,289,448.70	
Current: Cash	\$33,590.59	
Accounts receivable..	69,332.41	102,923.00
Inventory:		
Coal, coke and supplies	49,673.32	
Tools	1,298.44	50,971.76
		\$2,443,343.46
<i>Liabilities.</i>		
Bonds issued	\$1,184,000.00	
Less in treasury.....	\$126,000	
Less redeemed..	115,400	241,400.00
Bonds outstanding	\$942,600.00	
Capital stock	1,000,000.00	
Meter deposits.....	\$8,686.75	
Interest accrued.....	11,486.00	
Accounts payable.....	44,251.81	64,424.56
Depreciation reserve	108,806.10	
Amortization reserve	63,076.00	
Surplus from 1916.....	\$98,754.97	
Surplus for 1917.....	165,681.83	264,436.80
		\$2,443,343.46

COMPARATIVE OPERATING STATEMENT FOR DECEMBER AND FOR TWELVE MONTHS.

	December		Twelve Months	
	1917	1916	1917	1916
Gross income	\$81,821.19	\$70,785.68	\$744,453.39	\$627,161.62
Less cost of gas purchased, material used and manufacturing expenses	48,337.91	45,980.40	459,208.23	398,632.77
Gross earnings (carried forward).....	\$33,483.28	\$24,805.28	\$285,245.16	\$228,528.85



We carry in stock or have in process of manufacture a full line of all regular sizes of

CAST IRON PIPE

R. D. WOOD & CO.
PHILADELPHIA, PA.

Gross earnings (brought forward).....	\$33,483.28	\$24,805.28	\$285,245.16	\$228,528.85
Operating expenses, taxes, etc.....	4,773.36	3,506.45	53,429.33	41,319.54
Net earnings	\$28,709.92	\$21,298.83	\$231,815.83	\$187,209.31
Interest	5,290.30	5,290.22	63,488.47	63,484.71
Surplus	\$23,419.62	\$16,008.61	\$168,327.36	\$123,724.60
Suspended accounts			2,645.53	374.80
Surplus			\$165,681.83	\$123,349.80

Increase December, 1917, over December, 1916—40%.

Increase year 1917 over year 1916—34%.

OFFICERS.—President, P. V. Byrnes; Vice-President and Secretary, F. A. Brevillier (Erie, Pa.); Treasurer, P. V. Byrnes; Assistant Secretary, J. F. Richter.

E. G. Germer, A. W. Brevillier, C. W. Anderson, E. B. Shapker, A. Byrnes.

Annual meeting of stockholders held first Saturday in February at Hamilton, Ontario.

Company's fiscal year ends December 31. Head office of company, 72 James Street, North.

DIRECTORS.—P. V. Byrnes, F. A. Brevillier,

OTTAWA LIGHT, HEAT AND POWER COMPANY, LTD., OTTAWA, ONTARIO, CANADA.

This Company was incorporated in June, 1906, in Ontario, as the Consolidated Light, Heat and Power Co.; name was changed in 1909 as above. Owns 19,934 shares (par value, \$100) of the capital stock of the Ottawa Gas Co., and 14,910 shares (par value, \$100) of the capital stock of the Ottawa Electric Co.

CAPITAL STOCK.—Authorized, \$5,000,000; outstanding, \$3,483,520. Shares, \$100.

BALANCE SHEET, DECEMBER 31, 1917.

<i>Assets.</i>	
Cash on hand.....	\$400.00
Accounts current:	
Electricity and gas supply for light, heat and power, residuals, etc.	\$296,547.38
Merchandise	54,964.57
Bills receivable.....	10,928.78
Sundry accts. receivable	54,337.86
	\$416,778.59
Less amount set aside to provide for bad and doubtful debts..	29,066.44
	387,712.15
Merchandise and stores.....	148,187.35
Property, plant and equipment....	5,761,485.87
Supplies on hand at date of Dec. 31, 1917	60,723.45
	\$6,358,508.82
<i>Liabilities.</i>	
Bonds:	
The Ottawa Electric Co. first mortgage bonds	\$500,000.00
The Ottawa Electric Co. refunding and first mortgage bonds..	625,000.00
The Ottawa Gas Co. consolidated bonds	150,000.00
	\$1,275,000.00
Accounts payable:	
Banks	\$278,531.89
Trade	215,957.45
Bills payable.....	300,000.00
	794,489.34
Total to the public.....	\$2,069,489.34

Total to public	\$2,069,489.34
Capital paid in.....	\$3,483,520.00
Reserve account	720,000.00
Profit and loss.....	85,499.48
Total to shareholders.....	4,289,019.48
	\$6,358,508.82

STATEMENT OF REVENUE AND EXPENDITURE FOR YEAR ENDING DECEMBER 31, 1917.

Revenue.

Gross revenue from all sources, viz.:	
Electricity and gas supply for light, heat and power, including sales of coke, tar and other residuals..	\$957,300.39

Expenditure.

Gross cost of management, operation and maintenance	\$611,909.64
Showing a gross credit balance of.....	\$345,390.75
To the expenses above the following charges are added:	
Interest on bonds.....	63,862.50
Interest on current liabilities....	35,387.47
Making the gross expenditure.....	\$711,159.61
Leaving a surplus of revenue over expenditure	246,140.78
	\$957,300.39

PROFIT AND LOSS ACCOUNT FROM JANUARY 1, 1917. TO DECEMBER 31, 1917.

Credit.

Balance at credit Dec. 31, 1916.....	\$58,876.90
Surplus of revenue over expenditure for year ending Dec. 31, 1917.....	246,140.78
	\$305,017.68

Debit.

Dividends for the year 1917.....	\$209,945.20
Amount set aside for bad debts....	9,573.00
Balance at credit Dec. 31, 1917.....	85,499.48
	\$305,017.68

OFFICERS.—President, T. Ahearn, Esq.; Vice-President, Hon. E. H. Bronson; Secretary and Treasurer, D. R. Street.

DIRECTORS.—T. Ahearn, Esq., Hon. E. H. Bronson, C. J. McCuaig, James Manuel, Warren Y. Soper, D. R. Street, F. W. Fee, A. A. Dion.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

BRAZILIAN TRACTION, LIGHT & POWER COMPANY, LTD., TORONTO, CANADA.

Address: 36 Toronto Street.

The Brazilian Traction, Light & Power Company, Ltd., was incorporated July 12, 1912, under the laws of the Dominion of Canada, and controls the Sao Paulo Tramway, Light & Power Co., Ltd., The Rio de Janeiro Tramway, Light & Power Co., Ltd., and The Sao Paulo Electric Co., Ltd.

CAPITALIZATION.

	Authorized	Outstanding
Preferred stock	\$10,000,000	\$10,000,000
Common stock	110,000,000	106,417,800

Shares, \$100. Transfer agents, National Trust Co., Ltd., Toronto and Montreal. Registrars,

The Canadian Bank of Commerce, Toronto and Montreal, Canada. Dividend on preferred stock, annual rate, 6 per cent, payable quarterly. Dividend on common stock, annual rate 4 per cent (1915 and 1916), payable quarterly; 1 per cent paid first of March, 1917; none since.

DIRECTORS.—Sir Wm. Mackenzie (Chairman), E. R. Wood, D. B. Hanna, Z. A. Lash, Miller Lash, Sir H. M. Pellatt, F. H. Phippen, R. C. Brown and Wm. Bain of Toronto, Canada; Alex. Mackenzie (President), of Rio de Janeiro; R. M. Horne-Payne, H. F. Parshall, E. R. Peacock and H. M. Hubbard, of London, England; Clarence Dillon, New York City.

THE CONSUMERS GAS CO. OF TORONTO, TORONTO, ONTARIO, CANADA.

The Consumers Gas Co. of Toronto was incorporated in 1848 under the laws of Province of Ontario.

FRANCHISES.—Perpetual.

CAPITALIZATION.—Capital stock, authorized, \$6,000,000; issued, \$5,360,700. Shares, \$50. Transfer agent, Arthur Hewitt, General Manager. No bonded debt.

BALANCE SHEET AS OF SEPTEMBER 30, 1917.

<i>Assets.</i>	
Real estate, plant and equipment..	\$10,132,847.15
Other investments.....	205,949.96
Materials and supplies.....	632,824.77
Cash in bank and offices.....	135,990.52
Unpaid capital stock subscriptions	252,015.00
Accounts receivable	310,382.84
Accounts receivable, accrued. not due	2,211.47
Prepaid expenses	61.50
	\$11,672,283.21
<i>Liabilities.</i>	
Capital stock:	
Issued under act of 1887.....	\$2,000,000.00
Issued under act of 1904.....	3,360,700.00
	\$5,360,700.00
Reserve fund:	
Amount at credit	
Sept. 30, 1917....	\$684,956.21
Premium on stock,	
act 1904	2,840,877.28
	3,525,833.49
Plant and building renewal fund, amount at credit Oct. 1, 1916..	\$1,486,180.28
Less repairs and renewals	314,162.19
	\$1,172,018.09
Transferred from profit and loss, Sept. 30, 1917	436,294.71
	1,608,312.80
Reserved for dividend No. 270....	129,590.52
Liabilities accrued. not due.....	36,774.65
Special bank advance.....	767,682.39
Sundry accounts payable.....	243,389.36
	\$11,672,283.21

STATEMENT SHOWING PROFIT REALIZED FROM OCTOBER 1, 1916, TO SEPTEMBER 30, 1917.

<i>Debtor.</i>	
Coal, bituminous	\$986,998.36
Coal, anthracite, and coke.....	444,099.69
Gas oil	310,360.88
Oxide	7,786.22
Steam	187,572.56
Wages—Manufacturing	157,984.81
Miscellaneous wages and general expenses at works.....	233,804.37
Street department expense.....	13,522.78
Meter settings	52,883.77
Government fees inspection of gas and meters	16,414.18
Meter department expenses.....	21,178.46
Reading meters and delivering bills	22,500.42
Customers' accounting	35,950.18
Collection, commissions and salaries	26,993.65
Sundry collection and accounting expenses	22,220.72
Administration salaries and expense	24,813.45
Directors	15,000.00
Auditors	1,800.00
General salaries and expenses.....	96,953.95
Patriotic donations and gratuities to dependents of enlisted employees	34,174.57
Taxes, including workmen's compensation tax	153,179.90
Insurance premiums	21,285.99
Advertising	18,366.99
Arc lamp and reflexolier expense..	50,393.37
Cost of mdse. sold and piping work for customers	247,690.72
Mdse. storage and selling expense..	63,502.82
Commercial department expenses..	75,610.04
Balance carried down.....	953,306.61
	\$4,296,349.46
Interest	\$46,271.38
Dividends	495,740.52
Plant and building renewal fund..	436,294.71
	\$978,306.61

USE SPECIFICATION PAINTS

We manufacture red lead paints, but owing to the better durability of combinations of selected pigments, with red lead, we suggest you submit your individual requirements so that we can make specific recommendations.

Write for
Review of Technical Paints.

Cheesman & Elliot, 100 William St., New York



Credit.

Gas sales	\$3,007,423.89
Residuals produced	\$97,498.23
Merchandise sold, piping and burner rentals	351,317.95
Miscellaneous revenue	40,109.39
	<u>\$4,296,349.46</u>
Balance brought down.....	\$953,306.61
Amount received as compensation for damage to company's property on Bathurst street.....	25,000.00
	<u>\$978,306.61</u>

OFFICERS.—President, A. W. Austin; Vice-President, W. Francis, K. C.; Secretary, John J. Armstrong; Manager, Arthur Hewitt.

DIRECTORS.—A. W. Austin, W. Francis, K. C., A. H. Campbell, Lt. Col. J. F. Michie, L.L. D., F. L. Grasett, M. D.; John Hoskin, K. C., L.L. D., D. C. L.; Herbert Langlois, Thomas Long, Sir Edmund Osler, M. P.

Annual meeting of stockholders held at the company's board room, October 30. Company's fiscal year ends September 30.

THE DOMINION TRACTION AND LIGHTING COMPANY, LTD., WINDSOR, ONTARIO.

Principal Address: 33 Chatham Street, W.

The Dominion Traction and Lighting Co., Ltd., was incorporated in January, 1913, under the laws of Dominion of Canada and of Ontario, and owns the Windsor Gas Co. and bonds of the Windsor, Essex & Lake Shore Railway Co.

CAPITALIZATION.—Preferred stock, authorized, \$2,500,000; outstanding, \$500,000; common stock, authorized, \$8,000,000; outstanding, \$500,000. Shares, \$100. Dividend on preferred stock, annual rate 6 per cent.

FUNDED DEBT.—Bonds: First mortgage 30-year 5 per cent gold, authorized, \$5,000,000; issued, \$1,825,000. Dated May 1, 1913; due May 1, 1943. Interest payable May 1 and November 1 at Union Trust Co. of Toronto, or Investment Registry, London, England. Denomination, \$1,000, £100,

£50. Coupon and registered. Redeemable at 105 and accrued interest on any interest date from May 1, 1914, thereafter at Union Trust Co., Toronto.

SECURITY.—First lien.

SINKING FUND.—Company to pay to trustee on each May 1 after 1916 to 1943 1 per cent of then outstanding bonds for the purpose of retiring bonds.

OFFICERS.—President, T. Pates Pinckard; Vice-President and Treasurer, G. D. Wickett; Assistant Secretary, J. D. Clarkson.

Annual meeting of stockholders held third Wednesday in May.

Company's fiscal year ends April 30.

ALABAMA TRACTION, LIGHT AND POWER COMPANY, LTD.

(Incorporated Jan. 5, 1912, Under the Laws of the Dominion of Canada.)

Head Office: 20 Guardian Building, Montreal, Canada.

COMPANIES OWNED OR CONTROLLED.—Owns or controls the stock of the following companies: Alabama Power Co., Alabama Interstate Power Co., Birmingham, Montgomery & Gulf Power Co., Muscle Shoals Hydro-Electric Power Co., Little River Power Co., Alabama Property Co., Alabama Power & Light Co., Asbury Electric Power Co.

SHARE CAPITAL AS ON DECEMBER 31, 1917.

Authorized:—

250,000 common stock in shares of \$100 each	\$25,000,000
50,000 preferred stock in shares of \$100 each	5,000,000

\$30,000,000

Issued:—

170,000 common stock in shares of \$100 each (fully paid)	\$17,000,000
10,000 preferred stock in shares of \$100 each (fully paid)	1,000,000

\$18,000,000

Preferred shares are entitled to dividends of 6 per cent per annum cumulative from and after January 1, 1915. They are preferred both as to capital and dividends.

5% 50-YEAR FIRST MORTGAGE GOLD BONDS.

Due March 1, 1962.

Authorized\$25,000,000
Issued:

In London	6,000,000
In Canada	7,138,400

BONDS.—The bonds are in denominations of \$100 and \$500 and are payable to bearer. They may be registered as to principal only in Montreal. Additional 1% payable on bonds in any year when dividend is declared on common stock.

INTEREST.—Payable March 1 and September 1 by coupons at Parr's Bank, Ltd., London, and at the Royal Bank of Canada, New York and Montreal.

SECURITY.—The bonds are secured by a trust deed in favor of the Montreal Trust Co. of Montreal as trustees, and constitute a specific first charge upon all the property and assets of the company.

The bond issue may, subject to and under provisions contained in the trust deed, be increased for extensions of the company's undertaking or the acquisition, construction or development of further assets, all of which will become part of the security of the bonds.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Gas Companies.

Because of our sales assistance to gas companies.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

REDEMPTION.—The company reserves the right to redeem the whole of the bonds at a premium of 5 per cent on 60 days' notice.

OFFICERS.—President, James Mitchell; Vice-President, Lawrence Macfarlane; Secretary and Treasurer, W. J. Henderson; Assistant Secretary and Assistant Treasurer, H. S. Swan.

DIRECTORS.—James Mitchell, Thos. W. Martin, Lawrence MacFarlane, E. Mackay Edgar, W. J.

Henderson, H. S. Swan, H. S. Hassinger, Norman E. Davis, G. M. Dahl, Geo. E. Claffin, J. B. White, J. G. Cartwright.

TRUSTEES FOR BONDHOLDERS.—Montreal Trust Co., Montreal.

TRANSFER AGENTS.—Montreal Trust Co., Montreal.

REGISTRARS.—Montreal Safe Deposit Co., Montreal.

ALABAMA POWER COMPANY.

Principal address, Attalla, Etowah County, Alabama.

The Alabama Power Company was incorporated December 4, 1906, under the laws of Alabama, and owns by merger or purchase property of Alabama Electric Company, Wetumpka Power Company, Alabama Power & Electric Company, Alabama Power Development Company, Anniston Electric & Gas Company, Huntsville Railway, Light & Power Company, The Decatur Light, Power & Fuel Company, Etowah Light & Power Company, and Pell City Light & Power Company.

CAPITALIZATION.—Preferred stock, authorized, \$10,000,000; common stock, authorized, \$40,000,000; outstanding, \$18,751,000. Shares, \$100.

BONDS.—First mortgage 5 per cent gold: Authorized, \$100,000,000; issued, \$5,000,000. Dated March 1, 1916; due March 1, 1946. Interest payable March 1 and September 1 in New York City. Callable at 105 and interest on any interest date after September 1, 1921. Coupon bonds, \$1,000 denomination, with privilege of registration as to principal. United States Mortgage and Trust Co., New York, trustee. Secured by a first mortgage on the entire property of the company, and in addition by pledge of the stocks of its subsidiary companies.

Authorized bond issue of Anniston Electric & Gas Company at date of purchase of prop-

erty by Alabama Power Company, \$300,000, all outstanding, designated as first mortgage five per cent thirty-year gold bonds. Payable Dec. 1, 1929, at office of the trustee, Safe Deposit & Trust Company, Baltimore, Md. Secured by first mortgage on electric lighting, gas, and street railway properties at Anniston. Denomination, \$500. No provision for payment of income tax by company. Interest payable semi-annually, on June 1st and December 1st.

Authorized bond issue of Huntsville Railway, Light & Power Company at date of merger, \$150,000, all outstanding, designated as six (6) per cent gold bonds. Payable Aug. 1, 1919, at First National Bank, Johnstown, Pa. Secured by first mortgage to David Barry, of Johnstown, Pa., as trustee, on electric lighting and gas properties at Huntsville. Denomination, \$1,000. Interest payable semi-annually on February 1st and August 1st. No provision for payment of income tax by company.

OFFICERS.—President, James Mitchell; Vice-President, Thos. W. Martin; Secretary and Treasurer, Wiley Alford; General Manager, W. N. Walmsley.

DIRECTORS.—James Mitchell, H. S. Swan, Thos. W. Martin, W. J. Henderson, G. M. Dahl, G. B. Claffin, H. S. Hassinger.

THE CIVIC INVESTMENT AND INDUSTRIAL CO., MONTREAL, QUEBEC, CANADA.

This company was organized August 1, 1916, for the purpose of operating and placing under one control and management the properties of the following companies: Montreal Light, Heat & Power Co., Provincial Light, Heat & Power Co., Standard Light & Power Co., the Cedar Rapids Manufacturing & Power Co., Lachine Rapids Hydraulic & Land Co., the Royal Electric Co., and the Montreal Gas Co.

Capital stock, \$63,717,200.

Quarterly dividends are being paid at the rate of 4 per cent per annum.

OFFICERS.—President, Sir Herbert S. Holt;

Vice-President, J. S. Norris; Secretary and Treasurer, C. S. Bagg; Assistant Secretary and Assistant Treasurer, G. R. Whatley.

DIRECTORS.—Sir Herbert S. Holt, J. S. Norris, J. E. Aldred, Sir H. Montagu Allan, C. V. O.; George Caverhill, Arthur V. Davis, Sir Rodolphe Forget, M.P.; C. R. Hosmer, G. H. Montgomery, K.C.; Hon. Narcisse Perodeau, Hon. H. B. Rainville, C. S. Bagg, G. R. Whatley.

Annual meeting of stockholders held first Wednesday in June at Montreal.

Company's fiscal year ends April 30.

HUNT INDUSTRIAL RAILWAYS for handling coal are built in a variety of special forms, for side or bottom dumping, or for emptying with minimum labor with shovels. Standard designs of cars, track, curves, switches, etc., can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

APPENDIX

775

GENERAL BALANCE SHEET, APRIL 30, 1917.

<i>Assets.</i>		<i>Liabilities.</i>	
Stocks, bonds and interest in other corporations	\$65,122,768.06	Capital stock	\$63,717,200.00
Construction	535,153.26	Reserves, including sub. companies:	
	\$65,657,921.32	Insurance	300,000.00
Current assets:		Contingent	376,149.36
Subsid'y companies'		Depreciation and renewal.....	4,383,892.10
bonds in treasury \$1,354,000.00		Officers' and employees' pension fund	92,722.17
Investment securities 295,565.68		Current liabilities:	\$68,869,963.63
War loans..... 863,836.31		Accounts payable.....	\$816,769.43
Accounts collectible. 1,160,136.64		Customers' deposits... 68,816.55	
Stores, gas stoves, etc. 294,692.05		Accrued interest on bonds	315,709.50
Coal, coke, tar, etc.. 99,056.51		General suspense account	841,997.45
Cash on hand and in bank	2,397,834.66	Dividend payable May 15, 1917	637,172.00
	6,465,121.55		2,680,464.93
	\$72,123,043.17	Surplus account	572,614.61
			\$72,123,043.17

MONTREAL LIGHT, HEAT AND POWER CO., MONTREAL, QUEBEC, CANADA.

This Company was organized under a special act of the Quebec legislature on March 28, 1901, for the purpose of acquiring and consolidating the business of the principal producers of light and power in the city and district of Montreal, and now controls and operates the following corporations:

The Montreal Gas Co.
 Royal Electric Co.
 Montreal and St. Lawrence Light and Power Co. (formerly the Chambly Mfg. Co.)
 The Imperial Electric Light Co.
 Lachine Rapids Hydraulic and Land Co.
 Standard Light and Power Co.
 Citizens' Light and Power Co.
 Temple Electric Co.
 The Provincial Light, Heat and Power Co.

CAPITALIZATION.—Capital stock, \$18,778,266.

FUNDED DEBT.

	Authorized.	Issued.
Bonds, 4½s, due 1932.....	\$7,500,000	\$7,013,000
Lachine sinking fund 5s, due 1933	4,000,000	3,139,000
Total bonds outstanding.....	\$10,152,000	

Interest payable, of 4½s, January 1 and July 1; 5s, April 1 and October 1, at Bank of Montreal, or New York. Denomination, \$1,000; coupon; registerable as to principal; 4½s redeemable at 105 and interest on any interest date on and after January 1, 1912; 5s on and after April 1, 1913. Trustee of bonds, Royal Trust Co., Montreal.

Transfer agents, Montreal Trust Co., Montreal; Montreal Trust Co., London, England.

Registrars, The Canadian Trust Co., Montreal.

OFFICERS.—President, Sir H. S. Holt; Vice-President, J. S. Norris, M. P.; Secretary and Treasurer, C. S. Bagg.

DIRECTORS.—Sir H. S. Holt, Sir Rodolphe Forget, M. P., Hon. G. H. Montgomery, K. C., Hon. H. B. Rainville, J. E. Aldred, Sir H. Montagu Allan, C. V. O., C. R. Hosmer, George Caverhill, Hon. Narcisse Perodeau, J. S. Norris.

Annual meeting of stockholders held first week in June. Company's fiscal year ends April 30.

THE QUEBEC RAILWAY, LIGHT, HEAT & POWER CO., LTD., QUEBEC, P. Q., CANADA.

The company was incorporated November 19, 1909. Now controls the Quebec Railway, Light & Power Co., Quebec-Jacques Cartier Electric Co., the Canadian Electric Light Co., Quebec Gas Co., Frontenac Gas Co., and Quebec County Railway.

CAPITALIZATION. — Capital stock, authorized, \$10,000,000; issued, \$9,999,500. Shares, \$100. Transfer agents, Montreal Trust Co. Registrars, Royal Trust Co., Montreal.

FUNDED DEBT.—Bonds, \$12,713,300, various issues; interest, 5 and 6 per cent.

OFFICERS.—President, Sir R. Forget; Vice-President, Lorne C. Webster; Secretary, Arthur LeMoine; Treasurer, R. A. Wilson; General Manager, W. J. Lynch.

DIRECTORS.—Sir Rodolph Forget, M.P., Lorne C. Webster, L. J. Tarte, Chas. A. Lavigne, Chas. Donohue, L. G. Morin, Paul Galibert, Arthur Picard, J. T. Donohue.

Annual meeting of stockholders held Sept. 14. Company's fiscal year ends June 30.



Replace the leaky and worn valves on your gas compressors with
MESTA AUTOMATIC PLATE VALVES (Iversen Patent).
 Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

HAVANA ELECTRIC RAILWAY, LIGHT AND POWER COMPANY, HAVANA, CUBA.

The Havana Electric Railway, Light and Power Company was incorporated in 1912 under the laws of the state of New Jersey and acquired all the properties, rights and franchises of the Havana Electric Railway Company by the merger of said company into it under the laws of said state, and in 1912 on the dissolution of the Compañia de Gas y Electricidad de la Habana (Havana Gas and Electricity Company) a Cuban corporation, the Havana Electric Railway, Light and Power Company acquired all its properties, rights and franchises.

The railway system comprises about seventy-nine miles, single track measurement (exclusive of yards) covering the city and suburbs. The equipment consists of 383 passenger cars, besides work cars and miscellaneous cars. This equipment is well maintained and of a very satisfactory type for the existing conditions. Some of the main electric feeders are underground, and in the more thickly settled parts of the city the company is now engaged in putting all its overhead conductors (except trolley wires) underground. The company has a large main car house, modern and fireproof, with repair shop equipment, and smaller houses at other points, affording ample facilities for these purposes. The stage lines operate about 150 stages, covering routes not reached by the tracks of the company, and probably the traffic ultimately will be transferred to the street railway.

Late in 1914 the company put into operation a new steam-driven electric generating plant, and early in 1915 the last of the three old power plants was shut down. The new consolidated plant is installed in a steel, concrete and terra cotta building 277 by 176 ft., and consists of three 37,500 kw. turbine generators, with space and boiler capacity for a fourth. While this plant is not yet fully loaded, the improvement in generating economy is already very large.

The power plants site includes 600 ft. of frontage on the harbor, along which a concrete wharf has been built, with tracks connected to the street railway and to the Havana Terminal R. R., and a mechanical coal-handling equipment of 100 tons per hour capacity, adapted to unload coal from barges and sea-going ships.

The gas plant consists of two generating apparatuses of 3,500,000 cubic feet daily capacity. There are about 11,957 meters in service, and about 5,800 street lights. The city is well covered by the distributing mains, the entire system comprising about 174 miles.

FRANCHISES.—The original street railway franchises date from 1859 and earlier and expire in 1958. The concession for the suburban line to Marianao is perpetual. Electrification and modification and extension of rights were authorized by decree of the American Military Government in 1901 and the Provisional American Government in 1908. The railway fare is five cents in United States currency, with transfers. Rights are also held for numerous extensions, the plans for which have already been approved by the Department of Public Works.

The electric light and power were originally supplied by two companies, one having a franchise expiring in 2001, and the other perpetual franchise. The gas franchise is also perpetual. The company has a lighting contract with the city for both gas and electric street lighting, dated in 1912, and running for fifteen years. The electric lighting base rate is 15.6 cents, United States currency, per K. W. H., with varying discounts for quantity on annual contracts. Power rates vary from 9.2 cents to 4.04 cents per kw. hr. The gas rate is about, first 1,000, \$2.26, over and above basis, \$1.35, United States currency, with liberal discounts to large consumers.

CAPITALIZATION.—Preferred stock 6% cumulative, authorized \$21,000,000; outstanding \$20,978,477; common stock, authorized \$15,000,000, outstanding \$14,948,406. Dividends on preferred stock, 6 per cent per annum; on common stock, 6 per cent.

FUNDED DEBT.

Havana Electric Railway Co. consolidated mortgage 5s. due 1952.	
outstanding	\$8,564,681.11
General consolidated 6% bonds, called for redemption June 15, 1917	148,900
Gas & Electric Co. of Havana 6% 50-year gold mortgage bonds of 1904	3,998,000.00
Gas & Electric Co. of Havana 5% "English Bonds" due 1943 (£134,600)	609,966.68
General mortgage bonds, 5%, 40 years, of Sept. 1, 1914	5,845,000
Total	\$19,166,547.79

EARNINGS.

	1917
Gross	\$6,989,599.33
Op'r. expenses and taxes	3,385,469.83
Net income	\$3,604,129.50
Other income	149,754.70
Gross income	\$3,753,884.20
Fixed charges	1,138,623.30
Surplus after charges	\$2,615,260.90

OFFICERS.—Frank Steinhart, President and General Manager; David T. Davis, First Vice-President and General Counsel; Emeterio Zorrilla, Second Vice-President; Antonio San Miguel, Third Vice-President; Herman Kraemer, Secretary and Treasurer; F. Porro Orfila, First Assistant Treasurer; Rogelio Odoardo, Auditor.

DIRECTORS.—Dionisio Velasco, Antonio San Miguel, Emeterio Zorrilla, Frank Steinhart, N. J. Horace E. Andrews, David T. Davis, Henry Ruhlender and Jesse Hirschman, of New York.

SPECIAL WELDED PIPE FITTINGS simplify pipe line work. Submit your design and we shall be glad to quote.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

PORTO RICO GAS CO.

Branch Office: San Juan, Porto Rico.

The Porto Rico Gas Co. is incorporated under the laws of the State of Delaware and started operating January 1, 1914, in the City of San Juan, the capital of Porto Rico, United States government, under a 50 year franchise, without burdensome restrictions, granted January 15, 1913, by the executive council of Porto Rico in accordance with section 3 of the Joint Resolution of the Congress of the United States, approved May 1, 1900.

FRANCHISES.—The Company was formed for the purpose of taking over a franchise granted by the executive council of Porto Rico and approved by the Governor General of Porto Rico. The franchise is for a period of 50 years from January 30, 1913, for the manufacture, distribution and sale of gas for lighting, heating and power. The franchise is free from burdensome restrictions.

CAPITALIZATION.

	Authorized.	Issued.
Stock of the States Light and Power Co., which Company owns all the common stock (less directors' qualifying shares) of the Porto Rico Gas Co.....	\$1,000,000	\$1,000,000
Preferred	250,000	\$5,500
Bonds of the Porto Rico Gas Co., first mortgage 6 per cent sinking fund gold bonds	5,000,000	1,000,000

The Company covenants that it will pay each year, on and after March 1, 1918, to the trustee a sum of money equal to 1 per cent of the par value of all bonds issued and outstanding for a sinking fund.

FUNDED DEBT.—Bonds: First mortgage 6 per cent sinking fund gold bonds, dated March 1, 1913; due March 1, 1953. Denomination, \$500 and \$1,000; coupon; registerable as to principal. Redeemable at 105 and interest on and after March 1, 1918. Trustee of bonds, Guaranty Trust Co., New York.

SECURITY.—The first mortgage 6 per cent sinking fund gold bonds of 1913 of the Porto Rico Gas Co. are secured by a first mortgage upon all the property, rights, privileges and franchises of the Company, now owned or hereafter acquired.

Additional bonds can be issued only to provide funds for further improvements, extensions and new construction and when the net earnings of the Company, for twelve months preceding the proposed issue, show earnings at least one and one-half times the interest on outstanding bonds and those proposed to be issued.

OFFICERS.—President, Robert E. Robinson; Secretary and Treasurer, Henry B. Pogson; Manager, G. H. Joy.

DIRECTORS.—Henry A. Bishop, Alvan Markle, John Richardson, Jr., Robt. E. Robinson, Lewis B. Stillwell, R. M. Redding, Henry B. Pogson.

RECEIVED TOO LATE FOR INSERTION IN REGULAR ORDER

New Jersey Gas and Electric Co., Dover, New Jersey.

OFFICERS.—President, A. F. Beringer; Vice-President, R. Buchanan, Jr.; Secretary and Treasurer, B. S. Woodman.

Newton Electric and Gas Co., Newton, New Jersey.

OFFICERS.—President, A. F. Beringer; Vice-President, R. Buchanan, Jr.; Secretary and Treasurer, G. W. Johns.

Lititz, Manheim and Ephrata Gas Co., Lititz, Pennsylvania.

Receivers: G. Graybill Diehn, Lititz, Pa., and Charles H. Barritt, Wayne, Pa. (Appointed by Lancaster County Court, April 28, 1918.)

Shenandoah Light, Heat and Power Co., Shenandoah, Pennsylvania.

Price of gas: Light and Fuel, \$1.50; industrial, \$1.30. Minimum rate, \$1.

Port Arthur Gas and Power Co., Port Arthur, Texas.

OFFICERS.—President, A. F. Beringer; Vice-President, F. C. Armbruster; Secretary and Treasurer, Charles M. Scott.

Associated Gas and Electric Co., Ithaca, New York.

EARNINGS FOR YEAR ENDED DECEMBER 31, 1917.

Gross earnings	\$921,013
Operating expenses and taxes	677,977
Net earnings after taxes	\$243,936
Deductions	235,653
Surplus	\$8,283

CONSOLIDATED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Plant and investment account.....	\$5,439,828
Cash fund in hand of trustee.....	13,514
Materials and supplies.....	96,430
Bills and accounts receivable.....	225,190
Cash on hand.....	80,752
Prepaid accounts	20,360
Unamortized debt dis. and expenses	440,057
Suspense	19,000

\$6,335,131

Liabilities.

Common stock	\$600,000
Preferred stock	959,300
Stock of underlying companies.....	289,400
Bonded debt	2,246,500
Bonds of underlying companies.....	1,276,900
Bills and accounts payable.....	303,538
Accrued interest on bonds and notes	30,635
Accrued accounts	54,241
Surplus sinking fund and reserves..	574,617

\$6,335,131

National Utilities Co., New York City.

OFFICERS.—President, J. C. Martin; Vice-Presidents, A. W. Brooks and A. F. Beringer; Secretary, Ralph Madison; Treasurer, R. Buchanan, Jr.



Tycos Temperature Instruments for Gas Works

INDICATING—CONTROLLING—RECORDING

To meet the requirements of those innumerable processes requiring exact indication, measurement and regulation of temperature, we have developed the most practicable and reliable instrument that can be found. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



APPENDIX

THE J. G. WHITE COMPANIES
43 Exchange Place, New York.

AMALGAMATED BALANCE SHEET, DECEMBER 31, 1917.

Assets.

Good will, contracts, purchase of business, etc.....	\$1,512,351.20
Securities owned and syndicate participations, as valued by Special Committee of Directors	2,632,008.63
Bills receivable, less reserve for doubtful items.....	532,135.59
Accounts receivable, less reserve for doubtful accounts	2,682,890.13
Interest and dividends accrued.....	14,102.86
Work in progress unbilled and other deferred charges	246,714.33
Cash in banks and on hand.....	392,336.63
Working capital and cash in branch offices.....	71,957.03
	<hr/>
	\$8,084,496.40

Liabilities.

Capital authorized:

35,000 shares of common stock of \$100 each.....	\$3,500,000.00
30,000 shares of 6% cumulative preferred stock of \$100 each.....	3,000,000.00
15,000 shares of 7% cumulative preferred stock of \$100 each.....	1,500,000.00
	<hr/>
	\$8,000,000.00

Capital issued:

Common stock:

15,000 shares of J. G. White & Co., Inc., of \$100 each, fully paid \$1,500,000.00

NOTE.—The entire issues of the common stock of the engineering and management corporations are held in the treasury of the parent company.

Preferred stock:

20,000 shares of J. G. White & Co., Inc., of \$100 each, fully paid, 6% cumulative.....	2,000,000.00
5,000 shares of The J. G. White Engineering Corporation of \$100 each, fully paid, 7% cumulative.....	500,000.00
3,000 shares of The J. G. White Management Corporation of \$100 each, fully paid, 7% cumulative.....	300,000.00
	<hr/>
	\$4,300,000.00

Bills payable and commercial credits.....	2,626,609.44
Bills receivable under discount.....	50,000.00
Accounts payable and reserves for taxes, etc.....	566,422.84
Reserves for dividends.....	44,000.00

Surplus or undivided profits:

Balance at January 1, 1917.....	\$592,270.76
Deduct—Amount written off in respect of depreciation of securities acquired prior to January 1, 1917.....	199,031.56
	<hr/>
	\$393,239.20

Add—Net profit for the year ended December 31, 1917. (Omitting inter-company common stock dividends and after deducting reserves for federal income and excess profits taxes, 1917, etc.)

280,224.92

\$673,464.12

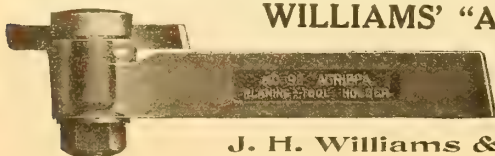
Deduct—Dividend on preferred stocks.....

176,000.00

497,464.12

\$8,084,496.40

NOTE.—There exist contingent liabilities in respect of underwriting subscriptions, calls not yet made on stock subscriptions, and also in respect of guarantees of advances under syndicate subscriptions against which there would be contingent assets of equal amount.



WILLIAMS' "AGRIPPA" PLANING-TOOL HOLDER

The Planing Tool with thirty-six angles of adjustment may be used on shapers or for heavy turning on lathes.

J. H. Williams & Co., 74 Richards St., B'klyn, N. Y.

AMERICAN GAS ASSOCIATION.

Officers.

PRESIDENT.	-	-	-	-	GEORGE B. CORTELYOU, New York, N. Y.
VICE-PRESIDENT.	-	-	-	-	CHARLES L. HOLMAN, St. Louis, Mo.
TREASURER.	-	-	-	-	W. H. BARTHOLD, New York, N. Y.

DIRECTORS.

For one year.	For two years.
N. F. Brady, New York, N. Y.	S. R. Bertron, New York, N. Y.
John A. Britton, San Francisco, Cal.	Samuel T. Bodine, Philadelphia, Pa.
Martin B. Daly, Cleveland, Ohio.	Henry L. Doherty, New York, N. Y.
John S. DeHart, Newark, N. J.	Samuel Insull, Chicago, Ill.
Edmund S. Dickey, Baltimore, Md.	Emerson McMillin, New York, N. Y.
E. K. Hall, New York, N. Y.	Thos. N. McCarter, Newark, N. J.
Arthur Hewitt, Toronto, Ont., Can.	Sidney Mason, Gloucester, N. J.
James L. Richards, Boston, Mass.	Harry D. Schall, Detroit, Mich.

Commercial Section

Chairman: E. N. Wrightington, Boston Consolidated Gas Co., Boston, Mass.
 Vice-Chairman: Chas. A. Munroe, Vice-President, Public Service Co. of Northern Illinois, Chicago, Ill.

Technical Section

Chairman: John B. Klumpp, The United Gas Improvement Co., Philadelphia, Pa.
 Vice-Chairman: Carl H. Graf, Municipal Gas Co., Albany, N. Y.

Manufacturers' Section

Chairman: A. P. Brill, Ruud Mfg. Co., Pittsburgh, Pa.
 Vice-Chairman: M. P. Roper, Eclipse Stove Co., Rockford, Ill.

Accounting Section

Chairman: Halford Erickson, Chicago, Ill.
 Vice-Chairman: Alfred P. Post, Auditor, American Gas Co., Philadelphia, Pa.

ANNUAL MEETING—November, 1918.

ARKANSAS ASSOCIATION OF PUBLIC UTILITY OPERATORS.

Officers.

PRESIDENT.	-	-	-	-	-	S. E. DILLON, Hot Springs, Ark.
FIRST VICE-PRESIDENT,	-	-	-	-	-	E. T. REYNOLDS, Paragould, Ark.
SECOND VICE-PRESIDENT,	-	-	-	-	-	P. T. PHILLIPS, Little Rock, Ark.
SECRETARY AND TREASURER,	-	-	-	-	-	R. B. FOWLES, Pine Bluff, Ark.

EXECUTIVE COMMITTEE.

C. J. Griffith, Little Rock, Ark.	S. C. Dowell, Walnut Ridge, Ark.
H. C. Couch, Arkadelphia, Ark.	B. C. Fowles, Pine Bluff, Ark.
J. F. Christie, Jonesboro, Ark.	H. C. Hoagland, Ft. Smith, Ark.
S. E. Dillon, Hot Springs, Ark.	A. E. Main, Mammoth Spring, Ark.
J. A. Wells, Warren, Ark.	

ANNUAL MEETING—May 21 and 22, 1918, Hot Springs, Ark.

ASSOCIATION OF AMERICAN GAS INDUSTRIES.

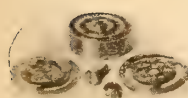
Officers.

PRESIDENT.	-	-	-	-	-	JOHN S. DE HART, JR., Newark, N. J.
SECRETARY AND TREASURER,	-	-	-	-	-	EUGENE Y. SAYER, New York, N. Y.
Office of the Secretary, 60 Wall St., New York, N. Y.						

EXECUTIVE COMMITTEE.

John S. De Hart, Newark, N. J.	Orrell O. Thwing, Fort Wayne, Ind.
Geo. W. Parker, St. Louis, Mo.	Howard Bruce, Baltimore, Md.
Eugene Y. Sayer, New York, N. Y.	

ANNUAL MEETING—June 6, 1918, at New York, N. Y.



To replace your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is not difficult and is inexpensive. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

CANADIAN GAS ASSOCIATION.

Officers.

HONORARY PRESIDENTS.

H. H. POWELL, Brantford, Ontario, Can.	J. B. HAY, Listowel, Ontario, Can.
J. S. NORRIS, Montreal, Quebec, Can.	ARTHUR HEWITT, Toronto, Ontario, Can.
PRESIDENT, - - - - -	J. M. H. YOUNG, London, Ontario, Can.
FIRST VICE-PRESIDENT, - - - - -	C. C. FOLGER, Kingston, Ontario, Can.
SECOND VICE-PRESIDENT, - - - - -	V. S. McINTYRE, Kitchener, Ontario, Can.
SECRETARY AND TREASURER, - - - - -	GEORGE W. ALLEN, Toronto, Ontario, Can.

Secretary's address, 19 Toronto St., Toronto, Ont.

Representative on Directorate, Am. Gas Inst., Howard E. Mann.

EXECUTIVE COMMITTEE.

A. A. Dion, Ottawa, Ont.	Arthur Hewitt, Toronto, Ont.	J. S. Norris, Montreal, Que.
T. A. Gardner, Belleville, Ont.	J. P. King, Stratford, Ont.	E. H. Caughell, St. Thomas, Ont.

NEXT ANNUAL MEETING—August 22 and 23, at Montreal.

EMPIRE STATE GAS AND ELECTRIC ASSOCIATION.

Officers.

PRESIDENT, - - - - -	E. H. PALMER, Geneva, N. Y.
FIRST VICE-PRESIDENT, - - - - -	H. M. BEUGLER, Poughkeepsie, N. Y.
SECOND VICE-PRESIDENT, - - - - -	H. W. PECK, Schenectady, N. Y.
TREASURER, - - - - -	C. A. GRAVES, Walton, N. Y.
SECRETARY, - - - - -	C. H. B. CHAPIN, 29 W. 39th St., New York, N. Y.

Executive Committee.

W. R. Huntley, Buffalo, N. Y.	F. H. Hill, Elmira, N. Y.
M. J. Brayton, Utica, N. Y.	S. J. Magee, Ithaca, N. Y.
W. A. Buttrick, Glens Falls, N. Y.	E. H. Rosenquest, Westchester, N. Y.
J. C. De Long, Syracuse, N. Y.	C. G. M. Thomas, Long Island City, N. Y.
C. H. Graf, Albany, N. Y.	H. L. Mann, Buffalo, N. Y.
A. B. Tenney, Oswego, N. Y.	Stuart Wilder, Mt. Vernon, N. Y.
J. T. Hutchings, Rochester, N. Y.	F. A. Stoughton,

ANNUAL MEETING—October, 1918, New York City.

GUILD OF GAS MANAGERS OF NEW ENGLAND.

Officers.

PRESIDENT, - - - - -	J. E. NUTE, Fall River, Mass.
VICE-PRESIDENT, - - - - -	H. K. MORRISON, Lynn, Mass.
TREASURER, - - - - -	W. F. NORTON, Nashua, N. H.
SECRETARY, - - - - -	C. R. PRICHARD, Beverly, Mass.

ANNUAL MEETING—Second Saturday of March, at Boston, Mass.

MONTHLY MEETINGS—Second Saturday each month except June, July and August.

ILLINOIS GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - -	F. E. LUTHER, Chicago, Ill.
VICE-PRESIDENT, - - - - -	H. S. WHIPPLE, Rockford, Ill.
SECRETARY-TREASURER, - - - - -	HORACE H. CLARK, Chicago, Ill.

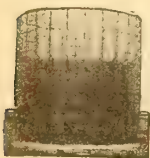
Secretary's address: Room 1331-72 W. Adams St., Chicago.

DIRECTORS.

F. W. Bedard.	Carroll Miller.	F. E. Luther.	Henry S. Whipple.
H. H. Clark.	A. D. Mackie.	H. E. Bates.	J. G. Hart.

Affiliation Representative Am. Gas Institute, F. W. Bedard.

NEXT ANNUAL MEETING—Third week in March, at Chicago.



The cuts at the sides show the first five million cu. ft. holder erected in the United States, over twenty years ago. This size now is the most general for large gas plants.



R. D. WOOD & CO., PHILA., PA.

INDIANA GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - -	C. D. SHAUL, Terre Haute, Ind.
VICE-PRESIDENT, - - - - -	W. W. GOODRICH, Winchester, Ind.
SECRETARY AND TREASURER, - - - - -	JAMES W. DUNBAR, New Albany, Ind.

DIRECTORS.

R. A. Zeigler.	W. H. Crawford.	H. J. Roach.
J. D. Forrest.	H. C. Miller.	J. H. Maxon.
S. E. Mulholland.	J. C. Shepard.	O. O. Thwing.
C. D. Shaul.		J. A. Patten.

ANNUAL MEETING—Fourth Wednesday and Thursday in April, at Indianapolis, Ind.

ILLUMINATING ENGINEERING SOCIETY.

Officers and Council, 1916-17.

PRESIDENT, - - - - -	G. H. STICKNEY, Harrison, N. J.
	T. H. PISER, Boston, Mass.
	GEO. S. CRAMPTON, Philadelphia, Pa.
VICE-PRESIDENTS, - - - - -	M. G. LLOYD, Washington, D. C.
	W. GREELEY HOYT, New York, N. Y.
	C. E. STEPHENS, E. Pittsburgh, Pa.
GENERAL SECRETARY, - - - - -	CLARENCE L. LAW, New York.
ASSISTANT SECRETARY, - - - - -	C. D. FAWCETT, New York, N. Y.
TREASURER, - - - - -	L. B. MARKS, New York, N. Y.

General offices, 29 West 39th Street, New York, N. Y.

JUNIOR PAST PRESIDENTS.

C. P. Steinmetz, Schnectady, N. Y.	William J. Serrill, Philadelphia, Pa.
------------------------------------	---------------------------------------

DIRECTORS.

W. A. Durgin.	C. A. Luther.	R. Ff. Pierce.
M. Luckiesh.	D. McFarlan Moore.	S. C. Rogers.
J. Arnold Norcross.	P. G. Nutting.	P. S. Young.

SECTION OFFICERS.

NEW YORK SECTION.

A. S. McAllister, Chairman,
261 W. 23d St., New York N. Y.
Norman D. Macdonald, Secretary,
80th St. and East End Ave., New York.
Managers: Wm. J. Clark, D. F. Atkins, S. B.
Burrows, W. F. Little, A. L. Powell.

NEW ENGLAND SECTION.

S. C. Rogers, Chairman,
21 Red Rock St., Lynn, Mass.
M. R. Pevear, Secretary,
71 Brummer St., Boston, Mass.
Managers: J. W. Cowles, David Crownfield, C.
A. B. Halvorson, R. G. Hudson, Geo. P.
Smith Jr.

CHICAGO SECTION.

E. H. Freeman, Chairman,
33d and Federal Sts., Chicago.
Jas. J. Kirk, Secretary,
72 West Adams St., Chicago.
Managers: A. O. Dicker, F. A. Rogers, C. A.
Carpenter, A. H. Meyer, J. L. Stair.

PITTSBURGH SECTION.

L. O. Grondahl, Chairman,
Carnegie Inst. of Tech., Pittsburg, Pa.
W. P. Hurley, Secretary,
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.
Managers: E. J. Edwards, L. J. Kiefer, Harold
Kirschberg, J. L. Minick, H. N. Muller.

PHILADELPHIA SECTION.

Walton Forstall, Chairman,
1401 Arch St., Philadelphia.
U. Rasin, Secretary,
1411 Widener Bldg., Philadelphia, Pa.
Managers: J. D. Lee, Jr., H. H. Ganser, J. B.
Kelley, G. B. Regar, C. W. Wardell.

OFFICIAL REPRESENTATIVES TO OTHER ORGANIZATIONS.

ON THE U. S. COMMITTEE OF THE INTERNATIONAL COMMISSION ON ILLUMINATION:

Louis Bell.	J. R. Cravath.	Preston S. Millar.
-------------	----------------	--------------------

ON AM. INST. OF EL. ENGINEERS' STANDARDS COMMITTEE:

Clayton H. Sharp.

ON GOVERNING BOARD AM. ASSN. FOR ADVANCEMENT OF SCIENCE:

E. B. Rosa. C. H. Sharp.

ANNUAL MEETING—Third Thursday in January.



Make your compressors deliver more gas by replacing your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

INTERNATIONAL ACETYLENE ASSOCIATION.

Officers.

PRESIDENT, - - - - - J. T. EARL, Elkhart, Ind.
 VICE-PRESIDENT, - - - - - H. S. SMITH, Indianapolis, Ind.
 SECRETARY AND TREASURER, - - - - - A. CRESSY MORRISON, New York, N. Y.
 New York Office, 42d St. Building. Peoples Gas Building, Chicago, Ill.

DIRECTORS.

R. W. Gorham, New York, N. Y. J. A. Johnson, Crawfordsville, Ind.
 Hyman Offutt, Louisville, Ky. W. A. Cochrane, Brooklyn, N. Y.
 J. M. Morehead, Chicago, Ill. M. Kirchberger, New York, N. Y.

ANNUAL MEETING—Oct. 29, 30 and 31, 1918.

IOWA DISTRICT GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - - A. W. BORDEN, Hastings, Neb.
 VICE-PRESIDENT, - - - - - GEO. ROPER, Rockford, Ill.
 SECOND VICE-PRESIDENT, - - - - - W. H. TAYLOR, Omaha, Neb.
 SECRETARY AND TREASURER, - - - - - H. R. STERRETT, Des Moines, Iowa.
 AFFILIATION REPRESENTATIVE AM. GAS INSTITUTE, A. L. ENGLISH, Council Bluffs, Ia.

COUNCIL.

J. E. Harsh, Lincoln, Neb. C. N. Chubb, Davenport, Ia.
 Chas. Smith, Yankton, S. D. H. B. Maynard, Waterloo, Ia.

ANNUAL MEETING—Third week in May, at Des Moines, Ia.

THE KANSAS PUBLIC SERVICE ASSOCIATION.

Officers.

PRESIDENT, - - - - - J. D. NICHOLSON, Newton, Kan.
 1ST VICE-PRESIDENT, - - - - - M. L. DERGE, Salina, Kan.
 2ND VICE-PRESIDENT, - - - - - R. G. LAFITE, Eureka, Kan.
 3D VICE-PRESIDENT, - - - - - HON. J. L. HARVEY,
 SECRETARY AND TREASURER, - - - - - W. W. AUSTIN, Cottonwood Falls, Kan.

EXECUTIVE COMMITTEE.

A. M. Patten, Topeka, Kan. H. W. Magruder, Liberal, Kan.
 L. O. Ripley, Wichita, Kan. L. S. Small, Concordia, Kan.
 C. L. Brown, Abilene, Kan. Walter Grundy, Hutchinson, Kan.

ANNUAL MEETING—October 17, 18 and 19, 1918, at Kansas City, Kan.

MICHIGAN GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - - GLENN R. CHAMBERLAIN, Grand Rapids, Mich.
 VICE-PRESIDENT, - - - - - SAMUEL BALL, Bay City, Mich.
 SECRETARY AND TREASURER, - - - - - CLARK R. GRAVES, Lansing, Mich.

EXECUTIVE COMMITTEE.

Clark R. Graves, Lansing. Glenn R. Chamberlain, Grand Rapids.
 Burton R. Laraway, Jackson. S. Ball, Bay City.

NEXT ANNUAL MEETING—September 12 and 13, 1918, at Detroit, Mich.

MISSOURI ASSOCIATION OF PUBLIC UTILITIES.

Officers.

PRESIDENT, - - - - - J. H. VAN BRUNT, St. Joseph, Mo.
 FIRST VICE-PRESIDENT, - - - - - J. M. SCOTT, Kansas City, Mo.
 SECOND VICE-PRESIDENT, - - - - - L. P. ANDREWS, Sedalia, Mo.
 THIRD VICE-PRESIDENT, - - - - - H. SPOEHRER, St. Louis, Mo.
 SECRETARY AND TREASURER, - - - - - F. D. BEARDSLEE, St. Louis, Mo.

Secretary's office, 315 No. 12th St., St. Louis.

EXECUTIVE COMMITTEE.

Philip J. Kealy, Kansas City, Mo. J. E. McLeod, St. Louis, Mo.
 B. C. Adams, Joplin, Mo. L. H. Egan, St. Louis, Mo.

ANNUAL MEETING—May 1919.

RELIABLE



RANGES

The bright polished and nickel-plated door frames, ebony black finished angle iron main front, main top and base in connection with the white porcelain enameled trimmings, all with surface smooth as glass, effect a most beautiful and attractive appearance. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

"GAS MEETERS."

Officers.

GRAND COMMISSIONER, - - - - - C. EDWIN BARTLETT, Philadelphia, Pa.
GENERAL SECRETARY AND TREASURER, - - - - - GEORGE E. SMITH, Jersey City, N. J.

NEW YORK SECTION.

Chairman, A. C. Johnson; Secretary, E. J. Jacobsen, New York, N. Y.

PHILADELPHIA SECTION.

Chairman, Hugh C. Aikin; Secretary, Louis S. Treen, Philadelphia, Pa.

NEW ENGLAND SECTION.

Chairman, E. B. Mooney; Secretary, A. F. Pettingill, Cambridge, Mass.

CLEVELAND SECTION.

Chairman, P. L. Ostrye; Secretary, F. C. Gardner, 1405 East 6th St., Cleveland, O.

AKRON, OHIO, SECTION.

Chairman, Phil Lewis; Secretary, W. A. Strauss, East Ohio Gas Co., Akron, O.

NATURAL GAS ASSOCIATION OF AMERICA.

Officers.

PRESIDENT, - - - - - KAY C. KRICK, Columbus, O.
VICE-PRESIDENT, - - - - - B. C. OLIPHANT, Buffalo, N. Y.
SECRETARY AND TREASURER, - - - - - DAVID O. HOLBROOK, Pittsburgh, Pa.

DIRECTORS.

H. J. Hoover, Cincinnati, O.	T. O. Sullivan, Pittsburgh, Pa.
A. A. Armstrong, Pittsburgh, Pa.	R. W. Gallagher, Cleveland, Ohio.
John H. Maxon, Muncie, Ind.	L. B. Denning, Columbus, Ohio.
Jas. W. McMahon, Toledo, O.	R. G. Altizer, Charleston, W. Va.
Clifton W. Sears, Wooster, O.	E. D. Leland, Pittsburgh, Pa.
Glenn T. Braden, Tulsa, Okla.	F. P. Fisher, Bartlettsville, Okla.

WRINKLE DEPARTMENT.

W. Re Brown, Editor, Columbus, Ohio.
A. J. Diescher, Asst. Editor, Bartlesville, Okla.

ANNUAL MEETING—May, 1919, at Pittsburgh, Pa.

THE ASSOCIATION OF NATURAL GAS SUPPLY MEN.

Officers.

PRESIDENT, - - - - - DAVID O. HOLBROOK, Pittsburgh, Pa.
VICE-PRESIDENT, - - - - - WILLIAM B. WAY, Pittsburgh, Pa.
TREASURER, - - - - - T. C. CLIFFORD, East Pittsburgh, Pa.
SECRETARY, - - - - - LARMOUR ADAMS, Pittsburgh, Pa.
Secretary's Office, 1304 First National Bank Bldg., Pittsburgh, Pa.

ANNUAL MEETING—May, 1919, at Pittsburgh, Pa.

NEW ENGLAND ASSOCIATION OF COMMERCIAL (GAS) MANAGERS.

Officers.

PRESIDENT, - - - - - J. B. ANDERSON, Brockton, Mass.
VICE-PRESIDENT, - - - - - JOHN C. D. CLARK, Boston, Mass.
SECRETARY AND TREASURER, - - - - - H. J. PETTENGILL, JR., Woonsocket, R. I.

ANNUAL MEETING—Third Wednesday in February, at Boston, Mass.



You can increase the efficiency of your compressors by replacing your old valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

NEW ENGLAND ASSOCIATION OF GAS ENGINEERS.

Officers.

PRESIDENT, - - - - -	J. A. NORCROSS, New Haven, Conn.
1ST VICE-PRESIDENT, - - - - -	A. M. BARNES, Cambridge, Mass.
2ND VICE-PRESIDENT, - - - - -	WALTER F. NORTON, Nashua, N. H.
SECRETARY AND TREASURER, - - - - -	N. W. GIFFORD, East Boston, Mass.

DIRECTORS.

C. E. Paige.	Robert E. Wyant.	Viggo E. Bird.
Herbert N. Cheney.		Burton Smart.

PAST PRESIDENTS.

*William W. Greenough.	*Horace A. Allyn.	W. G. Africa.
*George D. Cabot.	William A. Wood.	Wm. H. Snow.
*Samuel G. Stiness.	Charles H. Nettleton.	*J. A. Coffin.
*William A. Stedman.	Charles D. Lamson.	D. D. Barnum.
*Alpheus B. Slater.	Samuel J. Fowler.	T. H. Hintze.
Malcolm S. Greenough.	Walter R. Addicks.	C. A. Learned.
John B. Harbison.	Waldo A. Learned.	H. K. Morrison.
*Alfred M. Norton.	Wm. E. McKay.	H. C. Crafts.
*Robert B. Taber.	*F. S. Richardson.	Dr. J. F. Wing.
*Charles F. Prichard.	Wm. McGregor.	

* Deceased.

ANNUAL MEETING—Third Wednesday in February at Boston.

NEW JERSEY STATE GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - -	ORMSBY F. POTTER, Newark, N. J.
VICE-PRESIDENT, - - - - -	JOHN M. BROCK, Flushing, N. Y.
SECRETARY AND TREASURER, - - - - -	B. K. JOHNSON, Gloucester, N. J.

DIRECTORS.

Chas. W. Hoy, Glassboro, N. J.	R. H. Garrison, Atlantic Highlands, N. J.
Stanley Grady, Philadelphia, Pa.	B. K. Johnson, Gloucester, N. J.
Duncan Worrell, Philadelphia, Pa.	Walter Owen, Millville, N. J.
J. P. Zingg, Orange, N. J.	

S. J. Franklin, Millville, N. J., Affiliation Representative Am. Gas Institute.

ANNUAL MEETING—October, 1918.

OHIO GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - -	J. M. GARARD, Columbus, Ohio.
VICE-PRESIDENT, - - - - -	B. G. DAWES, Columbus, Ohio.
SECRETARY AND COUNSEL - - - - -	L. B. DENNING, Columbus, Ohio.
TREASURER, - - - - -	K. C. KRICK, Columbus, Ohio.

EXECUTIVE COMMITTEE.

J. M. Garard, Columbus, Ohio.	K. C. Krick, Columbus, Ohio.
L. B. Denning, Columbus, Ohio.	B. G. Dawes, Columbus, Ohio.
R. W. Gallagher, Cleveland, Ohio.	T. C. Jones, Delaware, Ohio.

ANNUAL MEETING—Third Tuesday in February, at Columbus, Ohio.
(Meeting postponed.)

THE GAS, ELECTRIC AND STREET RAILWAY ASSOCIATION OF OKLAHOMA.

Officers.

PRESIDENT, - - - - -	J. F. OWENS, Muskogee, Okla.
FIRST VICE-PRESIDENT, - - - - -	C. S. THOMPSON, Shawnee, Okla.
SECOND VICE-PRESIDENT, - - - - -	J. W. SHARTEL, Oklahoma City, Okla.
SECRETARY AND TREASURER, - - - - -	L. W. W. MORROW, Norman, Okla.

DIRECTORS.

J. F. Owens, (ex-officio).	C. S. Thompson, (ex-officio).	J. W. Shartel, (ex-officio).
Fred W. Insull, Tulsa, Okla.	R. O. Ressler, Weatherford, Okla.	
C. H. Kretz, Okmulgee, Okla.	F. D. Shaffer, Chickasha, Okla.	

ANNUAL MEETING—April, 1919, in Oklahoma City, Okla.



PACIFIC COAST GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - - JOHN D. KUSTER, San Jose, Cal.
 VICE PRESIDENT, - - - - - A. B. DAY, Los Angeles, Cal.
 SECRETARY AND TREASURER, - - - - - HENRY BOSTWICK, San Francisco, Cal.

Office of the Secretary, 445 Sutter Street.

DIRECTORS.

L. B. Jones. F. S. Wade. B. S. Pedersen.
 John A. Britton. Geo. P. Egleston. D. J. Young.
 Samuel C. Bratton.

WRINKLE DEP'T.

W. M. Henderson, Editor, San Francisco, Cal.

EXPERIENCE DEP'T.

John Clements, Editor, Oakland, Cal.

PUBLICITY DEPARTMENT.

F. S. Myrtle, Editor, San Francisco, Cal.

LIBRARY.

E. C. Jones, Librarian, San Francisco.
 J. P. Baloun, Asst. Librarian, San Francisco.

ADVISORY BOARD.

A. B. Macbeth, Chairman.
 W. G. Vincent, Jr. E. A. Gumper. Prof. R. S. Tour. N. L. Morse.

COMMITTEES.

GAS ENGINEERING DEGREE.

John A. Britton, Chairman.
 L. P. Lowe.
 E. C. Jones.
 C. L. Cory.
 F. A. Cressey, Jr.

PAPERS.

L. B. Jones, Chairman.
 F. S. Wade.
 S. C. Bratton.
 G. P. Egleston.
 J. M. Berkley.

COMMITTEE ON PIPING OF BUILDINGS FOR GAS.

Geo. P. Egleston, Chairman,
 San Francisco, Cal.
 E. L. Hall.
 M. L. Neely.
 W. J. Armstrong.
 L. F. Galbraith.
 T. J. Protheroe.
 S. C. Bratton.
 E. H. Corbett.

MEMBERSHIP.

A. B. Day, Chairman.
 G. W. Anderson.
 F. H. Bivens.
 A. B. Day.
 R. L. Clarke.
 Wm. Dorr.
 C. H. Dickey, Jr.
 N. R. McKee.
 H. R. Basford.
 T. B. Parks.
 W. G. Rich.
 J. A. Somers.
 F. S. Wade.
 F. Cavanagh.
 and others.

PUBLIC POLICY.

W. B. Cline, Chairman.
 F. R. Bain.
 M. L. Neely.
 C. S. Vance.
 H. M. Papst.

GAS EXHIBITS.

B. S. Pederson, Chairman.
 Robt. J. Thompson.
 H. W. Jackson.
 R. L. Cardiff.
 L. C. Braun.
 Paul E. Haugh.
 T. Leary.

LEGISLATION AND TAXATION.

F. S. Wade, Chairman.
 F. R. Bain.
 C. P. Cutten.
 S. W. Coleman.
 W. B. Cline.
 H. H. Jones.
 S. C. Bratton.

TECHNICAL INFORMATION.

E. C. Jones, Chairman.

RECEPTION COMMITTEE.

Van E. Britton, Chairman.

ANNUAL MEETING—September 1918, at Los Angeles, Cal.

PENNSYLVANIA GAS ASSOCIATION.

Officers.

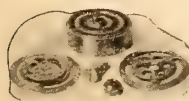
PRESIDENT, - - - - - W. R. RHOADES, Williamsport, Pa.
 VICE-PRESIDENT, - - - - - GEO. S. SPEAKER, Lebanon, Pa.
 SECOND VICE-PRESIDENT, - - - - - OSCAR L. HECKERT, York, Pa.
 SECRETARY AND TREASURER, - - - - - L. R. DUTTON, Jenkintown, Pa.

COUNCIL.

Oscar Heckert. J. J. McKnight. E. L. Smith.
 E. G. Holzer. John A. Frick. Stanley Grady.
 H. J. Von Neida. W. A. Allison. Geo. W. Beck.

Representative on American Gas Inst. Board, F. P. Duggan, Lewistown, Pa.

ANNUAL MEETING—Second Wednesday in April, 1919, at Williamsport, Pa.



The initial cost of changing from leather, poppet or mechanically operated valves to MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is insignificant compared to the saving effected in fuel consumption, reduced repairs, attendance, etc. Write for Bulletin "D." MESTA MACHINE COMPANY PITTSBURGH, PA.

SOCIETY OF GAS LIGHTING.

Officers.

PRESIDENT, - - - - -	COL. FRED. S. BENSON, Brooklyn, N. Y.
VICE-PRESIDENT, - - - - -	A. H. STRECKER, Newark, N. J.
SECRETARY, - - - - -	GEO. G. RAMSDELL, New York, N. Y.
TREASURER, - - - - -	W. CULLEN MORRIS.
MEMBER EXECUTIVE COMMITTEE, - - -	W. H. BRADLEY, New York, N. Y.
MEMBERS FINANCE COMMITTEE, - - -	W. F. LAWRENCE.
	R. W. BUSH.
	E. G. LOVE.

ANNUAL MEETING—Second Thursday in December, in New York, N. Y.

SOUTHERN GAS ASSOCIATION, (Incorporated.)

Officers.

PRESIDENT, - - - - -	L. GASTON, Knoxville, Tenn.
FIRST VICE-PRESIDENT, - - - - -	R. JOHN TITZELL, Birmingham, Ala.
SECOND VICE-PRESIDENT, - - - - -	NOBLE CLAY, Durham, N. C.
SECRETARY-TREASURER, - - - - -	M. A. BOWLIN, (Box 664), Macon, Ga.

DIRECTORS.

W. F. Croston, Newport News, Va.	Edgar Morris, Washington, D. C.
MacD. Dexter, Columbus, Ga.	R. L. Marques, Kalamazoo, Mich.
E. S. Dickey, Baltimore, Md.	E. E. Austin, Sumter, S. C.
Geo. Sligo, Atlanta, Ga.	Harry D. Wilson, Waycross, Ga.

J. W. Perkerson, Petersburg, Fla.

ANNUAL MEETING—May, 1919, at Asheville, N. C.

THE SOUTHWESTERN ELECTRICAL AND GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - -	W. A. SULLIVAN, Shreveport, La.
FIRST VICE-PRESIDENT, - - - - -	BURR MARTIN, Dallas, Tex.
SECOND VICE-PRESIDENT, - - - - -	E. S. FLETCHER, Dallas, Tex.
THIRD VICE-PRESIDENT, - - - - -	A. HARDGRAVE, Marshall, Tex.
TREASURER, - - - - -	J. B. WALKER, Dallas, Tex.
SECRETARY, - - - - -	H. S. COOPER, Dallas, Tex.

Office of Secretary, Slaughter Building.

EXECUTIVE COMMITTEE.

G. H. Clifford.	W. A. Sullivan.
F. J. Storm.	A. Hardgrave.
R. W. Meriwether.	J. C. Kennedy.
E. S. Fletcher.	S. R. Bertron, Jr.
H. C. Morris.	F. D. Murphy.
Burr Martin.	W. B. Head.

W. B. Tuttle.

NEXT ANNUAL MEETING—April, 1919, at Galveston, Tex.

TEXAS GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - -	F. J. STORM, Amarillo, Tex.
1ST VICE-PRESIDENT, - - - - -	W. H. CLIFFORD, Palestine, Tex.
2ND VICE-PRESIDENT, - - - - -	W. H. SEDBERRY, Marshall, Tex.
SECRETARY AND TREASURER, - - - - -	C. H. SEIDENGLANZ, Dallas, Tex.

Office of Secretary, 1501 Commerce St., Dallas, Tex.

DIRECTORS.

C. B. McKinney, Denison, Tex.	P. E. Nichols, Galveston, Tex.
A. T. Knies, Austin, Tex.	J. S. Connelly, Atlanta, Tex.

ANNUAL CONVENTION—September 10 and 11, 1918, at Fort Worth, Tex.

EFFICIENCY is the watch-word of progress. The GOODMAN STOPPER will help you attain efficiency.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

WEST VIRGINIA NATURAL GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - - FRED PAUL GROSSCUP, Charleston, W. Va.
 VICE-PRESIDENT, - - - - - E. G. DAVISSON, Crawford, W. Va.
 SECRETARY AND TREASURER, - - - - EDWIN ROBINSON, Fairmont, W. Va.
 Office, Jacobs Building, Fairmont, W. Va.

DIRECTORS.

E. J. King, Huntington.	Jas. P. McCloskey, Huntington.
S. W. Meals, Moundsville.	Osman E. Swartz, Clarksburg.
H. C. Cooper, Clarksburg.	Geo. B. Riddle, Wheeling.
W. H. South, Morgantown.	Pat. McDonough, Parkersburg.
Louis Bennett, Weston.	E. J. King, Huntington.
J. E. Trainer, Salem.	Lynn S. Horner, Clarksburg.

ANNUAL MEETING—July 24 and 25, 1918, at Huntington, W. Va.

WISCONSIN GAS ASSOCIATION.

Officers.

PRESIDENT, - - - - - JOHN ST. JOHN, Madison, Wis.
 VICE-PRESIDENT, - - - - - GUY F. GREGG, Milwaukee, Wis.
 SECRETARY AND TREASURER, - - - - HENRY HARMAN, Milwaukee, Wis.

PAST PRESIDENTS.

Geo. Mac Millan.	R. B. Brown.
Frederick W. Bowen.	W. H. Winslow.
Henry H. Hyde.	H. M. Buck.
Edward G. Pratt.	Ewald Haase.
John Corscot.	Jas. H. Walker.
Edward Daniell.	Wm. C. Butterworth.
David Douglas.	F. F. Cross.

B. F. Lyons.

Affiliation Representative, Am. Gas Institute, S. J. Glass.
 Delegate to Gas Congress, R. B. Brown.

NEXT ANNUAL MEETING—March, 1919, at Milwaukee, Wis.



An installation of MESTA AUTOMATIC PLATE VALVES (Iversen Patent) in your compressor guarantees higher efficiency. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

THE GAS AGE

America's Leading Periodical Devoted to Gas

SUBSCRIPTION PRICE \$3 PER YEAR

52 Vanderbilt Avenue, New York

ASSOCIATION MEMBERS

ASSOCIATIONS.

*A.	Am. Gas Institute.	Nat. G.	Natural Gas Association of America.
Ark.	Arkansas Assn. Public Utility Operators.	N. E.	New England Assn. of Gas Engineers.
Can.	Canadian Gas Assn.	N. E. C.	N. E. Assn. of Com'l (Gas) Managers.
Emp.	Empire State Gas & Electric Assn.	N. G. S.	Assn. of Natural Gas Supply Men.
G. I.	Assn. of Am. Gas Industries.	N. J.	New Jersey State Gas Assn.
G. G. M.	Guild of Gas Managers of New England.	O.	Ohio Gas Assn.
Ill.	Illinois Gas Assn.	Okla.	Gas, Elec. & St. Ry. Assn. of Okla.
I. E.	Illuminating Engineering Society.	P. C.	Pacific Coast Gas Assn.
Ind.	Indiana Gas Assn.	Pa.	Pennsylvania Gas Assn.
Ace.	International Acetylene Assn.	Soc. G.	Society of Gas Lighting.
Ia.	Iowa District Gas Assn.	Sou.	Southern Gas Assn.
Kan.	Kansas Public Service Assn.	So. W.	Southwestern Electrical & Gas Assn.
Mich.	Michigan Gas Assn.	Tex.	Texas Gas Assn.
Mo.	Missouri Assn. of Pub. Utilities	Wis.	Wisconsin Gas Association.
*Nat C.	National Commercial Gas Assn. and Manufacturers' Section, N. C. G. A.		

* Associate member.

† Junior member.

‡ Honorary member.

† Affiliate member.

OFFICERS.

*Members of A. G. I. and Nat. C. became charter members of the Am. Gas Assn. at the time of the amalgamation of the two associations on June 6, 1918.

(A star (*) before a member's name indicates he is now in Army or Navy service.)

A.	Assistant	Dir.	Director	N. B.	New Business
Acct.	Accountant	Dis.	Distribution	Of.	Office
Agt.	Agent	Dist.	District	Op.	Operating
Anal.	Analyst	Div.	Division		Operation
Ap.	Application				Operator
Appl.	Appliance			Oph.	Opthalmologist
Aud.	Auditor				Opthalmology
Br.	Branch	E.	Engineering or		
C.	Civil		Engineer	P.	President
C. P. A.	Certified Public	Ed.	Editor	P'met.	Photometrist
	Accountant	East.	Eastern	Prof.	Professor
Canv.	Canvasser			Pur.	Purchasing
Cash.	Cashier	El.	Electrical		
Ch.	Chemical or		Electrician		
	Chemist		Electricity		
Chf.	Chief	Fm.	Foreman	R.	Representative
Chm.	Chairman	G.	General	S.	Superintendent
Cl.	Claim	Z.	gas	Sals.	Salesman
Clk.	Clerk			Sec.	Secretary
Col.	Collector	Ill.	Illuminating	serv.	services
Com.	Commercial	Insp.	Inspecting or	Solic.	Solicitor
Comp.	Comptroller		Inspector	Sp'l.	Special
Con.	Consulting	L.	Local	Stat.	Statistician
	Construction		Manager or		
Cons.	Constructing	M.	Managing	T.	Treasurer
	Contract		Maintenance		
Cont.	Contractor or	Main.	Mechanical	V. P.	Vice-President
	Contracting	Mech.	met.	West.	Western
Dept.	Department	Mfr.	Manufacturer or		
Dftmn.	Draftsman		Manufacture		

Note.—The list below has been compiled from membership lists supplied by the secretaries of the associations named:

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Aaron, Charles T.	Nat. C.		Allston, Mass.
Aaron, J. C.	Nat. C.; N. E. C.	Peoples Gas Light Co.	Manchester, N. H.
Abbe, Walter, Jr.	Nat. G.	Chf. E., Peoples Natural Gas Co.	Pittsburg, Pa.
Abbott, Arthur L.	I. E.	El. Construction Co.	St. Paul, Minn.
Abbott, C. G.	N. G. E.	N. B. M., The Springfield Gas Co.	Springfield, Ohio.
Abbott, Charles M.	*N. E.	S., Samuel Cabot, Inc.	Boston, Mass.
Abbott, D. E.	Nat. G.	Dir., Huntington Develop. & Gas Co.	Huntington, W. Va.
Abbott, E. D.	Nat. G.	S., Springfield Gas Co.	Springfield, O.
Abbott, Lysle I.	Nat. C.	Mgr.	Omaha, Neb.
Abbott, M. E.	Nat. C.; *N. E.		
	*Pa.	Weir Stove Co.	Taunton, Mass.
Abell, H. C.	A.; Nat. G.; I. E.	Chf. Engr., Am. Light & Traction Co.	New York, N. Y.
Abilene Gas & Elec. Co.	So. W.		Abilene, Tex.

Precision 3-in-1 Gauges for forced-draught indications are of the dead-beat type, and give concentrated control of draught conditions by showing in one instrument conditions at the damper, in the combustion chamber and in the ash pit. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

ASSOCIATION MEMBERS

789

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
A. B. Stove Co.....	Nat. C.	Com. M., Interstate Public Service	Battle Creek, Mich.
Abrahamson, O. F.....	Ind.	Co.	Indianapolis, Ind.
Achelpohl, W. J.....	*I. E.	Aud., Illinois Traction System.....	Peoria, Ill.
Acheson, Albert R.....	*I. E.	Prof. Mech. E., Syracuse University and Con. E. Bureau of Gas & El.	Syracuse, N. Y.
Acme Stove & Range Co..	Nat. C.	Westchester Lighting Co.....	Carnegie, Pa.
Acron, John S.....	Nat. C.	Field Fm., United Natural Gas Co.	White Plains, N. Y.
Ada Elec. & Gas Co.....	Okla.	S. g. Dept., Shreveport Gas, El. Lt. & Power Co.....	Ada, Okla.
Adam, Frank, Electric Co.*	So. W.; Mo.		St. Louis, Mo.
Adams Bros. Mfg. Co., Inc.	Nat. C.		N. S., Pittsburg, Pa.
Adams, C. H.....	Nat. G.		Kane, Pa.
Adams, C. W.....	Sou.		Shreveport, La.
Adams, Charles F.....	P. C.		P. O. Box 8, Portland, Ore.
Adams, Chester W.....	Ind.	P. Loogootee Lt. & Fuel Co.	Vincennes, Ind.
Adams, Frederick D.....	I. E.	Sec. & T., The United Illum. Co.	New Haven, Conn.
Adams, H. C.....	Ia.	Des Moines Gas Co.....	Des Moines, Iowa.
Adams, J. A.....	Nat. G.	Field S., Am. Natural Gas Co.	Cowansville, Pa.
Adams, J. H.....	Nat. C.	Public Service Gas Co.....	Passaic, N. J.
Adams, John N.....	I. E.	Public Service Electric Co.....	Newark, N. J.
Adams, Larmour.....	Nat. G.; *Ill.		Erie, Pa.
Adams, L. G.....	Nat. C.		Dixon, Ill.
Adams, Oliver W.....	Mich.; Ill.	Illinois North Utilities Co.....	Brockton, Mass.
Adams, Thos. H.....	A.; N. E.	S., Brockton Gas Lt. Co.	Vincennes, Ind.
Adams, Walter J.....	Ind.	Pres., Loogootee Light & Fuel Co.	Long Island City, N. Y.
Adams, W. H.....	Nat. C.	Cash., East River Gas Co.	Ashland, O.
Adams, William C.....	Nat. G.	Agt., Logan Natural Gas & Fuel Co.	Birmingham, Ala.
Adams, William M.....	Sou.	M. Sales, Debardeben Coal Co., Inc.	Elyria, O.
Addicks, Walter R.....	Nat. G.	Agt., Citizens Gas & El. Co.....	
	A.; *Emp.; Nat.		
	C.; G. M.; I.		
	E.; \$N. E.		
	Soc. G.	1st V. P. Cons. Gas Co. of N. Y....	New York, N. Y.
Addressograph Co.....	Nat. C.		901 W. Van Buren St., Chi- cago, Ill.
Adirondack El. Pwr. Corp..	Emp.; Nat. C.		Glens Falls, N. Y.
Adolf, Peter P.....	Nat. G.	Agt., Natural Gas Co.....	Lancaster, N. Y.
Africa, Walter G.....	A.; G. G. M.		
	*I. E.; Nat.		
	C.; N. E.	T. & M. Peoples Gas Light Co....	Manchester, N. H.
Afton Light & Water Dept.	Okla.		Afton, Okla.
Aggers, E. D.....	Nat. G.	Cont., F. A. Aggers & Son.....	Kane, Pa.
Ahern, J. F.....	Nat. C.	Willimantic Gas & El. Lt. Co.	Willimantic, Conn.
Ahern, W. B.....	*I. E.	Dist. M., Philadelphia Electric Co.	Philadelphia, Pa.
Ahlndi, David.....	Ace.	Commercial Acetylene Co.....	Chicago, Ill.
Ahles, Edward.....	Nat. C.	Public Service Gas Co.....	Hoboken, N. J.
Aikin, Hugh Carlton.....	*A.; *Pa. Nat. C	East. Sals. M., Eclipse Gas Stove Co.	Chester, Pa.
Ainsley, Jonathan.....	Ia.	S. dis., Peoples Light Co.....	Davenport, Ia.
Ainsley, W. G.....	Ia.	Dist. Fm., Keokuk El. Co.....	Keokuk, Ia.
Ajax Iron Works.....	N. G. S.		Corry, Pa.
Albany So. R. R. Co.....	Emp.		Albany, N. Y.
Albertson, John.....	Nat. C.	Sals. Public Service Gas Co.....	Newark, N. J.
Alberty, P. A.....	Nat. G.	A. S., Logan Natural Gas & Fuel Co.	Columbus, Ohio.
Albuquerque Gas & El. Co.	Nat. C.		Albuquerque, N. M.
Alcott, John.....	Tex.		Dallas, Texas.
Alden, Chas. A.....	Nat. C.; A.	Boston Consolidated Gas Co.....	24 West St., Boston.
Alden, George A.....	N. E.		Gloucester, Mass.
Alden, John Douglas.....	A.; Nat. C.; Nat.		
	G.; Emp.	A. S., United Gas Impt. Co.....	Waterbury, Conn.
Alderman, John R.....	*I. E.		Williamstown, N. J.
Aldrich, W. A.....	P. C.	Engineer	23 No. Lafayette St., Grand Rapids, Mich.
Alessandrini, John.....	Nat. C.	United Gas Impt. Co.....	Philadelphia, Pa.
Alexander, Arthur.....	*Ia.; *Ind.		Kalamazoo, Mich.
Alexander, S. H.....	Nat. C.	Public Service Gas Co.....	Newark, N. J.
Alexander, W. F.....	Nat. G.	Natural Gas Ins.....	Clarksburg, W. Va.
Alger, Ellice M.....	*I. E.	Physician	40 E. 41st St., New York.
Allan, George.....	Can.; Nat. C.	Ad. M., Consumers Gas Co.....	Toronto, Ont., Can.
Allan, R. E.....	P. C.	R., R. D. Wood & Co.....	San Francisco, Cal.
Allan, Thomas G.....	Nat. C.; *I. E.	United Gas Improvement Co.....	Philadelphia, Pa.
Allbritton, C. C.....	Ark.	S., Clarksville Elec. Lt. Plant.....	Clarksville, Ark.
Allegaert, E. J.....	Nat. C.		Newark, N. J.
Allegheny Steel Co.....	N. G. S.		Pittsburgh, Pa.
Allen, A.....	Mich.	S. Sta. B., Detroit City Gas Co.....	Detroit, Mich.
Allen, Arthur Benj.....	A.	A. S., N. Y. Mutual Gas Light Co.	New York, N. Y.
Allen, Clile C.....	*I. E.	S., Geo. S. Johnston Co.....	5 S. Wabash Ave., Chicago, Ill.
Allen, D. P.....	Ia.	Des Moines Gas Co.....	Des Moines, Iowa.
Allen, Ernest W.....	N. E. C.; Nat. C.	Com. M., Lynn Gas & Electric Co....	Lynn, Mass.
Allen, George W.....	Nat. C.; Can.		
	*A.	R. Consumers Gas Co.....	Toronto, Can.
Allen, H. V.....	I. E.	A. El. Dept. Water Supply Gas El.	New York, N. Y.
Allen, Harry G.....	Ace.	Care Compressed Gas Co.....	Vancouver, B. C., Can.
Allen, Foster.....	Nat. G.	Sinclair-Cudaby Pipe Line Co.....	Box 398, Drumright, Okla.
Allen, Leslie M.....	Nat. C.	Brooklyn Union Gas Co.....	Brooklyn, N. Y.
Allen, Miner W.....	I. E.	S., National Carbon Co.....	Cleveland, Ohio.
Allen, R. F.....	Ill.	S., Alton Gas & El. Co.....	Alton, Ill.
Allen, S. S., Jr.....	Nat. G.	A. Sec. Columbus Gas & Fuel Co....	Columbus, O.
Allen, Thomas.....	Sou.		2511 Roanoke Ave., Newport News, Va.
Allen, Walter C.....	I. E.	Ex. Sec., Public Utilities Com.....	Dist. Bldg., Washington, D. C.
Allen, William H., Jr.....	A.; Ill.	S. By-Products Coke Corporation, Semet Solvay Coke Ovens.....	So. Chicago, Ill.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent) have proved to be the ideal valves for blowing and compressing units. They are rapidly replacing the old leather, poppet and mechanically operated valves. Bulletin "D" describes these valves in detail.

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Allentown Gas Co.	Pa.		Philadelphia, Pa.
Allguire, Wm.	P. C.	Fm., Palo Alto Gas Co.	Palo Alto, Cal.
Allis, Chalmers Co.	*So. W.		Dallas, Tex.
Allison, J. A.	Acc.	The Prest-O-Lite Co.	Indianapolis, Ind.
Allison, Walter A.	A.; Pa.; *I. E.	E.	403 Wister St., Philadelphia.
Allyn, George E.	A.; N. E.	S. of Dis., Providence Gas Co.	Providence, R. I.
Almberg, H. E.	A.; Nat. C.	Atty. for Consolidated Gas Co.	New York, N. Y.
Almert, Harold.	A.	Con. E.	209 So. La Salle St., Chicago.
Alrich, Herbert W.	A.	A. E. Cons., Consolidated Gas Co.	New York, N. Y.
Altenus, G. C. D.	Nat. C.	Welsbach Gas Lamp Co.	Philadelphia, Pa.
Althen, George R.	Nat. C.; A.	S. of Dis., Cons. Gas El. Lt. & Pr. Co.	Baltimore, Md.
Althouse, A. J.	A.	S., Hamburg Gas & Electric Co.	Hamburg, Pa.
Altizer, R. G.	Nat. G.	Counsel, United Fuel Gas Co.	Charleston, W. Va.
Altman, Everette	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Alva Light & Pr. Co.	Okl.		Alva, Okla.
Alward, Roy E.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Amarillo Gas Co.	Nat. C.; So. W.		Amarillo, Tex.
Ambler, Chas. M.	Nat. C.	Sec. & T., Thomas, Roberts, Stevenson Co.	Philadelphia, Pa.
Ambler, Thomas M.	Nat. C.; A.; I. E. M.	Com. Dept., Brooklyn Union Gas Co.	Brooklyn, N. Y.
American Brake-Shoe & Mfg. Co.	So. W.		New York, N. Y.
American Car & Fdy. Co.	Mo.		St. Louis, Mo.
American Car Co.	So. W.		St. Louis, Mo.
American Cast Iron Pipe Co.	Nat. C.		Birmingham, Ala.
Am. Circular Loom Co.	So. W.		Chelsea, Mass.
American Construction Co.	Nat. C.		Newton, Ia.
Am. District Steam Co.	Mo.		Chicago, Ill.
American Electric Co.	Mo.		St. Joseph, Mo.
Am. Electrical Works.	So. W.		Chicago, Ill.
American Gas Co.	Nat. C.; Pa.		Philadelphia, Pa.
Am. Gas Co.	O.		Carrollton, O.
Am. Gas & Elec. Co.	I. E.		30 Church St., New York, N.Y.
Am. Gas Furnace Co.	Nat. C.		Elizabeth, N. J.
Am. Gas Eng. Journal.	Nat. C.		42 Pine St., New York City.
Am. Ironing Machine Co.	Nat. C.		Chicago, Ill.
Am. Light & Traction Co.	Nat. C.		New York, N. Y.
American Light & Power Co.	Mo.		St. Charles, Mo.
Am. Oxygen Co.	Ace		428 Perry Bldg., Phila., Pa.
American Pub. Utilities Co.	Nat. C.		Grand Rapids, Mich.
American Radiator Co.	N. G. S.		Chicago, Ill.
Am. Steel & Wire Assn.	So. W.		Dallas, Texas.
Ames, Knowlton L.	A.	Jacksonville Gas Co.	108 So. La Salle St., Chicago.
Amey, L. C.	Nat. G.	Chf. E., Manufacturers Gas Co.	Kane, Pa.
*Amidon, Chas. W.	Ill.	S., Hamilton Utilities Co.	Benton, Ill.
Ammerman, E. C.	Ill.	Fm. So. Sta., Peoples Gas Light & Coke Co.	Chicago, Ill.
Ammerman, Ray	Nat. C.; Pa.	Phila. Sub. Gas & Elec. Co.	Wyncote, Pa.
Amrine, T. H.	*I. E.		157 So. Grove St., E. Orange, N. J.
Anchor Packing Co.	N. G. S.		Pittsburgh, Pa.
Anderson, Arthur H.	*I. A.	Cadet E., St. Paul Gas Light Co.	St. Paul, Minn.
*Anderson, B. F.	P. C.	Cadet E., Pacific Gas & El. Co.	San Francisco, Cal.
Anderson, Douglas S.	*I. E.	Prof. of El. E., Tulane University.	New Orleans, La.
Anderson, E. A.	Ia.	Sec. & T., Peoples Gas & Power Co.	Chariton, Ia.
*Anderson, Earl A.	*I. E.	Eng. Dept., Nat'l Lamp Works of G. E. Co.	Cleveland, O.
Anderson, E. C.	Nat. C.	Providence Gas Co.	62 Weybossett St., Providence, R. I.
Anderson, E. J.	Nat. G.	S., Texas Gas Co.	Mexia, Texas.
Anderson, G. C.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Anderson, George G.	Nat. C.	Sals., United Gas Improvement Co.	Philadelphia, Pa.
Anderson, G. W.	P. C.	Sec. & T., Oakdale Gas Co.	Oakdale, Cal.
Anderson, H. R.	*Ace		Albion, N. Y.
Anderson, Harry W.	Ind.	M., Union Ht., Lt. & Pr. Co.	Union City, Ind.
Anderson, Howard Bruce.	*I. E.; Nat. C.; A.	S., City Dist., United Gas Impt. Co.	Philadelphia, Pa.
Anderson, J. B.	N. E. C.; N. E.	A. M., Brockton Gas Light Co.	Brockton, Mass.
Anderson, J. B.	Nat. C.	No. Carolina Public Service Co.	Greensboro, N. C.
Anderson, J. F.	Nat. G.	Field Fm., Peoples Natural Gas Co.	Mayport, Pa.
Anderson, J. Scott.	Nat. C.	G. Aud., Welsbach Co.	Gloucester, N. J.
Anderson, J. W.	Nat. G.	Agt., United Fuel Gas Co.	Ashland, Kentucky.
Anderson, L. W.	*I. E.	The Waterbury Metal Wares Co.	New York, N. Y.
Anderson, Oscar P.	*I. E.	General Electric Co.	Harrison, N. J.
Anderson, T. B.	Ind.	Com. M., Indiana Ltg. Co.	Ft. Wayne, Ind.
Anderson, William	*G. G. M.; N. E.	Lynn Gas & Electric Co.	Lynn, Mass.
Andler, R. E.	Mo.	V. P. & M., Sedalia Ice, Lt. & Fuel Co.	Sedalia, Mo.
Andrews, Chas. Harold.	A.; Nat. C.; Sou.	S., Southern Utilities Co.	Greensboro, N. C.
Andrews, C. W.	A.	T., Zenith Furnace Co.	Duluth, Minn.
Andrews, J. Charles.	A.	Turner Construction Co.	New York, N. Y.
Andrews, William S.	I. E.	Cons. E. dept., General Electric Co.	Schenectady, N. Y.
Anensman, Joseph M.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Angell, Frederic J.	A.	M. E., 38 Victoria St., Westminster.	London, S. W., Eng.
Angle, J. E.	Nat. G.	S., Fayette County Gas Co.	Connellsville, Pa.
Angle, J. L.	Nat. C.		4236 Main St., Manayunk, Philadelphia, Pa.
Ankerberg, Carl E.	Ill.	A. E.	Chicago, Ill.

SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street

PHILADELPHIA, PA.

ASSOCIATION MEMBERS

791

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Annett, Edward Burdett..	*A.; N. J.....	Inspector of Gas, Public Utility Com- mission, State of N. J.....	Newark, N. J.
Ansell, Henry A.....	Nat. C.....	Phila. Flexible Metallic Tubing Co.....	Philadelphia, Pa.
Anthony, Joseph L.....	Nat. C.....	Weir Stove Co.....	Taunton, Mass.
Anton, Frank P.....	Nat. C.....	United Gas Improvement Co.....	Philadelphia, Pa.
Antrim, Wm. D.....	*I. E.....	E., The Welsbach Light Co.....	Gloucester, N. J.
Aoyagi, Prof Dr. Eiji.....	*I. E.....	Kyoto Imperial University.....	Kyoto, Japan.
Apple, C. B.....	Nat. G.....	.....	Cleveland, Ohio.
Applebaum, Benj. J.....	Nat. C.....	Brooklyn Union Gas Co.....	Brooklyn, N. Y.
Applegate, John D., Jr.....	Nat. C.....	.....	Philadelphia, Pa.
Archbold, W. K.....	*Emp.....	.....	Syracuse, N. Y.
Ardizzone, Joseph.....	Nat. G.....	P. Ardizzone Co.....	Tulsa, Okla.
Ardry, Melvin.....	Wis.; t.A.....	Chf. Clk., Dis. Dept., Milwaukee Gas Light Co.....	Milwaukee, Wis.
Arenberg, A. L.....	I. E.....	Sales E., Central Electric Co.....	Chicago, Ill.
Ardmore Ice, L. & W. plant.....	Okla.....	.....	Ardmore, Okla.
*Argabreti, Walter M.....	P. C.....	Honolulu Gas Co.....	Honolulu, T. H.
Arkwright, P. S.....	A.; Nat. C.....	V. P., Atlanta Gas Light Co.....	Atlanta, Ga.
Arlington Lt. & Pr. Co. S. W.....	.....	.....	Arlington, Texas.
Armatage, W. L.....	Ind.....	Sals., Citizens Gas Co.....	Indianapolis, Ind.
Armbruster, F. C.....	Nat. C.....	Supt. Gas Dept.....	Wilson, N. C.
Armstead, Daniel M.....	Nat. G.....	Pt. Arthur Gas Co.....	Pt. Arthur, Texas.
Armstrong, A. A.....	Nat. G.....	Pur. Agt., Union Natural Gas Corp.....	Pittsburg, Pa.
Armstrong, Frank M.....	Nat. C.....	Des Moines Gas Co.....	Des Moines, Ia.
Armstrong, H. V.....	A.; Nat. C.; Ind.....	S., Northern Indiana Gas & Elec. Co.....	Michigan City, Ind.
Armstrong, J. H. N.....	A.....	Stat., Consolidated Gas Co.....	New York, N. Y.
Armstrong, John J.....	Nat. C.; Can.....	Chf. Clk., Consumers Gas Co.....	Toronto, Can.
Armstrong, Thomas.....	Nat. G.....	Insp., Iroquois Natural Gas Co.....	Buffalo, N. Y.
Armstrong, W. J.....	P. C.....	Pacific Gas & El Co.....	Oakland, Cal.
Arneel, W. H.....	Nat. C.....	Public Service Gas Co.....	Passaic, N. J.
Arnold, Geo. W.....	*Ind.....	Sals., Welsbach Co.....	Indianapolis, Ind.
Arnold, W. H.....	Nat. G.....	R., Pittsb'gh Valve, Fdry. & Cons. Co.....	1817 Tonah Ave., Pittsburgh.
Aranson, C. S.....	P. C.....	Ag't., Pittsburg Water Heater Co.....	San Francisco, Cal.
Arras, W. H.....	Nat. G.....	Chf. Clk., Pur. Dept., Phila. Co.....	Pittsburg, Pa.
Arrell, E. G., Jr.....	*N. E.....	Sals., Welsbach Co.....	Boston, Mass.
Arrowsmith, T. G.....	P. C.....	Sals., M., Hoffman Heater Co.....	San Francisco, Cal.
Arthur, R. G.....	P. C.....	M., Douglas Gas Corp.....	Douglas, Ariz.
Asbury, Frank Herbert.....	P. C.....	A. S., Gas Mfg., Los Angeles Gas & El. Corp.....	Los Angeles, Cal.
Asendorf, Carl F.....	*A.; *Ill.; *Ind.; *Ia.; *Mich.; *Wis.; Nat. C. R.....	C. H. Dickey Co., (American Meter Co.).....	Chicago, Ill.
Ash, Chas. S.....	Kan.....	Sals., Long-Bell Lumber Co.....	Topeka, Kan.
Ash, Fred H.....	Nat. C.....	St. Paul Gas Lt. Co.....	St. Paul, Minn.
Ashcroft & Sons, B. F.....	So. W.....	.....	Sulphur Springs, Texas.
Asheville P. & L. Co.....	Nat. C.....	.....	Asheville, N. C.
*Ashley, Edward E. J.....	*I. E.....	.....	356 Union Station, Washing- ton, D. C.
Ashley, R. W.....	*I. E.....	E., Milwaukee El. Light Co.....	Milwaukee, Wis.
Ashley, Walter A.....	Nat. G.....	Local S., Logan Natural Gas & Fuel Co.....	Chillicothe, O.
Ashline, Geo. L.....	Ill.....	G. Stkpr., Public Service Co. of No. Illinois.....	72 W. Adam St., Chicago, Ill.
Ashtabula Gas Co.....	O.....	.....	Ashtabula, O.
Ashton, H. T.....	Nat. G.....	A. E., Ohio Cities Gas Co.....	135 North Front St., Colum- bus, O.
Ashworth, James.....	A.; *I. E.....	S. of Dis., Public Service Gas Co.....	Jersey City, N. J.
Associated Oil Co.....	*P. C.....	.....	Sharon bldg., San Francisco. Cal.
Atchison Ry., Light & Pr. Co.....	Kan.....	.....	Atchison, Kan.
Atterton, Edgar.....	Nat. C.....	Public Service Gas Co.....	Paterson, N. J.
Atkins, David F.....	I. E.....	Chf. E., light and power, Dept. Water Supply, Gas & Electricity.....	New York, N. Y.
Atkins, H. B.....	Nat. C.....	Phila. Sub. Gas & El. Co.....	Phoenixville, Pa.
Atkins, I. H.....	Nat. G.....	Dist. M., Union Gas & Elec. Co.....	4th and Plum Sts., Cincinnati.
Atkinson, Charles.....	Nat. C.....	Indexer, Public Service Gas Co.....	Paterson, N. J.
Atlanta Gas Light Co.....	Nat. C.....	.....	Atlanta, Ga.
Atlantic City Gas Co.....	Nat. C.....	.....	Atlantic City, N. J.
Atlantic Lgt. & Pwr. Co.....	Emp.....	.....	Coeymans, N. Y.
Atlas Ry. Supply Co.....	So. W.....	.....	Chicago, Ill.
Atmore, A. L.....	*I. E.....	Chf. Clk. E. Dept., Phila. El. Co.....	Philadelphia, Pa.
Atwater, C. G.....	*A.....	E., Am. Coal Products Co.....	New York, N. Y.
Atwell, Robert.....	Nat. C.....	Col., Public Service Gas Co.....	Montclair, N. J.
Atwill, F. C.....	*Ia.; *Ill.....	P., Atwill-Makemson Coal & Coke Co.....	Chicago, Ill.
Atwood, Byron H.....	Nat. C.....	United Gas Imp. Co.....	Philadelphia, Pa.
Auchterlonie, J. W.....	Nat. C.....	Cambridge University & Town Gas Light Co.....	Cambridge, England.
Aue, Joseph E.....	P. C.....	Ch. E. g. & oil eng. Dept., De La Vergne Machine Co.....	New York, N. Y.
Auerbacher, L. J.....	I. E.....	.....	76 No. 9th St., Newark, N. J.
Austin, E. E.....	Sou.....	Supt., Sumter Gas & Power Co.....	Sumter, S. C.
Austin Gas Co.....	Nat. C.....	.....	Austin, Minn.
Austin Gas Light Co.....	So. W.....	.....	Austin, Texas.
Austin, H. R.....	P. C.....	Sec. to P., Los Angeles Gas & Electric Corporation.....	Los Angeles, Cal.
Austin, James.....	Pa.....	S. & M., Kennett Gas Co.....	Kennett Square, Pa.
Auty, Karl Andre.....	*I. E.....	Sales E., Commonwealth Ed. Co.....	Chicago, Ill.
Aver, R. H.....	P. C.....	M., Pacific Gas & Electric Co.....	Colusa, Cal.
Averill, Glen.....	Ia.....	Cedar Rapids Gas Light Co.....	Cedar Rapids, Ia.
Avery, Arthur N.....	*Mich.....	Sals., Hoffman Water Heater Co.....	Lansing, Mich.
Ayer, J. W.....	Nat. G.....	Sals., M., Reznor Mfg. Co.....	Mercer, Pa.
Ayers, A. B.....	Ind.....	M., Fortville Gas Co.....	Fortville, Ind.



Leather, poppet and mechanically operated valves in your compressor units are everlastingly wasteful. Stop this waste by replacing them with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Avery, H. C.	Nat. C.	National Stove Co.	Lorain, Ohio.
Aymour, J. W.	Nat. C.	Nightingale Co.	Peoples Gas Bldg., Chicago, Ill.
Ayres, Chester T.	Ace.	Works M., Union Carbide & Electro-Met. Co.	New York, N. Y.
Azoy, Anastasio C. M.	*A.; N. J.; Nat. C.	M., Berwind-White Coal Mining Co.	New York, N. Y.
B. R. El. & Tel. Co.	Ckla.; Mo.		Kansas City, Mo.
Babcock, C. B.	P. C.; *A.	Coast R. Central Gas Light Co.	San Francisco, Cal.
Babcock, Edwin W.	*I. E.	S. of El. Cons., Edison Electric Illuminating Co.	Brooklyn, N. Y.
Babson, A. C.	Wis.; *I. E.	M., Wisconsin Gas & Elec. Co.	Watertown, Wis.
Backmire, G. H.	Nat. C.		3d Ave. East, Collegeville, Pa.
Badger, Thomas	Sou.	Sec.-Mgr., Fayetteville Lt. & Pr. Co.	Fayetteville, N. C.
Baehr, William Alfred	A.; Ill.; P. C.; Nat. G.; Nat. C.; Wis.	Con. E.	Peoples Gas Bldg., Chicago, Ill.
Baer, B. B.	\$So. W.		Houston, Tex.
Bagley, W. H.	Nat. G.	Agt., Osage & Oklahoma Co.	Pioneer Bldg., Tulsa, Okla.
Bagnall, E. J.	*I. E.		2049 East 100th St., Cleveland, O.
Bagot, M. W.	Sou.	Com. M., Gulf Coast Gas Co.	Gulfpport, Miss.
Bagot, W. C.	Sou.	S., Lakeland Gas Co.	Lakeland, Fla.
Bahan, J. F.	Nat. G.	Cik., Texas Gas	Shreveport, La.
Bahr, W. A.	P. C.	Cadet E., g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
Bahrs, Fred C.	Nat. C.		Hilton, N. J.
Bailey, E. H. S.	\$Kan.; \$Nat. G.	Prof. of Ch., University of Kansas	Lawrence, Kan.
Bailey, Edward M.	Nat. C.	Solic., Public Service Gas Co.	Orange, N. J.
Bailey, E. P.	Ill.	Com. Dept., Peoples Gas Light & Coke Co.	Chicago, Ill.
Bailey, H. H.	*I. E.	H. E. Gleason Co.	Seattle, Wash.
Bailey, Meredith N.	*Pa.; Nat. C.	Sals., John J. Griffin & Co.	Philadelphia, Pa.
Bailey, P. S.	*I. E.	El. E., St. Ltg. Dept., General El. Co.	West Lynn, Mass.
Bailey, W. B.	Ind.	Local M., Indiana Fuel & Lt. Co.	Kendallville, Ind.
Bailey, William	Sou.; Tex.	S., Beaumont Gas Light Co.	Beaumont, Texas
Bain, F. R.	P. C.; A.	P., Southern Counties Gas Co.	Los Angeles, Cal.
Bains, George B., 3d.	A.; Nat. C.; Pa. E.	M., Consumers' Gas Co.	Reading, Pa.
Bair, E. E.	Nat. C.; iA.	M., Conewago Gas Co.	Hanover, Pa.
Baird-Bailhache Co.	*P. C.		San Francisco, Cal.
*Baker, A. E.	Nat. C.	The U. G. I. Co.	Philadelphia, Pa.
Baker, A. G.	Nat. G.	S., Tri County Natural Gas Co.	Calcedonia, N. Y.
Baker, Charles E.	Nat. G.	Field Em., The Mfrs. Lt. & Ht. Co.	Wallace, W. Va.
Baker, C. M.	Nat. G.	Chf. E., Petrolia Comp. Sta., Lone Star Gas Co.	Petrolia, Texas
Baker, Edward P.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Baker, E. A.	*Ind.	V. P., Rathbone, Sard & Co.	Aurora, Ill.
Baker, F. M.	Nat. C.	Utica Gas & Electric Co.	Herkimer, N. Y.
Baker, Frank J.	Ill.; A.	V. P., Public Service Co. of No. Ill.	Chicago, Ill.
Baker, Henry J.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Baker, Henry N.	Nat. C.	Weschester Ltg. Co.	114 So. High St., Mt. Vernon, N. Y.
*Baker, F. D.	P. C.	N. B. M., Coast Valleys Gas & El. Co.	San Francisco, Cal.
Baker, J. H.	Ace		Niagara Falls, Ontario.
*Baker, John R.	iA.	E., Fall River Gas Works Co.	Fall River, Mass.
Baker, P. H.	N. E.	S., Boston Consolidated Gas Co.	Everett, Mass.
Baker, Sidney E.	*N. E.	A. T., Fall River Gas Works	Fall River, Mass.
Baker, Vernon	Ill.; Sou.; iA.	Chf. E., Russell Engineering Co.	St. Louis, Mo.
Baker, Wm. E.	Nat. C.	Washington Gas Lt. Co.	Washington, D. C.
Baker, W. M.	Ind.	M., Indiana Lighting Co.	Lafayette, Ind.
Baker, W. N.	Nat. G.	Fm., Hope Natural Gas Co.	Miletus, W. Va.
Balch, A. C.	P. C.	V. P., San Joaquin Lt. & Pr. Corp.	Los Angeles, Cal.
Baldwin, Abram T.	*A.	P. & G. M., Precision Instrument Co.	Detroit, Mich.
Baldwin, Allen T.	*I. E.	Chf. Ch., Manhattan El. Supply Co.	Jersey City, N. J.
Baldwin, C. E.	*Ace.		2839 Cross St., Omaha, Neb.
Baldwin, C. H.	*G. G. M.	159 Franklin Sq.	Boston, Mass.
Baldwin, Geo. B.	P. C.	S. Sales Dept., Pacific Gas & El. Co.	Sacramento, Cal.
Baldwin Loco. Wks.	So. W.		Philadelphia, Pa.
Baldwin, W. D.	iA.; Pa.	S., Harrisburg Gas Co.	Harrisburg, Pa.
Ball, Samuel	Mich.; A.; Nat. C.	M., Bay City Gas Co.	Bay City, Mich.
Ball, William J.	*I. E.	Sec'y Tri-City El. Co.	Moline, Ill.
Ballard, A. M.	Nat. G.	Con. E., Wayland Oil & Gas Co.	Charleston, W. Va.
Ballard, H. C.	Nat. G.	S. of lines, Wichita Pipe Lines	Bartlesville, Okla.
Ballard, Charles R.	Nat. G.	Mfr., Ballard Patent Suction & Discharge Valves	Midway, Pa.
Ballard, R. H.	P. C.	Sec. & A. G. M., So. Cal. Edison Co.	Los Angeles, Cal.
Baloun, Jos. P.	P. C.	Chf. Dftmn., Pacific Gas & El. Co.	San Francisco, Cal.
Balsam, Henry M.	Nat. C.	Societe Anonyme du Gaz.	Rio Janeiro, Brazil, S. A.
Baltar, W. W., Jr.	Sou.	M., Bessemer Gas Co.	Bessemer, Ala.
Baltimore Enamel & Novelty Co.	Nat. C.		Baltimore, Md.
Baltimore Gas Appl. & Mfg. Co.	Nat. C.		Baltimore, Md.
Balz, George Adam	*A.	M., Didier March Co.	Perth Amboy, N. J.
Bane, K. H.	Nat. G.	Reserve Gas Co.	Box 123, Wilsonburg, W. Va.
Bange, C. M.	Emp.	Elmira Water, Light & R. R. Co.	Elmira, N. Y.
Bangor Gas Co.	Pa.		Bangor, Pa.
Banks, M.	Nat. C.	Librarian, Public Service Corp.	Newark, N. J.
Barber, A.	Nat. C.	Detroit Stove Works	Detroit, Mich.
Barbey, F. A.	Ace.		230 So. Terminal Station, Boston, Mass.
Barbour, F. F.	P. C.	Pacific Gas & Electric Co.	San Francisco, Cal.
Barbour, William Tefft	*A.; Nat. C.	P., Detroit Stove Works	Detroit, Mich.
Barden Elec. & Mach. Co.	So. W.		Houston, Tex.

SERVICE CLEANERS

American Meter Company

561 W. 47th St., New York, N. Y.

Our New American Service Cleaners have been improved and they are now sold generally throughout the country.

DRIP PUMPS

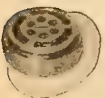
These are made of brass and are exceptionally strong and durable.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Barger, L. F.	Nat. G.	G. S. Peoples Natural Gas Co.	Pittsburgh, Pa.
Barker, Perry	A.	Fuel E., Arthur D. Little, Inc.	Cambridge, Mass.
Barker, William J.	Nat. C.	G. S., Denver Gas & Elec. Co.	Denver, Col.
Barker, William S.	A.; Nat. C.	A. T., Public Service Gas Co.	Newark, N. J.
Barley, J. Frank, Jr.	Nat. C.	Harrisburg Gas Co.	Harrisburg, Pa.
Barlow, Thaddeus Scott	A.	S., Consolidated Gas Co.	302 E. 99th St., New York
Barnes, Albert M.	A.; *I. E.; G. G. M.; N. E.; Soc. G.	T. & G. M., Cambridge Gas Lt. Co.	Cambridge, Mass.
*Barnes, Cyrus	Nat. C.; N. E. C.	Com. M., Malden & Melrose Gas Lt. Co.	Malden, Mass.
Barnes, D. Arthur	Ind.	Sals., New Process Stove Co. Div.	Cleveland, Ohio
Barnes, F. G. P.	*N. E.	New Haven Gas Light Co.	New Haven, Conn.
Barnes, Geo. W.	Nat. G.	Engineer	Wm. Penn Hotel, Pittsburgh, Pa.
Barnes, John	Nat. C.	Public Service Gas Co.	Trenton, N. J.
Barnes, Karl S.	*N. E.; Nat. C.	A. G. M., Cambridge Gas Light Co.	Cambridge, Mass.
Barnes & Ramirez	Nat. C.		101 Park Ave., New York City
Barnes, R. B.	Nat. G.	Dist. S., United Natural Gas Co.	Brookville, Pa.
Barnes, William E.	Nat. C.	Public Service Gas Co.	Jersey City, N. J.
Barnes, William W.	Nat. C.; N. J.; *A.; I. E.; *Pa.; *Ill.		31 Chelsea Pl., E. Orange, N. J.
Barnett, C. R.	Nat. C.	U. S. Dept. of Agriculture Library	Washington, D. C.
Barnett, Maurice S.	P. C.	Sals., W. F. Boardman Co.	San Francisco, Cal.
Barnhard, Philip	Ill.	M., Mt. Carmel Public Utility & Service Co.	Mt. Carmel, Ill.
Barnitz, F. R.	A.; Nat. C.; *I. E.	A. Sec., Consolidated Gas Co.	New York, N. Y.
Barnum, Dana D.	G. G. M.; N. E.; Soc. G.; A.	V. P., Boston Cons. Gas Co.	Boston, Mass.
Barnwell, Edw. W.	Nat. C.	Solic., Savannah Gas Co.	Savannah, Ga.
Barr, J. H.	Nat. G.	P., National Supply Co.	Pittsburgh, Pa., and Toledo, O.
Barr, Robt. R.	Nat. G.	Consolidated Gas, El. Lt. & Fr. Co.	Baltimore, Md.
Barrett, A. T.	*Ind.; *Ill.; *Mich.	Sals., American Meter Co.	Chicago, Ill.
Barrett, Edward J.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Barrett, Irvin	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Barrett, J. G.	*I. E.	Texas Power & Light Co.	Dallas, Tex.
Barrett, L. B.	N. J.	Public Service Gas Co.	Camden, N. J.
Barrett, M. F.	Nat. G.	P., The Cleveland Brass Mfg. Co.	Cleveland, O.
Barrett, W. J.	Ind.; Nat. C.	Citizens Gas Co.	Indianapolis, Ind.
Barrett, William E.	A.; P. C.; Nat. G.	g. E., J. G. White & Co.	43 Exchange Pl., New York
Barrett, William F.	A.; Ill.; Ace.	Con. E.	Chicago, Ill., and 42d Street Bldg., New York City.
Barrick, E. J.	Mo.	S. M., Pittsburg Water Heater Co.	Atlanta, Ga.
*Barringer, J. L., Jr.	Sou.	Mgr., Florence Gas Co.	Florence, S. C.
Barron, Amos Noyes	*I. E.	Asst. G. M., National Carbon Co.	Cleveland, Ohio.
Barron, Elmer	Mich.	S. Sta. "A", Detroit City Gas Co.	Detroit, Mich.
Barrow, S. L.	Tex.		Beaumont, Texas.
Barrows, George S.	A.; Nat. G.; *N. E.	g. Htg. Dept., General Fire Extinguisher Co.	Providence, R. I.
Barrows, L. E.	Nat. G.	E., Texas Co., Natural g. dept.	Fort Worth, Texas.
Barrows, Wm. E., Jr.	*I. E.	A. Prof. El. E., University of Maine.	Orono, Me.
Barry, David	N. E.		
Barry, James	Nat. G.	Fm., Ark. Natural Gas Co.	Prescott, Ark.
Barry, M. J.	Nat. C.	A. Sec & T., Wyandotte County Gas Co.	Kansas City, Kan.
Barry, R. McK.	Nat. C.	Cons. Gas, El. Lt. & Pr. Co.	Baltimore, Md.
Barry, W. B.	P. C.	A. E., g. Dept., Pac. Gas & El. Co.	San Francisco, Cal.
Barry, Walter D.	Nat. C.; N. J.	Public Service Gas Co.	Camden, N. J.
Barstow, W. S.	*I. E.	P., W. S. Barstow & Co.	New York, N. Y.
Bart, B. F.	*Wis.	Sals., National Tube Co.	Chicago, Ill.
Bartel, Emil J.	Nat. C.; A.	S., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Bartenbach, C. E.	*Mich.	E. Sales M., A. B. Stove Co.	Battle Creek, Mich.
Barthold, Chas. A.	Mich.	S., Kalamazoo Gas Co.	Kalamazoo, Mich.
Barthold, W. H.	A.	g. E., Hodenpyl, Hardy & Co.	New York, N. Y.
Bartholomew, R. A.	Nat. C.	Ruud Mfg. Co.	Pittsburgh, Pa.
Bartlesville Inter. Ry. Co.	Okla.		Bartlesville, Okla.
Bartlett, C. Edwin	Nat. C.; *Pa.		
Bartlett, E. O.	Nat. G.	Sec. & Sals., Bartlett & Co.	Philadelphia, Pa.
Bartlett, John H., Jr.	Nat. C.; Ill.	Sec., Moncton Tramways Electricity & Gas Co., Ltd.	Pittsburg, Pa.
Bartlett-Hayward Co.	G. I.	Surface Combustion Co.	Chicago, Ill.
Bartlett, John C.	Nat. G.		Baltimore, Md.
Bartlett, P. H.	I. E.	Sec. & T., Okla. Natural Gas Co.	Pittsburg, Pa.
Bartlett, R. H.	Nat. G.	S. Met. & Instal. Dept., Philadelphia Electric Co.	Philadelphia, Pa.
Bartley, E. L.	Nat. G.	A. P., Oklahoma Natural Gas Co.	1601 Union Bank Bldg., Pittsburgh, Pa.
Bartley, H. J.	Nat. G.	G. S., Am. Nat. Gas Co.	Pittsburgh, Pa.
Bartley, V. A.	Nat. G.	Field S., Am. Natural Gas Co.	Indiana, Pa.
Barton, C. A.	Emp.	Dist. S., Am. Natural Gas Co.	Indiana, Pa.
Barton, Wm. H.	Nat. C.; P. C.	N. Y. & Queens Elec. Lt. & Pr. Co.	Long Island City, N. Y.
Basford, H. R.	Nat. G.; Ind.	Portland Gas & Coke Co.	Portland, Ore.
Basore, Geo. W.	P. C.	Dis. E., Central Indiana Gas Co.	Muncie, Ind.
Bass, W. H.	Nat. G.	Ruud Mfg. Co.	San Francisco, Cal.
		Sec. & T., Berryville Milling Co.	Berryville, Ark.
		Fm., Alden-Batavia Nat. Gas Co.	Alden, N. Y.

MESTA AUTOMATIC PLATE VALVES (Iversen Patent).
 can be adapted to any make of gas-compressing cylinders. A few
 of these adaptations are described in our Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Bassett, Preston R.	*I. E.	Sperry Gyroscope Co.	Brooklyn, N. Y.
Batchelor, G. F.	Nat. G.	P. Natural Gas Co. of W. Va.	Pittsburg, Pa.
Bates, Frederick C.	*Emp.	with General Electric Co.	New York, N. Y.
Bates, Harry E.	Ill.	A. S. of Pressure, Peoples Gas Light & Coke Co.	Chicago, Ill.
Bates, W. W.	Sou.	Bessemer Gas Co.	Bessemer, Ala.
Bath El. & Gas Light Co.	Emp.		Bath, N. Y.
Batten, J. W.	A.	Engineer Detroit City Gas Co.	Detroit, Mich.
Batten, John	Mich.	Care, Detroit City Gas Co.	Detroit, Mich.
Batley, Paul L.	*I. E.	V. P., The Arnold Co.	Chicago, Ill.
Battin, Henry S.	A.; *I. E.; Nat. C.		
Battin, Henry W.	*A.; Nat. G.	A. S. of Wks., United Gas Imp. Co.	Philadelphia, Pa.
Battin, Wm. I.	Ind.	S., Public Service Gas Co.	Paterson, N. J.
Bauer, C. J.	Nat. G.	United Gas Impt. Co.	Philadelphia, Pa.
Bauld, K. A.	Ace.	Pur. Agt., Union Gas & Electric Co.	Cincinnati, Ohio.
Baum, F. G.	P. C.	Con. E.	427 S. Clinton St., Chicago, Ill.
Baum, James E.	Nat. C.	Public Service Gas Co.	Hobart bldg., San Francisco
Baum, I. M.	P. C.	g. E., 34 1st St.	Newark, N. J.
Baurhyte, William	A.	V. P., Los Angeles Gas & Electric Corporation	San Francisco, Cal.
Baxter, Channing W.	*I. E.		Los Angeles, Cal.
Baxter, Edw. O.	*A.; Nat. C.	Supt., Westchester Lighting Co.	137 Columbia Heights, Brooklyn, N. Y.
Baxter, John	Nat. G.	S., Tube Dept., Republic Iron & Steel	Yonkers, N. Y.
Baxter, M. C.	Nat. C.	Solic., Public Service Gas Co.	Youngstown, O.
Bay, B. R.	Nat. G.	Chf. E., Medina Gas & Fuel Co.	Newark, N. J.
Bayley, Robert W.	N. J.	Bayley & Sons.	Mansfield, Ohio.
Baylie, William P.	*A.; Nat. C.	Insp. Accts., Dis. Dept. Philadelphia Gas Works	105 Vanderveer St., Brooklyn, N. Y.
Bayly, C. Clay	A.	A. to E., Washington Gas Lt. Co.	Philadelphia, Pa.
Beach, Earnest	Tex.		Washington, D. C.
Beach, Ralph A.	Nat. G.	A. to S., T. W. Phillips Gas & Oil Co.	Austin, Texas.
Beadenkopf, George	A.; *I. E.	E., Consolidated Gas, Electric Light & Power Co.	Butler, Pa.
Beadle, Albert B.	A.	Con. g. E.	Baltimore, Md.
Beal, A. R.	A.; *I. E.; Nat. C.		Waterbury, Conn.
Beal, Charles A.	*I. E.	Cont. Agt., Central Hudson Gas & Elec. Co.	Newburgh, N. Y.
Beal, L. K.	Can.	S. Incandescent Lamp Dept., General Electric Co.	Harrison, N. J.
Beal, T. R.	A.; *I. E.; Soc. G.; Nat. C.	S., Peterboro Light & Power Co.	Peterboro, Ont.
Beam, E. H.	Nat. C.	P. & G. M., Cent. Hudson Gas & Elec. Co.	Poughkeepsie, N. Y.
Beam, J. C.	*I. E.	Niagara Lt., Ht. & Power Co.	Tonowanda, N. Y.
Beam, J. W.	*I. E.	Cla. Gen'l Elec. do Brazil.	Rio de Janeiro, Brazil, S. A.
Beamer, Geo. R.	Ace.	El. E., Cleveland Elec. Illum. Co.	Cleveland, Ohio.
Bean, Benj. J.	*N. E.; Nat. C.	U. S. Gauge Co.	New York City.
Bean, G. W.	Sou.	Dedham & Hyde Pk. Gas & El. Co.	Hyde Park, Mass.
Beans, H. P.	Nat. G.	State Agt., Jas. B. Clow & Sons.	Tampa, Fla.
*Bear, Chas. H.	Sou.	Dist. S., Am. Natural Gas Co.	Indiana, Pa.
Beardsley, A. M.	Nat. C.	Sals., Augusta Gas Lt. Co.	Augusta, Ga.
Beardslev, Alling P.	A.	The U. G. I. Co.	Philadelphia, Pa.
Beardsley, R. D.	Nat. G.	Ch., Cott-a-lapp Co.	Somerville, N. J.
Beattie, A. M.	Nat. C.	A. T., Hope Natural Gas Co.	Pittsburg, Pa.
Beattie, Geo. James	I. E.	Public Service Gas Co.	Passaic, N. J.
Beatty, H. O.	Ace.	The Electric Shop	72 Victoria St., Toronto, Ont
Beatty, I. M.	Nat. C.		112 Market St., San Francisco.
Beaty, Elmer	Nat. G.	A. G. M., Peekskill Ltg. and Ry.	Peekskill, N. Y.
Beauchamp, T. L.	Sou.	Actg. S., Manufacturers Gas Co.	Bradford, Pa.
Beaumont Gas Co.	Sou. W.; Nat. C.	M., Alabama Power Co.	New Decatur, Ala.
Beaumont El. Lt. & Pr. Co.	Sou. W.		Beaumont, Tex.
Beaumont, Robt. H.	*A.		Beaumont, Texas.
Beaumont, R. R., Co.	G. I.	P., R. H. Beaumont Co.	Philadelphia, Pa.
Beaumont Traction Co.	Sou. W.		Philadelphia, Pa.
Beaumont, Walter W.	A.	S. Trans., United Gas Impt Co.	Beaumont, Tex.
Bebb, J. F.	*Ia.	Sals., Geo. M. Clark Stove Co.	Philadelphia, Pa.
Bebee, C. A.	Ind.	S., Central Ind. Gas Co.	Nevada, Ia.
Bechtel, E. J.	*I. E.	El. E.	Muncie, Ind.
Beck, Alfred	Nat. C.	Public Service Gas Co.	New Rochelle, N. Y.
Beck, Anton	Nat. C.	Public Service Gas Co.	Newark, N. J.
Beck, A. C.	P. C.	Pacific Gas & El. Co.	Newark, N. J.
Beck, George E.	Nat. C.	Sals., United Gas Imp. Co.	Oakland, Cal.
Beck, H. M.	Pa.; *A.	Elec. Co.	Philadelphia, Pa.
Beck, William H.	*I. E.	Fm., Easton Gas & Electric Co.	Sunbury, Pa.
Becker, Chas. J.	Nat. C.	E., Crown Cork & Seal Co.	Easton, Pa.
Becker, Joseph F.	*I. E.		Baltimore, Md.
Becket, F. M.	Ace.	Sals. M., United Electric Light and Power Co.	314 Summit Ave., Schenectady, N. Y.
Beckett, D. J.	Nat. G.	Union Carbide Co.	New York, N. Y.
Beckman, Louis	Ill.	Field S., Am. Natural Gas Co.	Niagara Falls, N. Y.
Bedard, F. W.	Ill.	Fitter, Public Service Co.	Calcut, Pa.
Bedford, A. C.	Nat. G.	S. g., Dept. McKinley Syndicate.	Park Ridge, Ill.
Beebe, Albert W.	Ia.	P., The Peoples Natural Gas Co.	La Salle, Ill.
Beebe, R. C.	Mich.	M., Waverly Gas Co.	26 Broadway, New York, N. Y.
Beebe, T. R.	*A.; Nat. C.	M., Allegan County Gas Co.	Waverly, Ia.
Beeden, G. R.	Nat. C.	Com. E., Oxweld Acetylene Co.	Otsego, Mich.
Beeble, H. W.	*I. E.	Electric Storage Battery Co.	St. Louis, Mo.
			1214 Boulevard D., Bayonne.
			Boston, Mass.

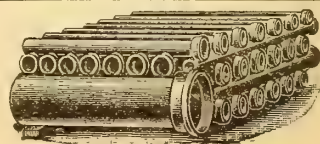
PIPE

We can meet your requirements for cast iron pipe promptly—we carry a Full Line of all regular sizes in stock.

Write for Prices

R. D. WOOD & CO.,

Philadelphia, Pa.



MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Beeman, Jos. J.	*Mich.	Sals. & E., Industrial Furnace Co.	Detroit, Mich.
Beer, George	N. E.	St. Johnsbury Gas Co.	St. Johnsbury, Vt.
Beers, D.	Ind.	E. Wayne General Construction Co.	Ft. Wayne, Ind.
Bees, Jos.	Nat. C.	Hyde Park Gas Co.	Scranton, Pa.
Beeville Mfg. Co.	Ind.		Beeville, Texas.
Beggs, John I.	Wis.	P. Wis. Trac., Lt., Ht. & Pr. Co.	Appleton, Wis.
Begley, D. T.	Nat. C.	Importer of Purifying Material, Fire	Newark, N. J.
Behrend, F.	*A.	Brick, etc.	54 Front St., New York, N. Y.
Behrendt, W. E.	Nat. C.	Solic. New Gas Light Co.	Janesville, Wis.
*Beile, Charles	Ill.	Fitter, Public Service Co. of No. Ill.	Park Ridge, Ill.
Belcher, F. L.	Nat. C.; *N. E.	Pur. Agt., Springfield Gas Light Co.	Springfield, Mass.
Bell, Charles D.	Nat. G.	S. Kansas Natural Gas Co.	Joplin, Mo.
Bell, Ernest William	A.	Con E.	14 Wall St., New York, N. Y.
Bell, Frank	Nat. C.		Clifton, N. J.
Bell, J. J.	Ind.	S., Interstate Pub. Serv. Co.	Bedford, Ind.
Bell, J. O.	Ace.		Atlanta, Ga.
Bell, Dr. Louis	I. E.	Con. E.	120 Boylston St., Boston, Mass.
Bell, Walter B.	*I. E.	N. B. A. to Div. Agt., Public Service	
		El. Co.	Paterson, N. J.
Bell, Z. T.	P. C.	M., San Bernardino Gas Co.	San Bernardino, Cal.
Bellamy, E. C.	Ark.	Sec. & T., Mammoth Spring Elec. Lt.	
		& Pr. Co.	Mammoth Spring, Ark.
Belle, H. M.	N. E.	S., New Britain Gas Co.	New Britain, Conn.
Belmuth, N. W.	Nat. C.; *Pa.	Brassart Fixture Co.	New York, N. Y.
Beman, Ralph	*I. E.	Eng. Dept., National Lamp Wks. G.	
		E. Co., etc.	Cleveland, O.
Benedict, Clarence M.	Sou.; A.; Nat. C.	V. P. & G. M., Charleston Consoli-	
		dated Railway & Lighting Co.	Charleston, S. C.
Benedict, D. B.	Nat. C.	Public Service Gas Co.	Hoboken, N. J.
Benedict, E. C.	Ace.	P., Commercial Acetylene Co.	80 Broadway, New York, N. Y.
Benedict, L. L. & Co.	Ace.		1 Wall St., New York, N. Y.
Benedict Seymour D.	I. E.	Dept. of Agriculture	Albany, N. Y.
Benford, Frank A., Jr.	I. E.	General Electric Co.	33 Haigh Ave. Schenectady.
Benjamin, R. B.	I. E.	P. Benjamin Elec. Mfg. Co.	Chicago, Ill.
Benjamin Elec. Mfg. Co.	So. W.; I. E.		Chicago, Ill.
Benner, George K.	Nat. G.	P., Benner Drilling Tool Co.	Pittsburgh, Pa.
Bennett, Chas. E.	Wis.		Madison, Wis.
Bennett, Charles W.	Nat. C.; A.		
	Emp.; Mich.	A. G. M., Detroit City Gas Co.	Detroit, Mich.
Bennett, Edward	*I. E.	University of Wisconsin	Madison, Wis.
Bennett, H. E.	Ia.; Nat. C.; *A.	M., Cherokee Gas Co.	Cherokee, Ia.
Bennett, M. C.	Nat. C.		135 State St., Salt Lake City,
			Utah.
Bennett, Orville G.	A.	A. T., Northern Westchester Ltg. Co.	Ossining, N. Y.
Benninger, N. H.	Nat. G.	S., United Natural Gas Co.	South Oil City, Pa.
Benninger, R. E.	Nat. G.	Chf. E., United Natural Gas Co.	Walton, Pa.
Bennitt, Geo. E.	*A.; Nat. C.	E. A., Dept. of Utilization, Consoli-	
		dated Gas Co.	New York, N. Y.
Benoist, Lee	Sou.	P., New Orleans Gas Lt. Co.	New Orleans, La.
Benson, Fred. S., Jr.	A.; *N. E.; Soc.		
	G.	S., Nassau Works, Brooklyn Union	
		Gas Co.	Brooklyn, N. Y.
Benson, Robert L.	Ill.	P., Perfect Combustion Co.	Chicago, Ill.
Benson, William A.	*I. E.	The Adams & Westgate Co.	Chicago, Ill.
Bentzinger, D. D.	Ia.	G. S., Burlington Ry. & Light Co.	Burlington, Ia.
Benz, Charles	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Benz, Herman	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Benz, Otto	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Berg, C. O.	Nat. G.	Fm., United Natural Gas Co.	Reynoldsville, Pa.
Berg, E. J.	*I. E.	Prof. El. E., Union University	Schenectady, N. Y.
Berg, J. Frederick	Nat. C.		Newark, N. J.
Berg, Joseph L.	Ia.	S., Webster City Gas Co.	Webster City, Ia.
Berger, Charles F.	*I. E.	Cash., Dist. E., Philadelphia El. Co.	Philadelphia, Pa.
Berger, William W.	*I. E.		Whiting, Iowa.
Bergman, Rudolph C.	*I. E.	Sals., Benj. Moore Co.	Brooklyn, N. Y.
Beringer, A. F.	Nat. C.	P. W. Brooks & Co.	New York, N. Y.
Berkley, Joseph M.	A.; P. C.	S. & E., So. California Gas Co.	Los Angeles, Cal.
Berlin I. t., Heat & Pr. Co.	Emp.		Berlin, N. Y.
Bernard, Henry E.	Ace.	Care, National Gas Machine Co.	New York, N. Y.
Berndt, Fred	Ill.	Sals., Public Service Co. of No. Ill.	Ottawa, Ill.
Berndt, F. J.	Nat. C.	Public Service Gas Co.	118 Main St., Hackensack, N.J.
Bernhard, Albert H.	*I. E.		92 Woodruff Ave., Brooklyn.
Bernhard, F. H.	I. E.	Asso. Ed., Electric Review & Western	
		Electrician	Chicago, Ill.
Bernius, C. B.	Nat. C.	New Orleans Ry. & Lt. Co.	New Orleans, La.
Bernstein, Jack S.	Nat. C.	Strause Gas Iron Co.	Philadelphia, Pa.
Beroth, Carl O.	*Ill.	Sals., Anderson & Gustafson	Chicago, Ill.
Berridge, T.	Nat. C.	Leamington Priors Gas Co.	Leamington Spa, England.
Berry, B. N.	Nat. G.	Cont., Dominion Natural Gas Co.	Caledonia, Ont., Canada.
Berry, F. K.	*Mich.; *A.; Nat.		
	C.	P., A. B. Stove Co.	Battle Creek, Mich.
Bertaud, L. M.	P. C.	Potrero Gas Wks., Pac. G. & E. Co.	San Francisco, Cal.
Bertke, W. A.	*Ind.	M., Great Falls Gas Co.	Great Falls, Mont.
Bertke, William John	A.; Ia.	E., Sioux City Gas & Elec. Co.	Sioux City, Ia.
Bertolette, Norman B.	*A.	Div. E., Phila. Suburban Gas & El.	
		Co.	Coatesville, Pa.
Bertram, F. A.	P. C.	San Joaquin Lt. & Pr. Co.	Selma, Cal.
Bertrand, J. H.	Nat. C.	Syracuse Gas Iron Co.	Syracuse, N. Y.
Berwald, P. M.	Nat. G.	G. M., City of Bradford Gas & Power	
		Corporation	Bradford, Pa.
Berwick Gas Co.	Pa.		Berwick, Pa.
Bessemer Gas Engine Co.	N. G. S.		Grove City, Pa.



The soundness of replacing your old gas and gasoline compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is attested to by the large number of these valves that are now being sold for this purpose. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Besson, Wm. C.	I. E.; Nat. C.	A. T. N. Y. Mutual Gas Lt. Co.	New York City.
Best, F. W.	*Wis.	Sals., Utica Fixture Co.	52 Franklin Sq., Utica, N. Y.
Besteiro, M.	*Ace.		Brownsville, Tex.
Bettinger, H. B.	*N. E.		Boston, Mass.
*Betts, Philander	N. J.	Con. E., Public Utility Commission of N. J.	Newark, N. J.
Beugler, Hugh M.	A.; Emp.	Op. M., Central Hudson Gas & El. Co.	Poughkeepsie, N. Y.
Beule, E. A.	Wis.	S., Beaver Dam Lt. & Fuel Co.	Beaver Dam, Wis.
Bevan, R. L.	Nat. G.	2d A. T., Calgary Gas Co., Ltd.	Calgary, Alberta, Canada.
Bialecki, Stephen	Wis.; †A.	Credit Man., Milwaukee Gas Lt. Co.	Milwaukee, Wis.
Bickett, Wm. P.	Ill.	Haskins & Sells.	Chicago, Ill.
Bicknell, George W.	*I. E.	El. John Hancock Mutual Life Ins. Co.	Boston, Mass.
Biddison, P. McDonald	Nat. G.	Cons. E., Ohio Fuel Supply Co.	Columbus, Ohio
Bieler, O.	Nat. G.	Sals., Westinghouse Elec. & Mfg. Co.	Pittsburgh, Pa.
Bigelow, Lucius Seymour	A.; Ace.; *Mich.; §Nat. C.; Nat. G.; P. C.; *Ill.	P., Periodicals Publishing Co., and Ed. The Gas Industry	Buffalo, N. Y.
Bigler, C. A.	Nat. C.		32 Clarkson St., Denver, Colo.
Bigler, G. K.	Nat. G.	Fmn., United Natural Gas Co.	Franklin, Pa.
Big Spgs. L., H. & P. Plt.	So W.		Big Springs, Tex.
Bigelow, Wm. Russell	A.; Ill.	Chf. Ch., Coal Products Mfg. Co.	Joliet, Ill.
Billings, A. L.	Ace.	J. B. Colt Co.	New York, N. Y.
Billings, Theo. M.	Nat. C.	Consolidated Gas Co.	New York City.
Billings, W. E.	Wis.; †A.	A. S., West Side Works, Milwaukee Gas Light Co.	Milwaukee, Wis.
Billingsley, J. E.	Nat. G.	A. Geol., Phila. Co.	Pittsburg, Pa.
Bimson, John, Jr.	A.	S. dis., Public Service Gas Co.	Paterson, N. J.
Bingham, R. W.	*A.; *Ill.	Cont. Agt., Welsbach Street Lighting Co. of America.	Chicago, Ill.
Binghamton Gas Wks.	Emp.; Nat. C.		Binghamton, N. Y.
Binghamton L. H. & P. Co.	Emp.		Binghamton, N. Y.
Binghamton Railway Co.	Emp.		Binghamton, N. Y.
Binn, Walter	Nat. C.	Para Elec. Rys. & Ltg. Co.	Para, Brazil, S. A.
Bippus, James F.	Ind.	P., Huntington Light & Fuel Co.	Huntington, Ind.
Birbeck, W. D.	*Ind.; *Mich.	Ind. Light & Fuel Co.	Kalamazoo, Mich.
Bird, Viggo E.	A.; N. E.	M., New London Gas & El. Div. of Conn. Power Co.	New London, Conn.
Birge, Nathan R.	*I. E.	General Electric Co.	Schenectady, N. Y.
Birk, A. T.	*Mich.	Owosso Gas Light Co.	Owosso, Mich.
Bisbee Improvement Co.	*P. C.		Bisbee, Ariz.
Bisbee, J. L.	Ace.		Spencer, Iowa.
Bischmann, Otto A.	†Ill.	Dftmn., Public Service Co. of No. Ill.	Chicago, Ill.
Bishop, H. W., Jr.	Nat. G.	La Belle Iron Works.	Stuebenville, O.
Bishop, Rookwood Comfort	A.	G. M., Christchurch Gas, Coal & Coke Co., Ltd.	Christchurch, N. Z.
Bishop, Wm.	Nat. C.		324 Bedford Ave., B'kln, N.Y.
Bissell, West.	A.	C. E.	27 Park St., Jersey City, N. J.
Bitner, Ralph E.	*I. E.		1342 Girard St., Washington, D. C.
Bivens, F. H.	P. C.	Dist. M., Southern Counties Gas Co.	Pomona, Cal.
Black, Chas. W.	Nat. G.	S., Attica Natural Gas Co.	Attica, N. Y.
Black, James B.	Nat. G.	Ast., The Mfrs. Light & Heat Co.	Cannonsburg, Pa.
Black, John	Nat. C.	Wilmington Gas Co.	Wilmington, Del.
Black, J. W., Jr.	Nat. C.	A. Coml. Mgr., Birmingham Ry., Lt & Pr. Co.	Birmingham, Ala.
Black, Tom M.	Nat. G.	A. Sec., T. W. Phillips Gas & Oil Co.	Butler, Pa.
Blackall, T. P.	Nat. G.	Regulator insp., Iroquois Natural Gas Co.	Buffalo, N. Y.
Blackie, John F.	A	S., Milwaukee Coke & Gas Co.	Milwaukee, Wis.
Blackstone Elec. Lt. Co.	Nat. C.	Ralph Ditson	Blackstone, Mass.
Blackstone Valley Gas & Elec. Co.	Nat. C.		Woonsocket, R. I.
Blackwell, Hubert C.	A.; Ia.	G. M., Kansas City Lt. & Pr. Co.	Kansas City, Mo.
Blackwell, William T.	*I. E.	Westinghouse Lamp Co.	Bloomfield, N. J.
Blackwood, W. C.	Emp.	Chmn., N. Y. & Queens El. Lt. & Pr. Co.	Long Island City, N. Y.
Blair, Robert	Ill.	S., Cdt. Dpt. Peo. Gas Lt. & Coke Co.	Chicago, Ill.
Blaisdell, H. C.	Nat. C.		P.O. drawer 37, N. Haven, Ct.
Blake, B. J.	Nat. G.	Chf. E., Ohio Fuel Supply Co.	Homer, Ohio.
Blake, S. H.	*I. E.	E., General Elec. Co.	Schenectady, N. Y.
Blake, Wm. J. F.	Nat. C.		124 E. 3d St., Mt. Vernon, N.Y.
Blakesley, Geo. R.	Wis.		Baraboo, Wis.
Blanchard, C. H.	*Ill.; *Ind.	Sals., Pittsburg Water Heater Co.	Indianapolis, Ind.
Blanchard, G. L.	*N. E.	G. M., Capital City Gas Co.	Montpelier, Vt.
Blanchfield, J. T.	Nat. C.	Kings County Lighting Co.	Brooklyn, N. Y.
Bland, J. T.	Sou.	S., gas works.	Wilson, N. C.
Blanquiere, Juan	A.; Nat. C.	Chf. E., Santiago Gas Co.	Santiago, Chili, S. A.
Blauvelt, Warren S.	A.; *Mich.; Nat. G.	E., Steere Engineering Co.	Detroit, Mich.
Blauvelt, William Hutton	A.	Con. E., Semet Solvay Co.	Syracuse, N. Y.
Blecher, C. H.	Ace.		Lindsay, Neb.
Bleidt, J. W.	Ark.	S., Municipal Elec. Lt. Plant.	Little Rock, Ark.
Blewett, John T.	Nat. G.	G. insp., Iroquois Natural Gas Co.	Buffalo, N. Y.
Blinn, A. C.	Ind.	V. P. & M., No. O. Trac. & Light Co.	Akron, O.
Bliss, Edward S.	Nat. C.	Springfield Gas Light Co.	Springfield, Mass.
Bliss, Joseph H.	Nat. C.		Schenectady, N. Y.
Block, I. M.	Nat. C.		107 So. 10th St., Newark, N. J.
Blodgett, G. S. Co.	Nat. C.; N. G. S.		Burlington, Vt.
Blondel, Prof. Andre	*I. E.		41 Ave. de la Bourdonnais, Paris, France.

ULCO LEAD WOOL FOR SERVICE

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

ASSOCIATION MEMBERS

797

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Blonien, E.	Wis.; †A.	Sals., Milwaukee Gas Light Co.	Milwaukee, Wis.
Blood, Charles E.	*N. E.	Sals., General Gas Light Co.	Fitchburg, Mass.
Blood, William H., Jr.	*I. E.	Stone & Webster.	Boston, Mass.
Bloomfield El. Lt., Ht. & Power Co.	Mo.		Bloomfield, Mo.
Bloss, Daniel E.	Ill.	S., Southern Illinois Gas Co.	Murphysboro, Ill.
Blossom, Francis	*I. E.; A.	E., Sanderson & Porter.	52 William St., New York,
Blower, Frank W.	A.; Mich.; Nat. C.	Dist. M. Michigan Light Co.	Kalamazoo, Mich.
Blue, W. S.	Kan.	V. P., Columbian El. Co.	Kansas City, Mo.
Blum, William	Nat. G.	S., Sugar Grove Field, Logan Natural Gas & Fuel Co.	Lancaster, Ohio.
Blumenauer, C. H.	*I. E.	P. & T., Jefferson Glass Co.	Follansbee, W. Va.
Blyler, L. F.	Nat. C.	N. B. M., Minneapolis Gas Light Co.	Minneapolis, Minn.
Boardman, A. C.	Nat. C.	Wilmington Gas Co.	Wilmington, Del.
Boardman, A. E.	A.; Soc. G.		Hotel du Parc, Locarno, Switzerland.
Boardman, C. C.	Ill.; A.	Wilmington Gas Co.	Wilmington, Del.
Boardman, W. F.	P. C.	The W. F. Boardman Co.	San Francisco, Cal.
Bohe, Charles P.	*I. E.	Wagner Electric Co.	St. Louis, Mo.
Bock, John E.	*I. E.	Designer General Electric Co.	Schenectady, N. Y.
Bodine, Samuel Taylor.	A.; *I. E.; Nat. C.; Nat. G.; Wis.	P., United Gas Imp. Co.	Philadelphia, Pa.
Bodwell, Wm. S.	Nat. C.	Fall River Gas Works Co.	Fall River, Mass.
Boehner, William T.	*I. E.	J. B. Stetson & Co.	Philadelphia, Pa.
Boese, Wm. C.	Ill.	Chf. Clk., Southern Illinois Gas Co.	Murphysboro, Ill.
Boggis, H. F.	*I. E.	Sec. & T., Boggis, Dietz Elec. Co.	127 2d St., Milwaukee, Wis.
Boggs, W. P.	Nat. C.	Public Service Gas Co.	183 Main St., Passaic, N. J.
Bolds, D. P.	*Ind.	c/o Geo. M. Clark & Co.	Chicago, Ill.
Boller, R. E.	Ace.	P., J. B. Colt Co.	69 Murray St., New York,
Bolton, Prof. F. C.	\$So. W.; I. E.	E. E., Ag. & Mech. College of Texas.	College Sta., Tex.
Bond, Charles O.	A.; I. E.; Nat. C.; Ill.	M. of P'met Laboratory, United Gas Improvement Co.	Philadelphia, Pa.
Bond, F. A.	*I. E.; †A.	E. Rochester Ry. & Lt. Co.	Rochester, N. Y.
Bond, C. D.	Nat. C.	Old Colony Gas Co.	East Braintree, Mass.
Bond, E. W.	Kan.	Sals., Bryan-Marsh Lamp Co.	Kansas City, Mo.
Bond, Harold L.	Ace.	Alex. Milburn Co.	Baltimore, Md.
Bone, Prof. Wm. A.	\$A.	Prof. Imperial College of S. & T., So. Kensington	London, S. W., England.
Bonesteel, W. A.	Nat. C.	Troy Gas Co.	Troy, N. Y.
Bonner, John J.	Nat. C.; I. E.	Welsbach Co.	Gloucester, N. J.
Bonner Oil Co.	So. W.		Houston, Tex.
Bocks, C. W.	Nat. G.	Fm., Hope Natural Gas Co.	Hastings, W. Va.
Booker, R. M.	Nat. C.		403 Marshall St., Hampton, Va.
*Boone, Charles	A.	E., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Boone, J. L.	Mich.	S., Ludington Gas Co.	Ludington, Mich.
Boonville Light, Heat & Power Co.	Mo.		Boonville, Mo.
Boote, Joseph	Sou.	Fm. Instal., Jacksonville Gas Co.	Jacksonville, Fla.
Booth, Arthur	Nat. G.	V. P., Burson Supply Co.	Pittsburg, Pa.
Booth, F. L.	Nat. C.	Texas Pr. & Lt. Co.	Waco, Texas.
Booth, W. F.	A.; Nat. G.; Sou.	M., Little Rock Gas & Fuel Co.	Little Rock, Ark.
Boothe, R. E.	Nat. G.	P., The R. E. Boothe Cordage Co.	Newark, O.
Boquet Electric Pr. Co.	Emp.		New York, N. Y.
Borchard, C. E.	Nat. G.	Acct. Dominion Natural Gas Co.	Farmington, W. Va.
Borchert, Hugo	*Wis.	Borchert Plumbing and Heating Co.	Milwaukee, Wis.
Borden, A. W.	Nat. C.; Ia.; A.	M., Hastings Light & Heat Co.	Hastings, Neb.
Borden Co., The	N. G. S.		Warren, O.
Bordon, L. H.	Nat. C.		Teaneck Rd., Teaneck, N. J.
Borgner, Cyrus	A.	P., Cyrus Borgner Co.	Philadelphia, Pa.
Borgner, Cyrus, Co.	G. I.		Philadelphia, Pa.
Borie, Geo. E.	Nat. C.	Chf. Clk., Frankford Dist. U. G. I. Co.	Philadelphia, Pa.
Bormann, Clarence S.	Nat. G.	E., Carnegie Natural Gas Co.	Farmington, W. Va.
Boshart, Geo. P.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Bossert, J.	Nat. G.	Field S., Am. Natural Gas Co.	Allison Park, Pa.
Bossi, Santiago J.	*I. E.	El. E., Bossi & Co.	La Plata, A. R. S. A.
Bostock, Edgar H.	*I. E.	Leo Popper Sons.	New York, N. Y.
Bostwick, H.	P. C.	Sec. to P., Pacific Gas & Elec. Co.	San Francisco, Cal.
Boteler, G. W.	Nat. C.	Waukesha Gas & Electric Co.	Waukesha, Wis.
Bothel, J. O.	Nat. G.	Dist. S., Am. Natural Gas Co.	Leechburg, Pa.
Bothwell, C. C.	I. E.	Canadian Laco Philips Co.	Toronto, Ont., Can.
Boughton, Roger C.	P. C.	Dftmn. g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
Bourk, A. E.	Tex.		Dallas, Texas.
Bournique, George	Nat. C.	Complaint Clk., Northern Union Gas Co.	New York, N. Y.
Bournonville, Eugene	Ace.	V. P., Davis-Bournonville Co.	90 West St., New York, N. Y.
Bowen, F. P.	Ill.	G. M., Peoples Gas & Electric Co.	Savanna, Ill.
Bowen, F. W.	Wis.		Lake Bluff, Ill.
Bower, J. B.	Nat. G.	M., Central Pipe Line Co.	Reymor, Ont., Canada.
Bowers, J. C.	Sou.; Nat. C.	Dist. Sales M., Pittsburg Water Heater Co.	Washington, D. C.
Rowlin, M. A.	Nat. C.; Sou.	Sales M., Macon Gas Co.	Macon, Ga.
Bowman, John E.	N. J.	Ford & Kendig Co.	Philadelphia, Pa.
Bowman, S. W.	Nat. G.	Oil & g. producer.	Clarksburg, W. Va.
Bowman, William G.	Nat. C.; *Wis.; *Ia.	Trav. Sals., Schneider & Trenkamp Co., Div. American Stove Co.	315 So. Wabash Ave., Chicago.
Bownocker, John Adams.	\$Nat. G.	State Geologist of Ohio, Ohio State University	Columbus, O.
*Bowne, H. G.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Boyce, Carl A.	*P. C.	Ag't., Humphrey Co.	Los Angeles, Cal.



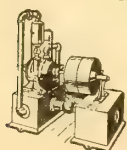
Replace the leaky and worn valves on your gas compressors with
MESTA AUTOMATIC PLATE VALVES (Iversen Patent)
 Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Boyce, Ernest W.	I. E.	N. Y. Electric Lamp Co.	43 W. 34th St., New York, N. Y.
Boyd, A.	Okl.		Stillwater, Okla.
Boyd, A. E.	Nat. G.	S. Ohio Fuel Supply Co.	Ashland, O.
Boyd, Albert M.	A.; *I. E.; Nat. C.	A. to G. S. United Gas Imp. Co.	Philadelphia, Pa.
Boyd, Chas. W.	Nat. C.	Phila. Sub. Gas & Elec. Co.	Coatsville, Pa.
Boyd, G. S.	Nat. G.	Chf. E., Mooringsport Refining Co.	Mooringsport, La.
Boyd, Hugh T.	Nat. G.	Ch. Ohio Fuel Supply Co.	Homer, Ohio.
Boyd, R. B.	P. C.	Supt. Dist., Pacific Gas & Elec. Co.	Fresno, Cal.
Boyle, A. A.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Boyle, D.	Sou.; Nat. C.	Sals. Chattanooga Gas Co.	Chattanooga, Tenn.
Boyle, E. R.	Nat. G.	M. Oil City Derrick.	Oil City, Pa.
Boyle, Patrick C.	Nat. G.	P. The Derrick Publishing Co.	Oil City, Pa.
Bozell, Harold V.	I. E.		429 Edgewood Ave., New Haven, Conn.
Bracken, L. I.	Nat. C.	Federal Trade Commission.	Washington, D. C.
Braden, D. A.	Kan.	Sales E., Western Elec. Co.	Kansas City, Mo.
Braden, Eugene	Nat. G.	Contractor, Ardizzone Braden Co.	Tulsa, Okla.
Braden, H. W.	Nat. G.; Can.	Pur. Agt., Dominion Natural Gas Co.	807 Bank of Hamilton, Ontario, Canada.
Braden, Morris G.	*I. E.		219 Blake St., Marquette, Mich.
Braden, R. D.	Ace.	Oxweld Acetylene Co.	Chicago, Ill.
Bradford, Floyd T.	Nat. G.	V. P., Parkersburg Rig. & Reel Co.	Tulsa, Okla.
Bradley, Charles W.	A.; Ill.	E., Public Service Co. of No. Ill.	Chicago, Ill.
Bradley, Edward	Pa.	S. Allentown, Bethlehem Con. Gas Co.	Bethlehem, Pa.
Bradley, George R.	*N. E.	S., Bartlett, Hayward Co.	Brooklyn, N. Y.
Bradley, Harry	Emp.; Nat. G.	P., Empire Gas & Fuel Co.	Wellsville, N. Y.
Bradley, J. B.	Nat. G.	Sec. & T., Hornell Gas Light Co.	96 Main St., Hornell, N. Y.
Bradley, R. D.	Ace.	P., Hammonton Gas Co.	Hammonton, N. J.
Bradley, W. R.	Sou.	Roanoke Gas Light Co.	Roanoke, Va.
Bradley, Wallace H.	Nat. C.; A.; N.E.	M., Springfield Gas Light Co.	Springfield, Mass.
Bradley, William H.	A.; I. E.; S.N.E.; Soc. G.; Nat.	Chf. E., Consolidated Gas Co.	New York, N. Y.
Brady, Edward, Jr.	I. E.	P'met., United Gas Improvement Co.	Philadelphia, Pa.
Brady, James C.	A.	P., Utica Gas & El. Co.	New York, N. Y.
Brady, John C.	Nat. C.	A. S., Met. Dept., Cons. Gas Co.	New York, N. Y.
Brady, Leo	Nat. C.		Bloomfield, N. J.
Brady, N. F.	I. E.	P., N. Y. Edison Co.	New York, N. Y.
Bragdon, H. K.	Nat. G.	Sec. to General M., Philadelphia Co.	Pittsburgh, Pa.
Brairie, John H.	A.; Nat. C.	S. of Dis., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Brand, Max	Nat. C.	Improved Smoking Process Co.	New York, N. Y.
Brand, E. B.	Ia.	P., Peoples Light & Fuel Co.	Grinnell, Ia.
Brandel, S. F.	Nat. G.	Fm., Peoples Natural Gas Co.	Gardenville, N. Y.
Brandes, Jerome	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Brandli, Henry E.	A.	G. M., Meridian Ry., Lt. & Pr. Co.	Meridian, Miss.
Brandriff, Alfred, Jr.	N. J.	Cumberland County Gas Co.	Millville, N. J.
Brandt, A. U.	P. C.	S. El. Dis., Pacific Gas & Electric Co.	Oakland, Cal.
Brandtjen, Henry	P. C.	District M., Pittsburg Water Heater Co.	Oakland, Cal.
Bransford, W. Y.	Ark.	M., Lonoke Light & Water Co.	Lonoke, Ark.
Bratton, Samuel C.	Nat. C.; P. C.	Com. M., Portland Gas & Coke Co.	Portland, Ore.
Braun, C. J., Jr.	Nat. G.	T., The Philadelphia Co.	Pittsburgh, Pa.
Braun, Chas. A.	*A.	Sales Agt., Stonega Coke & Coal Co.	Philadelphia, Pa.
Braun, L. C.	P. C.	Pac. Coast R., Eclipse Gas Stove Co.	San Francisco, Cal.
Braun, W. C.	I. E.	Montgomery, Ward & Co.	Chicago, Ill.
Bray, Arthur	Nat. C.	Dir., Geo. Bray & Co., Ltd.	Leeds, England.
Brayer, John F.	Nat. C.	Co-operative Foundry Co.	Rochester, N. Y.
Brayton, M. J.	Nat. C.; Emp.	Sec., Utica Gas & Elec. Co.	Utica, N. Y.
Brazier, J. B.	Nat. G.	V. P. & G. M., Powhatan Brass & Iron Works.	Ransom, W. Va.
Brearley, Wm. R.	Nat. C.	Public Service Gas Co.	Princeton, N. J.
Breckenridge, E. M.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Breck, George	*Ace.		50 Turk St., San Francisco.
Breese, F. S.	Nat. C.	Public Service Gas Co.	258 Bloomfield Ave., Montclair
Brenham Compressed Oil & Mfg. Co.	So. W.		Brenham, Tex.
Brennan, A. L.	Ace.	The Prest-O-Life Co.	Indianapolis, Ind.
Brennan, H. W.	Nat. G.	Fm., Texas Co.	Moran, Texas.
Brennan, John S.	*Wis.	A. J. Lindemann & Hoverson Co.	Milwaukee, Wis.
Brennan, Wm. H.	Nat. C.	M., Stove Dept., East River Gas Co.	Long Island City, N. Y.
Brenner, E.	Nat. C.	Philadelphia Sub. G. & El. Co.	Pottstown, Pa.
Brenner, H. H.	Nat. G.	P., Pawhuska Oil & Gas Co.	Pawhuska, Okla.
Breton, Mrs. M. A. C.	Nat. C.	British Com. Gas Association.	Hampstead, England.
Breuner, Louis	P. C.	John Breuner Co.	258 Bloomfield Ave., Montclair N. J.
Brewer, E. D.	Nat. C.; Sou.		
Brewer, Joseph H.	*A.	Sals., Gas Light Co.	Augusta, Ga.
Brewer, Capt. Robt. W. A.	Mich.; A.	V. P., Kelsey-Brewer & Co.	Grand Rapids, Mich.
Brewster, Henry	P. C.	Golt Mfg. Co.	Stockton, Cal.
Brewster, J. C.	Nat. G.	Fm., Hope Natural Gas Co.	Weston, W. Va.
Brewster, William Edwards	Nat. C.	S., National Coke & Coal Co.	New York, N. Y.
Brice, J. Monroe	*I. E.	Research E., Sperry Gyroscope Co.	Brooklyn, N. Y.
Brice, J. Wm.	N. J.	Boston Consolidated Gas Co.	24 West St., Boston, Mass
Bridges, J. M.	Nat. G.	Ag't., The United Natural Gas Co.	Atlantic City, N. J.
Bridgeton Gas Light Co.	Nat. C.		Franklin, Pa.
Bridgeworth, Geo B.	Nat. C.	A. S. Meter Dept., Cons. Gas Co.	Bridgeton, N. J.
Briggs, G. W.	Wis.		New York, N. Y.
Briggs, Geo. W.	*Mich.	M., Winona Lt. & Htg. Co.	Chicago, Ill.
Briggs, Wallace W.	I. E.	Dist. M., Westinghouse Lamp Co.	Winona, Minn.
Briggs, Wm. F.	Nat. C.	Providence Gas Co.	165 Broadway, New York, N. Y.
			Providence, R. I.



THE NEEDHAM SYSTEM is a one pipe system and is free from the difficulty of air blast regulation. It is independent of the varying pressures in the gas mains and a full pressure is maintained at each burner regardless of the number of appliances in use.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Briggs—Weaver Machinery Co.	So. W.		Dallas, Texas.
Bright, Alan	*I. E.	Macbeth-Evans Glass Co.	Pittsburg, Pa.
Brill, Alfred P.	Sou.; *A.; Nat. C.; Can.; *Ill.	G. M., Ruud Mfg. Co.	Pittsburg, Pa.
Brimham, A. L.	Nat. G.	Clk., Union Natural Gas Corporation.	Pittsburgh, Pa.
Brink, George R.	Nat. G.	A. T., Union Natural Gas Corporation	Pittsburg, Pa.
Brink, R. W.	Nat. G.	G. Aud., Hope Natural Gas Co.	New York, N. Y.
Brisley, H. F.	Ill.	A. S. Dist. "D" & "G" Public Serv. Co. of No. Ill.	72 W. Adams St., Chicago, Ill.
Bristol Gas & Electric Co.	Nat. C.		Bristol, Tenn.
Britsch, Mathias	Ill.	S., Public Service Co. of No. Ill.	Oak Park, Ill.
Britton, J. A.	Nat. C.; *A. A.	G. M., Penna. Lighting Co.	Shamokin, Pa.
Britton, John A.	A.; *I. E.; P. C.		
Britton, John A., Jr.	Nat. C.	V. P. & G. M. Pacific Gas & El. Co.	San Francisco, Cal.
Britton, Van E.	P. C.; A.	A. E., g. Dept., Pacific Gas & Elec. Co.	Piedmont, Cal.
Broadalbin El. Lt. & Pr. Co.	P. C.; A.	A. E., g. Dept., Pac. G. & E. Co.	San Francisco, Cal.
Broadberry, A. E.	Emp.		Broadalbin, N. Y.
Brock, C. H.	Nat. C.	Tottenham & Edmonton Gas Light & Coke Co.	Tottenham, London, Eng.
Brock, John M.	*Ace.		Cuba, Ala.
Brockington, F. T.	Ace.; Nat. C.		
Brockton Gas Light Co.	N. J.	Dewar Mfg. Co.	Brooklyn, N. Y.
Broder, W. J.	N. E.		Laconia, N. H.
Broderick & Bascom Rope Co.	Nat. C.		Brookton, Mass.
Brody, M. A.	Nat. G.	S. dis., Logan Natural Gas & Fuel Co.	Columbus, O.
Bromund, Herbert W.	Nat. G.		
Bronis, James	N. G. S.		St. Louis, Mo.
Bronson, S. E.	Nat. G.	Fm., Tri-County Natural Gas Co.	Caledonia, N. Y.
Bronx Gas & El. Co.	I. E.		2337 Germantown Ave., Philadelphia, Pa.
Brookfield Gas Co.			Box 297, Newark, N. J.
Brooks, R. A.	Mo.	M., Water Power & Lt. Co.	Ozark, Mo.
Brookfield Gas & El. Light Co.	Emp.; Nat. C.		Westchester, N. Y.
Brooklyn Boro. Gas Co.	Mo.		Brookfield, Mo.
Brooklyn Union Gas Co.	Nat. G.	Sec. and T., The Medina Gas & Fuel Co.	Wooster, Ohio.
Brooks, F. M.	Co.		Brookfield, Mo.
Brooks, Prof. Morgan	Mo.		Coney Island, N. Y.
Brooks, T. W.	Nat. C.	P., Matchless Brass Mfg. Co.	Brooklyn, N. Y.
Broom, Benjamin A.	Nat. C.	Prof. El. E., University of Ill.	Brooklyn, N. Y.
Broughton, H. E.	I. E.	National Tube Co.	Urbana, Ill.
Brown, Alexander	P. C.	Mech. Elec. Engineer.	Rialto bldg., San Francisco
Brown, Cameron	I. E.	Hodenpyl, Hardy & Co.	Sioux City, Ia.
Brown, Crawford	Mich.; Nat. C.	Sals., Jacksonville Gas Co.	Jackson, Mich.
Brown, D. J.	Sou.	Campaign M., General Gas Light Co.	Jacksonville, Fla.
Brown, E. D.	Nat. G.	American Lava Co.	New York, N. Y.
Brown, E. R.	Ace.	T. Oil Well Supply Co.	Chattanooga, Tenn.
Brown, Ernest C.	Nat. G.	Sec., Marengo Gas Co.	Pittsburg, Pa.
Brown, Frank D.	Nat. G.; Nat. C.		Marengo, Ia.
Brown, Frank H.	A.; *I. E.		Corsicana, Texas.
Brown, Frederic D.	*Mich.; P. C.		
Brown, G. G.	Pa.; *Ill.	Publisher and Ed., The Gas Age	New York, N. Y.
Brown, Harry W.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Brown Instrument Co.	*G. G. M.; *N. E.; Nat. C.		
*Brown, James A.	P. C.	S. & T. Davis Farnum Mfg. Co.	Waltham, Mass.
Brown, John C.	Nat. C.	Huron Lt. & Pr. Co.	Huron, So. Dak.
Brown, J. N.	Nat. C.; Emp.	Ithaca Gas Lt. Co.	Auburn, N. Y.
Brown, L. E. H.	*I. E.	El. E., General Electric Co.	Boston, Mass.
Brown, L. H.	Nat. C.		311 Walnut St., Philadelphia.
Brown, Louis	Mich.; A.	g. E., Michigan Gas Lt. Co.	Jackson, Mich.
Brown, M. Elton	Sou.; Tex.	George M. Clark Co.	Chicago, Ill.
Brown, R. B.	Mich.	Sec. Mt. Pleasant Light & Fuel Co.	Mt. Pleasant, Mich.
Brown, Robert E.	Nat. G.	Field S., Potter Gas Co.	Roulette, Pa.
Brown, Samuel W.	Nat. G.	A. E., Iroquois Natural Gas Co.	Buffalo, N. Y.
Brown, Stuart M.	Nat. G.	P. Oil Well Supply Co.	Pittsburg, Pa.
Brown, T. R.	Nat. C.	Jamaica Gas Light Co.	Jamaica, N. Y.
Brown, W. B.	A.; *I. E.; Wis. G. M. and E., Milwaukee Gas Light Co.		Milwaukee, Wis.
Brown, W. J.	A.; *I. E.; Sou.	M., Northern States Power Co.	Mankato, Minn.
*Brown, William Laird	Nat. G.; N. J. A. M., Helme & McIlhenny		Philadelphia, Pa.
Brown, W. Re.	Nat. G.; N. G. E.		
Browne, A. Parker	Nat. C.	N. B. M., Ohio Fuel Supply Co.	97 N. Front Ct., Columbus, O.
Browne, E. J.	*N. E.		147 Milk St., Boston, Mass.
Browne, Wm. Hand, Jr.	Ark.	S., Mo. & So. E. Utilities Co.	Blytheville, Ark.
Browning, R. R.	*I. E.	No. Car. College of Agriculture and Mechanic Arts	West Raleigh, N. C.
Brownlee, Edward G., Jr.	*Ill.; Ace.	A. T., Oxweld Acetylene Co.	Chicago, Ill.
Bruce, Albert Cabell	*I. E.	S., Canadian Sunbeam Lamp Co., Ltd.	Toronto, Ont., Can.
Bruce, Howard	*Ill.	S., Mach. Shops, Bartlett, Hayward	Baltimore, Md.
Bruce, W. L.	A.; *I. E.; Soc. G.	V. P., Bartlett Hayward Co.	Baltimore, Md.
	Nat. C.	Westchester Lighting Co.	Mt. Vernon, N. Y.

To replace your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is not difficult and is inexpensive. Write for Bulletin "D."

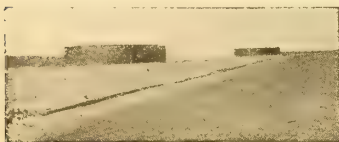
MESTA MACHINE COMPANY

PITTSBURGH, PA.



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Bruce, W. W.	Nat. G.	S., Oklahoma Fuel Supply Co.	Chandler, Okla.
Brucker, J. M.	Emp.	Chairman, Schenectady Illum. Co.	Schenectady, N. Y.
Bruckner, O. L.	Nat. G.	Agt., Logan Natural Gas & Fuel Co.	Westerville, O.
Bruckner, R. E.	Ace.	U. S. Gauge Co.	New York, N. Y.
Brumder, Wm. C.	Nat. C.		Bronx, N. Y. C.
Brundage, Henry M.	A.; *I. E.; Nat. C.; Emp.	A. Sec., Consolidated Gas Co.	New York, N. Y.
Brundage, Walter	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Brundrett, Ernest L.	A.; Nat. C.; Nat. G.	P., Kansas City Gas Co.	Kansas City, Mo.
Brunkow, Herbert E.	P. C.	Ch., San Diego Cons. Gas & El. Co.	San Diego, Cal.
Brunner, E.	Nat. G.	E., Hope Engineering & Supply Co.	Mt. Vernon, O.
Brush, C. F.	*I. E.		3725 Euclid Av., Cleveland, O.
Brush, D. H., Jr.	A.; Ill.		Detroit, Mich.
Brush Electric Co.	So. W.		Galveston, Tex.
Bryan, F. A.	*I. E.	G. M., Indiana & Michigan Elec. Co.	South Bend, Ind.
Bryan Marsh El. Works.	Okla.; Mo.		Kansas City, Mo.
Bryans, Henry B.	A.; Nat. C.; Pa. E.	Counties Gas & El. Co.	Norristown, Pa.
Bryant, Alice G.	I. E.	Physician	502 Beacon St., Boston, Mass.
Bryant, Charles F.	A.	Aud., Westchester Lighting Co.	Mt. Vernon, N. Y.
Bryant, C. L.	Nat. G.	P., Bryant Heater & Mfg. Co.	978 E. 64th St., Cleveland O.
Bryant, Edwin S.	P. C.	Supt., Economic Gas Co.	Los Angeles, Cal.
Bryant Heater & Mfg. Co.	N. G. S.		Cleveland, O.
Bryant, John M.	I. E.	A. Prof., El. E. University of Texas.	Austin, Tex.
Bryce, C. K.	Ace.	Oxweld Acetylene Co.	Newark, N. J.
Brzeckowski, Franz	Nat. C.	Moran & Hastings Mfg. Co.	Chicago, Ill.
Buchanan, P. R.	A.	S., Hartford City Gas Light Co.	Hartford, Conn.
Buchanan, James I.	Nat. G.	P., Taylorstown Natural Gas Co.	Pittsburg, Pa.
Buck, B. Frank.	N. J.	Cumberland County Gas Co.	Millville, N. J.
Buckeye Electric Co.	So. W.		Dallas, Tex.
Buckley, Dorothy S.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Buckley, John C.	*Ill.	Trav. Sals., Geo. M. Clark & Co., Div. American Stove Co.	Chicago, Ill.
Buckley, M. F.	Nat. C.	S., Penn Yan Gas Light Co.	Penn Yan, N. Y.
Buckley, Phil.	Mich.	N. B. M., Muskegon Trac. & Lt. Co.	Muskegon, Mich.
Buckley, W. H.	Nat. G.	1st E., Rogers Compressing Sta., Arkansas Natural Gas Co.	Lewis, La.
Bucklin, E. G.	Nat. C.	Hyattsville Gas & Electric Co.	Hyattsville, Md.
Bucklin, John	Nat. C.	Care W. W. Randolph.	233 Broadway, New York City.
Buckminster, Rollin	N. E.; G. G. M.; Nat. C.; N. E.		
Buckwell, T. D.	Nat. C.	Fall River Gas Works Co.	Fall River, Mass.
Buda Co.	So. W.	Central Illinois Lt. Co.	Peoria, Ill.
Budde, John Henry	*A.	Sec'y to Cons. E., Consolidated Gas Co.	Chicago, Ill.
Buell, Roy N.	*N. E.	Sals., Parker-Russell Mining & Mfg. Co.	New York, N. Y.
Buell, Wm. C.	N. J.	Millville Gas Light Co.	New Britain, Conn.
Bueno, J. R. Delatone.	Nat. C.	General Chemical Co.	Millville, N. J.
Buerkle, W. A.	Nat. C.	Pittsburg Water Heater Co.	New York, N. Y.
Buffalo General El. Co.	Emp.		Brooklyn, N. Y.
Builders' Iron Foundry	N. G. S.		Buffalo, N. Y.
Bulfin, John F.	A.	And., Laclede Gas Lt. Co.	Providence, R. I.
Bulger, J. F.	Nat. G.	Shop Fm., The Peoples Natural Gas Co.	St. Louis, Mo.
Bull, John H.	I. E.	Supt. E., Ballinger & Perrot.	Turtle Creek, Pa.
Bullard, E. D.	*Ace.		Marbridge Bldg., N. Y. City.
Bullard, F. J.	Nat. C.; *A.; Pa.	Hagerstown Lt. & Ht. Co.	268 Market St., San Francisco, Cal.
Bullard, John E.	*I. E.	Sales & Publicity Specialist.	Hagerstown, Md.
Buller, C. S.	*I. E.	N. B. Asst. to Div. Agt., Public Service El. Co.	Port Washington, N. Y.
Bullis, C. G.	P. C.	Field Supt., Murphy & Dillon.	Hackensack, N. J.
Bullock, Benj. F., Jr.	Nat. C.	Oxweld Acetylene Co.	Los Angeles, Cal.
Bullock, C. L.	Nat. G.	S. dis., Wichita Gas Co.	Philadelphia, Pa.
Bullock, George	Nat. G.	Fm., Southern Ontario Gas Co.	Wichita, Kan.
Bunker, C. O.	Nat. C.	Des Moines Gas Co.	Rodney, Ont., Can.
Bunker, Theodore.	A.; Nat. C.; I. E.	E. g. Dept., Public Service Gas Co.	Des Moines, Iowa.
Bunnell, F. D.	Ace.		Newark, N. J.
Bunnell, Sterling H.	*A.	Chf. E. R. Martens & Co.	Meshoppen, Pa.
Burchard, A. W.	*I. E.	General Electric Co.	New York, N. Y.
Burckhardt, J. A.	Nat. C.	Clk., Consolidated Gas Co.	New York, N. Y.
Burcombe, N. S.	Nat. C.	M., Gray's Harbor Gas Co.	Aberdeen, Wash.
Burdick, E. W.	Ace.	Union Carbide Sales Co.	42d St. Bldg., New York, N. Y.
Burda, Wm. G.	Nat. C.		402 1/2 E. 56th St., New York, N. Y.
Burford, Ira S.	Nat. G.	Agt., United Fuel Gas Co., Inc.	Ironton, O.
Burge, Wm.	Nat. C.		Buckroe Beach, Va.
Burger, C. L.	Tex.		Greenville, Texas.
Burgess, A. E. C.	*I. E.	c/o A. C. F. Webb & Burgess.	Sydney, Australia.
Burgi, Herman	A.; N. E.	G. S., Springfield Gas Lt. Co.	Springfield, Mass.
Burgner, M. K.	Pa.; *A.	S., Chambersburg Gas Co.	Chambersburg, Pa.
Burke, E. J.	Ind.; Nat. C.	M. Sals., Dept. Citizens Gas Co.	Indianapolis, Ind.
Burke, E. Stanton.	Nat. C.	S., Phila. & Suburban Gas & Elec. Co.	Ridley Park, Pa.
Burke, John E.	A.	S. of dis., Buffalo Gas Co.	Buffalo, N. Y.
Burke, Joseph A.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Burke, Thomas	*I. E.	Dist. M., Philadelphia Electric Co.	Philadelphia, Pa.
Burkhalter, R. J.	Nat. G.	A. Sec. & A. T., Northwestern Ohio Natural Gas Co.	Toledo, O.
Burkhart, Henry W.	A.	Con. g. E.	Hobart Bldg., San Francisco.
Burlington Gas Light Co.	Nat. C.		Burlington, Ia.
Burnell, C. N.	Nat. C.	Gas & Elec. Improvement Co.	Boston, Mass.

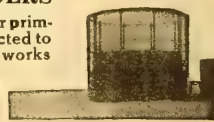


PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



801

MEMBER.	ASSOCIATION.	CITY OR TOWN.
Burnett, A. B.	Nat. G.	Dist. S. Am. Natural Gas Co. Zelienople, Pa.
Burnett, A. T.	Nat. C.	Brooklyn Union Gas Co. Brooklyn, N. Y.
Burnett, Douglass.	I. E.; Wis.; Nat. M. Com. Dept., Consolidated Gas Co.	Electric Light & Power Co. Baltimore, Md.
Burnett, Frederick.	†A.; Can.	A. to Chf. E. Economical Gas Apparatus Construction Co. Toronto, Ont., Can.
Burnett, H. D.	*I. E.	El. E., Canadian G. E. Co. Toronto, Ont., Can.
Burnett, Jerome B.	Nat. G.	Empire Gas & Fuel Co. Bartlesville, Okla.
Burnett, R. F.	Nat. C.	S. Peoples Gas & Electric Co. Oswego, N. Y.
Burnham, Roy R.	*I. E.	Elec. E., Monks & Johnson. Boston, Mass.
Burns, C. H.	Nat. C.	South Shore Gas Co. Babylon, N. Y.
Burns, E. G.	Nat. G.	Land Agt., Columbia Gas & Elec. Co. Huntington, W. Va.
Burns, John J.	*I. E.; Nat. C.	N. B. M., Laclede Gas Light Co. St. Louis, Mo.
Burns, T. P.	Nat. G.	Shop Fm., Hope Natural Gas Co. Parkersburg, W. Va.
Burns, Wayne	Ace.	U. S. Gauge Co. New York, N. Y.
Burnside, Geo.	P. C.	M. g. Dept., Wood Creighton Co. Oakland, Cal.
Burnside, S. E. W.	Nat. G.	Atty., Hope Natural Gas Co. Wilkesburg, Pa.
Burr, Alfred R.	*I. E.; Nat. C.	Sals. Agt., New Haven Gas Lt. Co. New Haven, Conn.
Burr, C. B.	*I. E.	El. Cont. Ansonia, Conn.
Burr, R. B.	Nat. G.; N. G. E.	E., Logan Natural Gas & Fuel Co. Columbus, O.
Burrell, Geo. A.	Nat. G.	Ch. United States Bureau of Mines. Pittsburg, Pa.
Burress, George H.	Nat. G.	Geologist, Empire Gas & Fuel Co. Bartlesville, Okla.
Burritt, Dwight F.	A.; Nat. C.	G. M., Utilities Operating Co. Kalamazoo, Mich.
Burrows, Gilbert A.	Nat. C.	Consolidated Gas Co. 2084 3rd Ave., New York, N. Y.
Burrows, Robt. P.	*I. E.	El. E., Nat'l Lamp Works of G. E. Co. Cleveland, O.
Burrows, S. B.	I. E.	Public Service Electric Co. Newark, N. J.
Burrows, W. R.	*I. E.	General Electric Co. Harrison, N. J.
Burson, F. G.	Nat. G.	Field Fm., The Mfrs. Lt. & Ht. Co. Proctor, W. Va.
Burson, H. W.	Nat. G.	P., Colonial Supply Co. Pittsburgh, Pa.
Burster, Julius.	Nat. C.	Col., Public Service Gas Co. Newark, N. J.
Burt, Austin.	A.; Ia.; Nat. C.	M., Citizens Gas & Electric Co. Waterloo, Iowa.
Burt, Edwin.	Nat. C.	Complaint-Clk., Public Service Gas Co. Newark, N. J.
Burt, I. E.	Ace.	116 So. Seventh St., Minneapolis, Minn.
Burtner, James C.	Nat. G.	Gas Well Cont., Burtner & Morgan. Wooster, Ohio.
Burton, E. C.	Nat. C.	U. G. I. Co. Philadelphia, Pa.
Burton, James K.	Sou.	Ammonia Mfr. Nashville, Tenn.
Burton, R. B.	*I. E.	Sp. R., Nat'l X-Ray Reflector Co. New York, N. Y.
Busch-Sulzer Bros. Diesel Eng. Co.	S. W.; Okla.	St. Louis, Mo.
Bush, C. A.	*N. E.	York, Pa.
Bush, J. H.	Nat. C.	Public Service Gas Co. 183 Main Ave., Passaic, N. J.
Bush, Robert Wilder.	A.; Soc. G.	E. Mfr., Brooklyn Union Gas Co. Brooklyn, N. Y.
Bushman, C. L.	Ace.	Jenne Acetylene Gas Machine Co. Indianapolis, Ind.
Buschmann, H. C.	Ace.	Jenne Acetylene Gas Machine Co. Indianapolis, Ind.
Busse, Clayton F.	*Ill.	Dist. M., Hoskins Mfg. Co. Chicago, Ill.
Bushong, C. E. & Bro.	Ace.	Sals., Pub. Service Co. of No. Ill. Charlestown, W. Va.
Bushnell, Carol L.	†Ill.	Freehold Gas Lt. Co. Evanston, Ill.
Butcher, Chas H.	N. J.	Sals., Public Service Gas Co. Freehold, N. J.
Butcher, John C.	Nat. C.	Acct., Dominion Natural Gas Co. Newark, N. J.
Butler, C. L.	Nat. G.	Dangler Stove Works. Buffalo, N. Y.
Butler, E. T.	Nat. C.	Greenfield Gas Lt. Co. Cleveland, O.
Butler, F. C.	Nat. C.	S., St. Albans Gas Lt. Co. Greenfield, Mass.
Butler, Geo. S.	Nat. C.; N. E.	National X-Ray Reflector Co. St. Albans, Vt.
Butler, U. D.	*I. E.	Sec. & T., Bronx Gas & El. Co. Chicago, Ill.
Butler, John M.	A.	E. g. dept., Syracuse Ltg. Co. Westchester, N. Y.
Butler, Joseph	†A.	Pernambuco Tramways & Pr. Co. Ltd. Syracuse, N. Y.
Butler, W. C.	Nat. C.	Secy. and G. M., Platteville Gas Co. Pernambuco, Brazil, S. A.
Butterworth, Wm. C.	Wis.; Nat. C.	Com. Dept., Peoples Gas Lt. & Coke Co. Platteville, Wis.
Buttner, W. C.	Ill.	Adirondack Elec. Power Corp. Chicago, Ill.
Buttrick, W. A.	Emp.	United Gas Imp. Co. Glens Falls, N. Y.
Buzy, Ralph H.	Nat. C.	Solic., Philadelphia Electric Co. Philadelphia, Pa.
Ruzy, Wm. L.	*I. E.	Con. E. with Balt. Retort & F. B. Co. Philadelphia, Pa.
Byers, C. A.	Pa.	V.-P., Hammond Byrd Iron Co. Baltimore, Md.
Byers, Co., A. M.	N. G. S.	Pittsburg, Pa.
Byrd, W. M., Jr.	*Ill.	E., Citizens Works, Brooklyn Union Gas Co. Chicago, Ill.
Byrne, Edward J.	A.; Soc. G.	S., Fulton Works, Brooklyn Union Gas Co. Brooklyn, N. Y.
Byrne, Edward Louis.	A.	Solic., Public Service Gas Co. Brooklyn, N. Y.
Byrne, Martin	Nat. C.	S. A., Consolidated Gas Co. Newark, N. J.
Byrne, Thos. J.	†A.	501 E. 21st St., New York.
Byrnes, P. V.	Nat. C.; A.	P., United Gas & Fuel Co. Hamilton, Ont., Can.
Cabell, John L.	A.	Cabell & Peck. 120 Bay St. E., Savannah, Ga.
Cabot, John	A.; G. G. M.	P., Cabot Manufacturing Co. Hoboken, N. J.
Cabot, Godfrey L.	Nat. G.	Prop., Natural Gas Plant at Cabot. 940 Old South Bldg., Boston, Mass.
*Cadby, J. N.	*I. E.	El. E., El. Serv. R. R. Com. of Wis. Madison, Wis.
Cadillac Gas Light Co.	Nat. C.	Cadillac, Mich.
Cadiz Gas Co.	O.	Cadiz, O.
Cadwallader, F. D.	Nat. C.; *N. E.	Wm. M. Crane Co. New York, N. Y.
Cadwallader, L. L.	A.	Com. Agt., Waterbury Gas Lt. Co. Waterbury, Conn.
Cadwallader, W. S.	Sou.	Sals., Wm. Crane Co. New York City.
Cady, Francis E.	I. E.	A. to Dir., Nela Research Lab. Cleveland, O.
Caffrey, Geo. H.	A.; N. E.	S., United El. Lt. & Water Co. South Norwalk, Conn.
Caffrey, Geo. H.	Nat. G.	M., Abilene Gas & El. Co. Abilene, Texas.



Make your compressors deliver more gas by replacing your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Cagney, J. J.	Nat. C.	Central Hudson Gas & El. Co.	Poughkeepsie, N. Y.
*Cahill, Joseph T.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Cahill, William J.	A.; Nat. C.	G. M. g. dept., Utica Gas & Elec. Co.	Utica, N. Y.
Cain, W. J.	Nat. G.	Div. Fm., East Ohio Gas Co.	Cuyahoga Falls, O.
Caldwell, Aldwyn R.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Caldwell, Prof. F. C.	I. E.	Prof. El. E., Ohio State University.	Columbus, O.
Caldwell, G. A.	*N. E.	Sals., Mueller Mfg. Co.	Boston, Mass.
Caldwell, James Henry	*A.; *Ill.	P. Ludlow Valve Co.	Troy, N. Y.
Caldwell, J. D.	Nat. C.; Sou.	A. S. g. dept., Asheville Pr. & Lt. Co.	Asheville, N. C.
Caldwell, Jesse T.	I. E.	Eng. dept., Nat'l Lamp Wks. of G. E. Co.	Cleveland, Ohio.
Caldwell, L. E.	Ia.	G. M., Iowa City Gas & Electric Co.	Iowa City, Ia.
Caldwell, O. H.	*I. E.	A. M. Ed., Electrical World.	New York, N. Y.
Calhoun Electric Lt. Co.	Mo.		Calhoun, Mo.
Calhoun, Ervin	A.; Nat. C.; I. E.	S. of Stores, Phila. Gas Wks., U. G. I. Co.	Philadelphia, Pa.
Calhoun Gas Co.	Nat. C.		Battle Creek, Mich.
California Electric Light & Power Co.	Mo.		California, Mo.
California Lt. & Fuel Co.	*P. C.		Pacific Bldg., San Francisco.
*Call, Almon Eugene	*Mich.; *N. E.	A. E. Tests, Island Creek Coal Sales Co.	511 Plymouth Bldg., Minneapolis, Minn.
Callahan, Cornelius F.	*A.	S. of Dis., Nassau & Suffolk Ltg. Co.	Hempstead, N. Y.
Callahan, H. L.	*I. E.	Kings Foundry Co.	Chicago, Ill.
Callahan, Maurice	Nat. C.	Public Service Gas Co.	Orange, N. J.
Callahan, M. J. O.	Nat. C.		600 Bergen St., Brooklyn, N. Y.
Callanan, J. T.	Nat. G.	P. & T. Parkersburg Machine Co.	505 Juliana St., Parkersburg, W. Va.
Callenbach, J. A.	Sou.	Chem. El., Clinchfield Coal Corp.	Dante, Va.
Callendar, D. E.	Wis.; Nat. C.; *I. E.	G. M., Wisconsin Gas & Electric Co.	Racine, Wis.
Callender, Elbert P.	A.; *Mich.; P. C.; *Ill.	P. Am. Gas Engineering Journal	New York, N. Y.
Calvert, H.	I. E.	El. E., Philadelphia Electric Co.	Philadelphia, Pa.
Calvert Water, Ice & El. Lt. Co.	So. W.		Calvert, Tex.
Cambridge Lt. & Fuel Co.	O.		Cambridge, O.
Cameron, Ernest B.	*Mich.	Sals., H. Mueller Mfg. Co.	Detroit, Mich.
Cameron, R. A.	Ill.	M. Water Htr. Dept., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Cameron Wt., Pr. & Lt. Co.	So. W.		Cameron, Tex.
Cammack, Jas. M.	Nat. C.	J. B. Slattery & Bros.	Brooklyn, N. Y.
Camm, John R.	P. C.	Agt., Contra Costa Gas Co.	Martinez, Cal.
Camp, Jonathan	*I. E.	Franklin Electric Mfg. Co.	Hartford, Conn.
Campbell, A. N.	P. C.	T. Honolulu Gas Co.	Honolulu, Hawaii.
Campbell, Alex. J.	N. E.	G. M., United El. Light & Water Co.	Waterbury, Conn.
Campbell, E. C.	Mich.	M. Benton Harbor & St. Joseph Gas & Fuel Co.	Benton Harbor, Mich.
Campbell, E. D.	*Mich.	Ch. E., University of Michigan	Ann Arbor, Mich.
Campbell, Geo. A.	P. C.	General Electric Co.	Reno, Nev.
Campbell, Gordon M.	Nat. G.	Com. Dept., Union Light, Heat & Power Co.	Covington, Ky.
Campbell, Guy	*I. E.	M'n'g Dir., The Benjamin Electric Co. Ltd.	London, E. C. Eng.
Campbell, J. J.	Ind.	S., Indiana Fuel & Light Co.	Kendallville, Ind.
Campbell, John	I. E.	S. Sp'l Serv. Dept., Edison Electric Illuminating Co.	Boston, Mass.
Campbell, J. P.	Nat. G.	Fm., Hope Natural Gas Co.	Littleton, W. Va.
Campbell, J. T.	Nat. G.	Agt., The Mfrs. Light & Heat Co.	Newcastle, Pa.
Campbell, M. L.	Nat. G.	Pittsburgh & West Virginia Co.	Salem, W. Va.
Campbell, Roy	Ind.	S., Indiana Service Co.	Shelbyville, Ind.
Candle, H. W.	Sou.	S., City of La Grange Gas Plant	La Grange, Ga.
Canisteo Gas Co.	Emp.		Wellsville, N. Y.
Cannon, Frank Q.	P. C.; Nat. C.	M., Honolulu Gas Co.	Honolulu, T. H.
Cannon, M.	Nat. G.		Clarksburg, W. Va.
Canon, Frank A.	Ia.	Ch., United Gas Improvement Co.	Philadelphia, Pa.
*Canterbury, S. J.	Sou.	S. g., Meridian Lt. & Ry. Co.	Meridian, Miss.
Cantrell, C. C.	Nat. G.	V. P. & M., Central Ltg. & Fuel Co.	Sapulpa, Okla.
Cantrell, R. J.	P. C.	Prop. Agt., Pacific Gas & Electric Co.	San Francisco, Cal.
Cape Girardeau El. Light & Power Co.	Mo.		Cape Girardeau, Mo.
Cape May Illuminating Co.	Nat. C.		Cape May, N. J.
Capin, Frank F.	Nat. C.	East Boston Gas Co.	East Boston, Mass.
Capital City Water Co.	Mo.		Jefferson City, Mo.
*Cappeau, J. P., Jr.	Nat. G.	Sec., The Natural Gas Eng. Co.	Pittsburg, Pa.
Carbondale Gas Co.	Nat. C.; Pa.		Carbondale, Pa.
Carbonell, Cornelius M.	A.	A. Sec., Astoria Lt., Ht. & Pr. Co.	Astoria, N. Y.
Carder, Frederick	*I. E.	V. P. & G. M., Stenben Glass Works.	Corning, N. Y.
Cardell, R. C.	A.	M. Billings Gas Co.	Billings, Mont.
Carder, Lewis J.	Nat. C.	Societe Anonyme Du Gaz	Caixa 571, Rio de Janeiro, Itz
Cardiff, R. L.	P. C.	Santa Cruz G. & El. Co.	Santa Cruz, Cal.
Carew, Wm. D.	Mich.	Dftmn., Grand Rapids Gas Lt. Co.	Grand Rapids, Mich.
Carey, C. H.	Ace.	Care, John Y. Park & Co.	Philadelphia, Pa.
Carey, Gail	Nat. G.	Sec. Garnett Light & Fuel Co.	Garnett, Kan.
Carey, J. B.	Nat. C.; *Pa.	Com. M., Ithaca Gas & El. Corp.	Ithaca, N. Y.
Carey, John J.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Carey, Wheeler C.	Nat. G.	Fm. meter repairs, Iroquois Natural Gas Co.	Buffalo, N. Y.
Carl, L. F.	Nat. G.	Agt., Newark Natural Gas & Fuel Co.	Newark, O.
Carlisle, Edgar G.	*A.	Sec'y, Blair Parke Coal & Coke Co.	Philadelphia, Pa.
Carlisle Gas & Water Co.	Pa.	C. Faller, Supt.	Carlisle, Pa.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard Garage Heater of North America.

Because of the basic patents and pending patents.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ASSOCIATION MEMBERS

803

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Carlson, Carl Ira.....	Ill.; A.	Dist. M., Western United G. & El. Co.	Joliet, Ill.
Carlton, J. F.....	Nat. C.	Public Service Gas Co.	Newark, N. J.
Carmody, M. B.....	Nat. G.	S., Southwestern Gas & El. Co.	Shreveport, La.
Carnahan, G. C.....	Ill.	Com. Dept., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Carnegie Steel Co.....	N. G. S.		Pittsburg, Pa.
Carnes, Frank S.....	Ill.	S. So. Div. St. Dept., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Carney, M. J.....	Ace.	Oxweld Acetylene Co.	New York, N. Y.
Carney, Thos.....	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Carolan, P. C.....	Nat. C.	Public Service Gas Co.	Somerville, N. J.
Carpenter, C. A.....	*I. E.	El. E., Graham, Burnham & Co.	1417 Ry. Exchange, Chicago,
Carpenter, Eugene.....	*N. E.	T. and M., Vineyard Lighting Co.	Oak Bluff, Mass.
Carpenter, Everett.....	Nat. G.	Chf. Geologist, Continental Oil & Gas Co.	Bartlesville, Okla.
Carpenter, Frank.....	*A.; I. E.; Nat. C.	Com. Dept., Welsbach Gas Lamp Co.	392 Canal St., New York.
Carpenter, Geo. K.....	Nat. G.	S., United Fuel Gas Co.	Charleston, W. Va.
Carpenter, H. A.....	*A.; Nat. C.		Sewickley, Pa.
Carpenter, Harold.....	A.	Resident E., Astoria Tunnel, The Astoria Lt., Ht. & Fr. Co.	Astoria, N. Y.
Carr, C. H.....	Kan.	Sals., Allis-Chalmers Mfg. Co.	Kansas City, Mo.
Carr, George F.....	Nat. C.	Northern Union Gas Co.	New York, N. Y.
Carr, H. H.....	Sou.	M., Carolina Power & Light Co.	Raleigh, N. C.
Carr, H. L.....	Ace.	Davis Acetylene Co.	Elkhart, Ind.
Carr, Joseph.....	Sou.		Hartsville, Tenn.
Carr, J. E.....	Kan.	Sals., B. R. Electric Co.	Kansas City, Mo.
Carr, J. M.....	Nat. C.	So. Side Gas & Elec. Co.	Mesa, Ariz.
Carrall, P. D.....	P. C.	Fm., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Carraway, Leake.....	Nat. C.	Southern Public Utilities.	Charlotte, N. C.
Carre, L. J.....	Nat. C.	Public Service Gas Co.	Camden, N. J.
Carrell, Harry T.....	Ace.		Johnstown, Pa.
Carret, Francis W.....	*Ill.	M., Industrial Inst. Co.	Chicago, Ill.
Carrier, A. E.....	*I. E.	National Carbon Co.	New York, N. Y.
Carrigan, A.....	P. C.	V. P., Dunham, Carrigan & Hayden Co.	San Francisco, Cal.
Carroll, A. H.....	Ill.	A. S., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Carroll, Chas. E.....	N. E.		247 Middle St., New Bedford, Mass.
Carroll, Frank J.....	Ill.	Aud., Dawes Bros., Inc.	Chicago, Ill.
Carroll, H. B.....	Tex.		Beaumont, Texas.
Carroll, J. B.....	Ace.		Carroll & Albany Avs., Chicago
Carroll, J. E.....	*So. W.		Beaumont, Tex.
Carroll, John T.....	N. E.	S., Springfield Gas Co.	Springfield, Vt.
Carroll, Lafayette D.....	A.	M. E., 38 Victoria St.	London, S. W., Eng.
Carson, A. G.....	*A.	S. g. dept., Eastern Wisconsin Ry. & Lt. Co.	Fond du Lac, Wis.
Carson, Geo. S.....	A.; Ia.; Nat. C. P.	Iowa Gas & El. Co.	Washington, Ia.
Carson, H. J.....	Ia.; A.	G. M., Cedar Rapids Gas Co.	Cedar Rapids, Iowa
Carson, Samuel.....	P. C.	G. Dept., Pacific Gas & Elec. Co.	San Francisco, Cal.
Carson, W. B.....	Nat. G.	Sec., The Philadelphia Co.	Pittsburg, Pa.
Carswell, Alexander.....	Ill.	S. Sta. No. 28, Public Service Co. No. Ill.	Evanston, Ill.
Carswell, James.....	Ill.	Sta. S., Public Service Co. of No. Ill.	Streator, Ill.
Carter, C. E.....	Nat. G.	P., Mansfield Gas Light Co.	8 So. Park St., Mansfield, O.
Carter, Chas. F.....	*Ia.	Cadet E., Savannah Gas Co.	Savannah, Ga.
Carter, Clarence E.....	Nat. G.	Sals., Ohio Fuel Supply Co.	97 No. Front St., Columbus, O.
Carter, C. R.....	Sou.	V. P. & G. M., Tuscaloosa Ry. and Utilities Co.	Tuscaloosa, Ala.
Carter, David J.....	Nat. G.	Atty.-at-Law, Carter & Sheets.	Clarksburg, W. Va.
Carter, Geo. B.....	Nat. C.	The Cope Pattern Wks.	Detroit, Mich.
Carter, G. O.....	Ace.	Linde Air Products Co.	New York, N. Y.
Carter, O. M.....	*Ind. Nat. G.	P., United Gas Iron Co.	Chicago, Ill.
Carter, Robert A.....	A.; Nat. C.	V. P., Consolidated Gas Co.	New York, N. Y.
Carter, Robert A., Jr.....	*A.; *I. E.	E., Consolidated Gas Co.	130 E. 15th St., New York,
Cartwright, Henry R.....	*A.; Nat. C.	M., Phila. Factory, Am. Meter Co.	Philadelphia, Pa.
Cartwright, T. R.....	Nat. G.	S., United Fuel Gas Co.	Clendenin, W. Va.
Cartwright, W. Y.....	Nat. G.	V. P., Union Gas & El. Co.	Cincinnati, Ohio.
Carty, Andrew J.....	*A.	Wholesale Coal	711 Stephen Girard Bldg., Philadelphia, Pa.
Caruthersville Ice & Light- ing Co.....	Mo.		Caruthersville, Mo.
Carver, Thomas H.....	Nat. C.	Clk., N. B. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Cary-Curr, H. J.....	*Ill.	V. P., E. H. Sargent & Co.	Chicago, Ill.
Cary, Irving B.....	*I. E.	Sals. Dept., Corning Glass Wks.	Corning, N. Y.
Cary, Walter.....	I. E.	G. M., Westinghouse Lamp Co.	Bloomfield, N. J.
Casad, R.....	P. C.	Dist. Agt., San Joaquin Lt. & Fr. Corp.	Merced, Cal.
Case, C. A.....	Nat. C.; Sou.; Tex.	Sals., Reliable Stove Co.	250 S. Wabash Ave., Chicago.
Case, C. A.....	Tex.		Texarkana, Tex.
Case, Frank B.....	*Ill.	Sals., Reliable Stove Co.	Chicago, Ill.
Case, H. N.....	Ark.	M., Heber Springs Light Co.	Heber Springs, Ark.
Case, L. L.....	Nat. G.	Ag't., Ontario Gas Co.	Holcomb, N. Y.
Case, R. I.....	Nat. C.	Public Service Gas Co.	Trenton, N. J.
*Casey, D. P.....	Nat. C.	Public Service Gas Co.	Rutherford, N. J.
Casey, J. P.....	Mo.	Maloney Electric Co.	St. Louis, Mo.
*Cash, Bynum K., 2d Lieut.	Ind.; Nat. C.	U. S. A.	Camp Taylor, Louisville, Ky.
Cashdollar, O. W.....	Nat. G.	Claim Ag't., Am. Natural Gas Co.	Pittsburgh, Pa.
Caspers, Edward J.....	Ill.; Nat. C.	g. Cont. Ag't., Public Service Co. of No. Ill.	Chicago, Ill.

HUNT COAL AND COKE VALVES are made in a variety of forms

—simplex, duplex, Seaton or "S," Briggs, etc.—in designs and materials especially adapted to gas works and coke oven requirements. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Cass, L. E.	Nat. C.	G. M. Sales Dept., Mohawk Gas Co.	Schenectady, N. Y.
Cassel, Howard N.	Nat. G.	Sec. T. & G. M., Le Flore County Gas & El. Co.	Poteau, Okla.
Cassell, E. L.	Nat. C.		Tarrytown, N. Y.
Cassidy, W. A.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Casson, R. A.	Nat. C.		Duluth, Minn.
Castle, Harry B.	Ill.	Cashier, P. S. Co. of North Ill.	Oak Park, Ill.
Castle, Joseph M.	Nat. C.; I. E.	United Gas Imp. Co.	Philadelphia, Pa.
Castle, W. R.	P. C.	P. Honolulu Gas Co.	Honolulu, Ty. H.
Castle, Wm. E.	Nat. C.	Solic., Public Service Gas Co.	Orange, N. J.
Casto, A. T.	Nat. G.	S., Randall Gas Co.	Morgantown, W. Va.
Castor, William A.	A.; *I. E.; Nat. C.	S. Met., United Gas Imp. Co.	Philadelphia, Pa.
Cathels, Edmund.	A.; N. E.	E., Public Utilities Com.	28 Plain St., Providence, R. I.
Caughell, E. H.	Can.	M., City Light & Power Dept.	St. Thomas, Ont., Can.
Cauley, Frank F.	Ill.	M. Indus. Div., Peoples Gas Light & Coke Co.	122 So. Mich. Blvd., Chicago.
Causbrook, Eugene	*A.	S., Mauch Chunk Gas Co.	Mauch Chunk, Pa.
Causbrook, W. R.	A.	Ag't., g. and El. Depts., Public Service Gas Co.	Plainfield, N. J.
Cavalleris, E. G.	Ace.	Acetylene Gas Illum. Co.	405 Broome St., New York.
Cave, Henry	Ace	Davis Bouronville Co.	Jersey City, N. J.
Cavenagh, Frank	P. C.; Nat. G.; *A. Sou.; Nat. C.	Maryland Meter Co.	Baltimore, Md.
Cavenagh, Robert	P. C.	Solic., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Cavenau, Charles	Nat. G.	Fm., Reserve Gas Co.	Wilsonburg, W. Va.
Cavender, John H.	*A.	V. P., Chicago Retort & Firebrick Co.	Chicago, Ill.
Cayadutta Generating Co.	Emp.		Gloversville, N. Y.
Cazenovia Electric Co.	Emp.		Cazenovia, N. Y.
Cedar Rapids Gas Co.	Nat. C.		Cedar Rapids, Ia.
Central Contract & Finance Co.	O.		Columbus, O.
Central Foundry Co.	Nat. C.		New York, N. Y.
Central Gas Co.	O.		Woodsfield, O.
Central Hudson G. & E. Co.	Emp.; Nat. C.		Poughkeepsie, N. Y.
Central Illinois Light Co.	Nat. C.		Pekin, Ill.
Central Ill. Public Service Co.	Nat. C.		Mattoon, Ill.
Central Tel. & El. Co.	Mo.		Dallas, Tex., and St. Louis, Mo.
Central Union Gas Co.	Nat. C.; Emp.		New York, N. Y.
Centralia Gas & El. Co.	Nat. C.		Centralia, Ill.
Century Electric Co.	Mo.		St. Louis, Mo.
Chace, Ira M., Jr.	N. E.		New Bedford, Mass.
Chadwell, William H.	A.	S., West End g. works, Public Service Gas Co.	Jersey City, N. J.
Challman, S. K.	Ace.		Pana, Ill.
Chamberlain, Glenn R.	A.; Mich.; Nat. C.	Sec. & M., Commercial Dept., Grand Rapids Gas Light Co.	Grand Rapids, Mich.
Chamberlin, Guy N.	*I. E.	Chf. E., St. Light dept., General Electric Co.	Lynn, Mass.
Chambers, C. A.	*Mich.	M., Consolidation Coal Co.	Detroit, Mich.
Chambers, Fred N.	Nat. G.	Oil Producer, Chambers Oil Co.	Oil City, Pa.
Chambersburg Gas Co.	Pa.	M. K. Burgner, Supt.	Chambersburg, Pa.
Champion, R. C.	Nat. C.	Norwood Gas Co.	Norwood, Mass.
Champion Stove Co.	Nat. C.		Cleveland, O.
Champney, J. M.	Nat. C.	Sals., Consolidated Gas Co.	New York, N. Y.
Chandler, A. R.	Ace.	Commercial Acetylene Welding Co.	San Francisco, Cal.
*Chandler, Prof. C. F.	\$A.; *I.E.; \$Soc. G.	Prof. of Chem., Columbia University	New York, N. Y.
Chandler, H. P.	Nat. C.	G. Ag't., Central Div., Public Service Gas Co.	Elizabeth, N. J.
Chandler, L. F.	P. C.; Nat. G.	S., Santa Maria Gas & Power Co.	Santa Maria, Cal.
Chaney, R. B.	Mo.	B. R. Electric & Telephone Co.	Kansas City, Mo.
Channon, Harry O.	A.; *I. E.; Ill. Nat. C.	M., Quincy Gas, Elec. & Heating Co.	Quincy, Ill.
Chapin, Charles H. B.	*I. E.; A. Emp.; Nat. C.	Sec., Empire State Gas & Elec. Assn.	29 W. 39th St., New York.
Chapin, Dwight, Jr.	Kan.	M., United Water, Gas & Elec. Co.	Lyons, Kan.
Chapin, Edwin S.	*A.; *I. E.; Nat. C.	V. P., Welsbach Gas Lamp Co.	New York, N. Y.
Chaplin-Fulton Mfg. Co.	N. G. S.		Pittsburg, Pa.
Chaplin, William C.	Nat. G.	T., Chaplin-Fulton Mfg. Co.	Pittsburg, Pa.
Chapman, Harlen M.	A.; Ind.	S., Langdale Plant, Citizens Gas Co.	Indianapolis, Ind.
Chapman, O. D.	*Ind.	Sals., General Gas Light Co.	337 Drexel Ave., Indianapolis.
Chapman, W. B.	Nat. G.	Oil Producer	74 Vandergrift Bldg., Pittsburg, Pa.
Chapple, Charles E.	Nat. C.	A. Com. M., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Charles, Lawrence A.	Nat. C.		212 So. 6th St., Newark, N. J.
Charleston Con. Ry. & Ltg. Co.	Nat. C.		Charleston, S. C.
Chase, F. L.	Tex.		Ft. Worth, Tex.
*Chase, Seth K.	Ill.; A.	Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Chester County Gas Co.	Pa.	W. O. Lamson, Jr., Mgr.	West Chester, Pa.
Chatham Elec. Lt., Ht. & Pr. Co.	Emp.		Chatham, N. Y.
Chattanooga Gas Co.	Nat. C.		Chattanooga, Tenn.
Cheesman, Frank P.	*A.	Partner, Cheesman & Elliot.	New York, N. Y.
Cheeseman, Clyde E.	A.	S. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Cheevers, Wm. N.	Ill.	Div. Acct., Public Service Co. of No. Ill.	Oak Park, Ill.
Cheney, Herbert Neal	A.; N. E.	E. of Cons., Boston Cons. Gas Co.	Boston, Mass.



You can increase the efficiency of your compressors by replacing your old valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

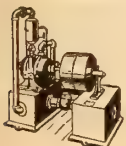
MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

805

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
*Cheney, J. Y.	Sou.	Mgr. Gas Dept., Orlando Water & Light Co.	Orlando, Fla.
Cheney, Seymour W.	A.; Mich.	E. Grand Rapids Gas Light Co.	Grand Rapids, Mich.
Chestnut, S. M.	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Chewning, Walter L.	A.; Pa.	E., Cons. Dept. United Gas Imp. Co.	Philadelphia, Pa.
Chicago Flexible Shaft Co.	Nat. C.		Chicago, Ill.
Chicago Varnish Co.	So. W.		Chicago, Ill.
Chichester, Alfred A.	Ill.	Div. S., Peoples Gas Light & Coke Co.	634 Hobbie St., Chicago, Ill.
Chickasha Gas & Elec. Co.	Okla.		Chickasha, Okla.
Chico Dist. P. G. & E. Co.	*P. C.		Chico, Cal.
Chidsey, Raymond F.	*Ia.	Kingston Granite Tub Works.	Kingston, N. Y.
Childs, A. W.	P. C.	A. G. Agt., So. California Edison Co.	Los Angeles, Cal.
Childs, C. H.	*N. E.		Lynn, Mass.
Chillas, Rich. B., Jr.	*I. E.	Ch., National Carbon Co.	Cleveland, Ohio.
Chisholm, C. F.	N. E.	M., Suburban Gas & Electric Co.	Revere, Mass.
Chisholm, C. G.	Ace.	Union Carbide Sales Co.	New York, N. Y.
Chisholm, Charles T.	*Ill.; *Ia.; *Mich.; *Wis.	Trav. R., General Gas Light Co.	Kalamazoo, Mich., and Grand Rapids, Mich.
Choate, R. R.	A.	A. G. M., Crew Levick Co.	Philadelphia, Pa.
Choctaw P. & L. Co.	Okla.		McAlester, Okla.
Chodera, Peter E.	*Ill.	Urbana & Champaign Ry., Gas & El. Co.	Champaign, Ill.
Christensen, A. E.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Christian, Geo. W.	Ace.	Troy Acetylene Co.	Troy, O.
Christian, J. W.	Nat. C.; N. E. C.	Sals., Haverhill Gas Light Co.	Haverhill, Mass.
Christie, W. H.	Emp.	S., Corning Gas & Electric Co.	Corning, N. Y.
Christman, H. S.	*I. E.	A. Com. Agt., Philadelphia Gas Works, United Gas Imp't Co.	Philadelphia, Pa.
Christman, Henry N.	Nat. C.; *Pa.	Wm. M. Crane Co.	New York, N. Y.
Christman, Howard	Nat. C.	The United Gas Improvement Co.	1035 Market St., Philadelphia.
Christy, Harry B.	*I. E.	A. S., Frankford Dist., United Gas Imp't Co.	Philadelphia, Pa.
Christy, J. F.	Ark.	M., Municipal Water & Light Plant.	Jonesboro, Ark.
Chronister, Frank S.	Nat. C.	Complaint Clk., Harrisburg Gas Co.	Harrisburg, Pa.
Chubb, Chester N.	A.; Nat. C.	G. M., Tri City Ry. & Lt. Co.	Davenport, Ia.
Chubbuck, H. E.	A.	V. P., Illinois Traction System.	Peoria, Ill.
Chuctanunda Gas Lt. Co.	Emp.		Amsterdam, N. Y.
Church, Arthur L.	*I. E.	The Baldwin Locomotive Works.	Philadelphia, Pa.
Church, H. H.	Nat. G.	P. & G. M., Killbuck & Millersburg Oil & Gas Co.	Millersburg, O.
Church, Sumner R.	*A.	M., Research Dept., Barrett Mfg. Co.	New York, N. Y.
Churchill, Wm.	*I. E.	Op. Spec., Corning Glass Wks.	Corning, N. Y.
Cincinnati Rubber Mfg. Co.	N. G. S.		Cincinnati, O.
Cisco Gas & Elec. Co.	So. W.		Cisco, Texas.
Citizens Gas Co.	Mo.		Hannibal, Mo.
Citizens Light & Water Co.	So. W.		Lockhart, Texas.
City Light & Traction Co.	Mo.; Nat. C.		Sedalia, Mo.
City Light & Water Co.	So. W.		Amarillo, Texas.
City Water Co. of Sedalia.	Mo.		Sedalia, Mo.
Clabaugh, A.	Nat. C.		Englewood, N. J.
Clabaugh, G. W.	A.; *I. E.; Ia.	V. P. & Sec., Omaha Gas Co.	Omaha, Neb.
Clafin, Chas. E.	Mich.	Sol., Lansing Fuel & Gas Co.	Lansing, Mich.
Clafin Phone, Light & Garage Co. (E. R. Ruch, Mgr.)	Kan.		Clafin, Kan.
Claggett, E. F.	Nat. G.	E., Columbus Gas & Fuel Co.	Columbus, Ohio.
Claihorne, C. H.	*A.; *Ill.	G. Sals. M., Union Mining Co.	Baltimore, Md.
Clamer, George F.	*Ace.		Collegeville, Pa.
Clanton, Roswell A.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
*Clapp, C. H.	Nat. C.	Clk., Newton & Watertown Gas Co.	Newton, Mass.
Clapp, G. N.	Nat. G.	Sec. & T., G. M., The Washington Gas & El. Co.	Washington C. H., Ohio.
Clark & Norton Mfg. Co.	N. G. S.		Wellsville, N. Y.
Clark, Anson L.	*Ill.	Cadet E., Western United Gas & El. Co.	Aurora, Ill.
Clark, Benj.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Clark, C. Burt.	N. J.	Unique Art Glass & Metal Co.	Brooklyn, N. Y.
Clark, Charles J.	*A.	V. P., Hunter & Dickson Co.	Philadelphia, Pa.
Clark, Clarence D.	P. C.	M., Napa Dist., Pacific Gas & El. Co.	Napa, Cal.
Clark, Edwin A.	Nat. C.	Boston Consolidated Gas Co.	Roxbury, Mass.
Clark, E. L.	I. E.		Hartford, Ohio.
Clark, E. R.	*Mich.	Sals. M., Ruud Mfg. Co.	Detroit, Mich.
Clark, Earl A.	Nat. G.	Meter Tester	Tulsa, Okla.
Clark, F. R.	Nat. C.	Col., Public Service Gas Co.	Newark, N. J.
Clark, F. W.	*I. E.	A. to Dist. M., Philadelphia Electric Co.	Philadelphia, Pa.
Clark, Geo. M. Co.	Mo.; Nat. C.; *P. C.		Chicago, Ill.
Clark, George W.	Nat. C.	Northern Indiana Gas & El. Co.	Hammond, Ind.
Clark, Horace Herbert.	A.; Ill.; Nat. C.	E. of dis., Public Serv. Co. of No. Ill.	Chicago, Ill.
Clark, John F.	*I. E.	Chf. E., Custom House.	New York, N. Y.
Clark, J. S.	Nat. G.	M., Okmulgee Gas Co.	Okmulgee, Okla.
Clark, James	Nat. G.; Nat. C.	Div. S., Philadelphia Co.	Pittsburg, Pa.
Clark, John A.	A.	E., Macbeth Evans Glass Co.	1900 Euclid Bldg., Cleveland.
Clark, John A., Jr.	Nat. C.; A.	G. S. dis., Public Service Gas Co.	Hoboken, N. J.
Clark, John C.	*Ill.	Prod. M., Sprague Meter Co.	Bridgeport, Conn.
Clark, John C. D.	A.; *I. E.; Nat. C.; *N. E.; N. A. M., Com. & Ap. Dept.		Boston, Mass.
Clark, O. E.	P. C.	M., Napa dist., Pacific Gas & Elec. Co.	Napa, Cal.
Clark, Raleigh	Nat. G.	M., Lawrence Gas Co.	Lawrenceville, Ill.



NEEDHAM HIGH PRESSURE GAS SYSTEM and APPLIANCES are sold under guarantee of definite consumption, and economy or equivalent increase in production; and will enable gas to compete commercially with other fuels.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Clark, Robert B.	A.; N. E.	S. of Wks., Fall River Gas Works Co.	Fall River, Mass.
Clark, Robert E.	Nat. G.	Chf. Field Agt., Philadelphia Co.	Pittsburgh, Pa.
Clark, Robert K.	Mo.; *A.	Geo. M. Clark Stove Co.	179 N. Mich. Ave., Chicago, Ill.
Clark, Walton	A.; I. E.; Nat. C.; Nat. G.; N. E.; P. C.	2d V. P., United Gas Imp. Co.	Philadelphia, Pa.
Clark, William J.	A.; *I. E.; Nat. C.; N. J.	V. P., Westchester Lighting Co.	Mount Vernon, N. Y.
Clark, W. Van Alan	A.; Nat. C.		11,500 Sangamon St., Chicago, Ill.
Clarke, James J.	Nat. C.	Solic., Public Service Gas Co.	Hoboken, N. J.
Clarke, M. S.	Tex.		Houston, Texas.
Clarke, R. L.	P. C.	c/o San Diego Gas & Electric Co.	San Diego, Cal.
Clarke, Thomas W.	*N. E.	V. P. & E., N. E. Foundation Co., Inc.	Boston, Mass.
Clarkson, R. J.	Nat. G.	Div. S., Philadelphia Co. of West Va.	Littleton, W. Va.
Clarksville Lt. Co.	So. W.		Clarksville, Tex.
Clary, C. L.	Mo.	S., So. Ill. Light & Power Co.	Hillsboro, Ill.
Clary, Edward D.	A.; Ia.; Nat. C. S.	Burlington Gas Light Co.	Burlington, Ia.
Claus, Emil L.	Nat. C.		2601 Vliet St., Milwaukee, Wis.
Clausen, William F.	A.; Wis.	G. M., Wis.-Minn. Lt. & Pr. Co.	Winona, Minn.
Clauson, C. C.	Nat. C.	Puget Sound Traction Lt. & Pr. Co.	Bellingham, Wash.
Clawson, W. B.	Nat. G.	S., Warren & Chautauqua Gas Co.	Warren, Pa.
Clay, E. E.	Ind.; Nat. C.	Goshen El. Material Co.	Goshen, Ind.
Clay, Elmer E.	Nat. C.	Indiana Fuel & Lt. Co.	Garrett, Ind.
Clay, Noble L.	Sou.; Nat. C.	M & S., Carolina Power & Light Co.	Durham, N. C.
Clayton, J. P.	Nat. C.	Middle West Utilities Co.	Chicago, Ill.
Cleaveland, E. W.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Cleary, J. D.	Nat. G.	Agt., Iroquois Natural Gas Co.	Angola, N. Y.
Cleaver, N. S.	*I. E.	Comp. Clk., Philadelphia Electric Co.	Philadelphia, Pa.
Cleifton, Guy J.	Ace.	The Cleifton Co.	Owatonna, Minn.
Cleghorn, Wm. H.	Nat. C.		619 E. Wemsley St., Philadelphia, Pa.
Clement, W. E.	Nat. C.; Sou.	Gas Appliance Mfr.	New Orleans, La.
Clements, John	P. C.	Pacific Gas & El. Co.	Oakland, Cal.
Clemenson, E. G.	Ace.	Union Carbide Sales Co.	Toronto, Ont., Can.
Cleundenen, C. B.	Ace.	The Prest-O-Lite Co.	New York, N. Y.
Cleveland Gas Meter Co.	N. G. S.		Cleveland, O.
Cleveland Heater Co.	Nat. C.		Cleveland, O.
Cleveland, J. A.	Mich.	M., Saginaw Gas Co.	Saginaw, Mich.
Clewell, Clarence E.	I. E.	Asst. Prof. El. E., University of Pa.	Philadelphia, Pa.
Clifford, Prof. H. E.	I. E.	Prof. El. E., Harvard University	Cambridge, Mass.
Clifford, Thomas C.	Nat. G.	Sals., M., Pittsburg Meter Co.	East Pittsburg, Pa.
Clifford, W. H.	Mo.	Sec., St. Charles Ltg. Co.	St. Charles, Mo.
Clifford, W. H.	So. W.; Tex.	M., Palestine Light, Heat & Pr. Co.	Palestine, Tex.
Clifton, C. M.	Kan.	Sals., National Carbon Co.	Cleveland, Ohio.
Cline, Chas. A.	Ill.	M., Clinton Gas & El. Co.	Clinton, Ill.
Cline, Horace	P. C.	T., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Cline, W. B.	A.; I. E.; P. C.; Nat. G.	P., Los Angeles Gas & Electric Corp.	Los Angeles, Cal.
Clinton, DeWitt	*N. E.	T., Worcester Gas Light Co.	Worcester, Mass.
Clinton Light & Pr. Co.	Okl.		Clinton, Okla.
Clinton Light & Water Co.	Mo.		Clinton, Mo.
Cloen, Fred.	*I. E.	G. S., Paducah Light & Power Co.	Paducah, Ky.
Cloud, Wm. B.	I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Clover, G. R.	I. E.	Sals., Cooper-Hewitt Electric Co.	Detroit, Mich.
Clover, M. K.	Nat. G.	M., Berea Pipe Line Co.	9 Front St., Berea, O.
Clover, S. C.	Nat. G.	Oil and Gas Dept., The Iron Mountain Oil Co.	Tulsa, Okla.
Clow, James B., & Sons	Nat. C.		Chicago, Ill.
Cluley, C. F.	Nat. G.	Agt., The East Ohio Gas Co.	Millersburg, O.
Coast Valleys Gas & El. Co.	*P. C.		Monterey, Cal.
Coate, P. S.	A.; Can.	M. & Sec. T., Chatham Gas Co., Ltd.	Chatham, Ont., Can.
Coates, Delson E.	Ace.	c/o Coates Acetylene Co.	Lansing, Mich.
Coates, Robert C.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Cobb, B. C.	A.; Mich.	Pres., Mich. Light Co.	New York, N. Y.
Cobb, Percy W.	I. E.	Physiologist Nela Research Lab., Nat. Lamp Works	Nela Park, Cleveland, O.
Cobb, S. P.	A.; Sou.	E., El. Bond & Share Co.	New York, N. Y.
Cochran, H. J.	Nat. G.	P. & M., Maysville Gas Co.	Maysville, Kentucky.
Cochran, J. T.	*Ace.		The Plains, Va.
Cochrane, W. A.	Ace.	Care John Simmons Co.	34-35th St., Brooklyn, N. Y.
Cocke, J. T. Bowdoin	A.; Sou.	Hyatt Roller Bearing Co.	Newark, N. J.
Coffey, Louis A.	P. C.	Sec., Southwestern Gas Co.	Los Angeles, Cal.
Coffey, M. H.	Nat. C.	Sec., Vesta Gas Range & Mfg. Co.	Chattanooga, Tenn.
Coffin, Francis H.	Ace.	Dewar Mfg. Co.	Brooklyn, N. Y.
Coffin, Lawrence E.	Ace.	John Simmons Co.	Birmingham, Ala.
Coffin, Wm. H.	Nat. C.; *N. E.	Gloucester Gas Lt. Co.	96 Main St., Gloucester, Mass.
Coghlan, John P.	P. C.	Claims Agt., Pacific Gas & Elec. Co.	San Francisco, Cal.
Cohen, Henry	N. J.	Atlantic City Gas Co.	Atlantic City, N. J.
Cohen, J. S.	Nat. C.	Sals., Pittsburg Water Heater Co.	Boston, Mass.
Cohen, J. T.	*N. E.	Sals., Pittsburg Water Heater Co.	Boston, Mass.
Cobick, Walter H.	P. C.	A. S., g. met. dept., Pacific Gas & El. Co.	Oakland, Cal.
Cohn, Charles M.	A.; *I. E.; Nat. C.; Nat. G.	1st V. P., Consolidated Gas, Electric Light & Power Co.	Baltimore, Md.
Cohn, Leo	*I. E.	Cooper-Hewitt Elec. Co.	Hoboken, N. J.
Coho, Herbert B.	*Ill.	Dept. M. & E., United Lead Co.	New York, N. Y.
Cohoes Gas Light Co.	Emp.		Cohoes, N. Y.
Coit, Edward	N. J.	Atlantic City Gas Co.	Atlantic City, N. J.
Coit, Edward W.	Nat. C.	Welsbach Co.	Gloucester, N. J.
Coke, John H.	Ace.; *I. E.	Stat. E., Seattle Public Library	4th & Madison, Seattle, Wash.
Coker, M. B.	Nat. C.		Box 927, Caney, Kan.



An installation of MESTA AUTOMATIC PLATE VALVES (Iversen Patent) in your compressor guarantees higher efficiency. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

807

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Cole, C. M.	A.; Pa.	Syracuse Lighting Co.	Syracuse, N. Y.
Cole, Chas. M.	*I. E.	Wheeler Reflector Co.	Boston, Mass.
Cole, E.	P. C.	V. P., Cole Mfg. Co.	Pasadena, Cal.
Cole, E. J.	Nat. G.	Pur. Agt., The Arkansas Nat. Gas Co.	Little Rock, Ark.
Cole, George M.	A.; Emp.	P. & M., Plattsburgh G. & E. Co.	Plattsburgh, N. Y.
Cole, James E.	*I. E.	Wire Dept., City of Boston.	Boston, Mass.
Cole, Mfg. Co.	*P. C.		Los Angeles, Cal.
Cole, Sidney L.	N. E.	M., Wakefield Municipal Light Plant.	Wakefield, Mass.
Cole, T. F.	Kan.	S., Kansas Gas & El. Co.	Pittsburg, Kan.
Cole, Thomas	*I. E.	Sals., care Guy V. Williams.	New York, N. Y.
Cole, W. G.	Nat. G.	Div. S., Equitable Gas Co.	Pittsburgh, Pa.
Coleman, H. L.	Nat. C.	Empire Gas & El. Co.	Auburn, N. Y.
Coleman, L. G.	Nat. G.	E., Henry L. Doherty & Co.	New York, N. Y.
Coleman, S. Waldo	P. C.; Nat. C.	M., Coast Counties Gas & El. Co.	San Francisco, Cal.
Coleman, Walter C.	A.	Sec'y and T., Troy Gas Co.	Troy, N. Y.
Coleman, W. S.	P. C.; Nat. C.	M., Cont. Dept., Pacific Gas & El. Co.	Berkeley, Cal.
Coler, Bird S.	Sou.	W. N. Coler & Co.	New York, N. Y.
Coles, James M.	Nat. C.; *I. E.	Mgr. City Dept. & E., General Gas Lt. Co.	46 W. Broadway, N. Y. City.
Coles, Sidney S.	*A.	Chf. Clk., Westchester Lighting Co.	Mt. Vernon, N. Y.
Colket, J. H.	*I. E.	E., N. Y. Telephone Co.	15 Dey St., New York, N. Y.
Colleston, Earl H.	*A.	S. coke ovens, La Belle Iron Works.	Steubenville, O.
Collier, Baron G., Inc.	So. W.		New York, N. Y.
Collier, Edward C.	*A.	N. B. M., City Gas Co.	Ardmore, Okla.
Collier, George	Nat. C.	Newport News & Hampton Ry., Gas & Elec. Co.	Hampton, Va.
Collier, Wm. Rawson	Nat. C.; Sou.	Sales M., Atlanta Gas Lt. Co.	Atlanta, Ga.
Collin, H. M.	A.	G. M., Glens Falls Gas & El. Lt. Co.	Glens Falls, N. Y.
Collins, A. C.	Ace.	c/o Davis Acetylene Co.	Elkhart, Ind.
Collins, Carroll	A.; Mich.; Nat. C.	P., T. & G. M., Marshall Gas Lt. Co.	Marshall, Mich.
Collins, Charles	Nat. C.		415 E. 90th St., New York.
Collins, David J.	A.; P. C.; Pa.; *Mich.	Sales dept., United Gas Impt. Co.	Philadelphia, Pa.
Collins, E. H.	Nat. C.; Ill.	M., Greenville Gas Co.	Greenville, Miss.
Collins, George H.	P. C.	V. P., Pacific Lighting Corporation.	San Francisco, Cal.
Collins, Henry	Sou.	M. g. dept., Charlotte Gas & El. Co.	Charlotte, N. C.
Collins, J. Clarence	A.	Sec. & Aud., Rochester Ry. & Lt. Co.	Rochester, N. Y.
Collins, John D.	Nat. C.	Consolidated Gas Co.	157 Hester St., New York City
Collins, Percy E.	*I. E.	Westchester Lighting Co.	Mt. Kisco, N. Y.
*Collins, W. G.	Mich.	A. M., Marshall Gas Co.	Marshall, Mich.
Collins, Wm. J.	Nat. C.	Medina Gas Co.	Medina, N. Y.
Colona Mfg. Co.	N. G. S.	St. Clair Co. Gas & Elec. Co.	Collinsville, Ill.
Colquhoun, Edward M.	A.; Nat. C.	V. P. & G. M., Wincroft Stove Wks.	Middletown, Pa.
Colton, Francis	*A.	G. M., Kennebec Gas & Fuel Co.	Waterville, N. Y.
Columbia Gas Stove Co.	N. G. S.		Huntington, W. Va.
Columbia Incand. Lamp Co.	So. W.; Mo.		St. Louis, Mo.
Columbian Rope Co.	N. G. S.		Auburn, N. Y.
Columbus Gas & Fuel Co.	O.		Columbus, O.
Columbus Heating & Ventilating Co.	N. G. S.		Columbus, O.
Colusa Dist., Pac. Gas & Elec. Co.	*P. C.		Colusa, Cal.
Colvin, J. E.	A.; Ind.	S., Central Indiana Gas Co.	Muncie, Ind.
Colvin, Walter	Ind.	Sals., Citizens Gas Co.	Indianapolis, Ind.
Colyer, T. W.	Sou.; Nat. C.	Welsbach Co.	203 Beaumont Ave., Charlotte, N. C.
*Combs, M. A.	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Combs, R. H.	Ace.	Prest-O-Lite Co.	Toronto, Ont., Can.
Combs, Roger B.	A.; *I. E.; Nat. C.; Sou.		1401 Arch St., Philadelphia, Pa.
Commercial Elec. Co.	Okla.		St. Louis, Mo.
Commercial El. Sup. Co.	C.; Sou.		St. Louis, Mo.
Commonwealth Edison Co.	I. E.		72 W. Adams St., Chicago, Ill.
Compton, Fred W.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Comstock, C. A.	Wis.		Madison, Wis.
Comstock-Castle Stove Co.	Nat. C.; *P. C.		Quincy, Ill.
Comstock, Louis K.	*I. E.	P., L. K. Comstock & Co.	New York, N. Y.
Conard, Chas. A.	Nat. C.		Philadelphia, Pa.
Concordia El. Lt. Co. (L. K. Green, Pres.)	Kan.		Concordia, Kan.
Condon, T.	Ill.	S. Wks., Urbana & Champaign G. Co.	Champaign, Ill.
Condrick, D. F.	N. E. C.	Old Colony Gas Co.	East Braintree, Mass.
Conewago Gas Co.	Pa.	F. E. Bair, Sals. M.	Hanover, Pa.
Congalton, James M.	Nat. C.	Westchester Ltg. Co.	Tarrytown, N. Y.
Congdon, Richard C.	Nat. C.; *I. E.		
Conklin, J. Percy	Sou.; A.	Sec. & M., Atlanta Gas Light Co.	Atlanta, Ga.
Conklin, R. Y.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Conlee, Geo. D.	Nat. C.	Daytona Public Service Co.	Daytona, Fla.
Conley, J. E.	A.; Nat. C.; Emp.	Bailey Meter Co.	Boston, Mass.
Conlin, J. J.	Nat. G.	Field S., Am. Natural Gas Co.	Glenshaw, Pa.
Conlisk, C. W.	Sou.	S., Southern Public Utilities Co.	Charlotte, N. C.
Connecticut Power Co.	P. C.		1134 Merchants' Exchange bldg., San Francisco, Cal.
Connell, C. J.	Nat. C.		New London, Conn.
Connelly Iron Sponge & Governor Co.	Nat. C.; *I. E.	Solic., Boston Cons. Gas Co.	Boston, Mass.
Connelly, J. S.	G. I.		New York, N. Y.
	Nat. G.; Tex.		
	Nat. C.	P., Port Arthur Gas Co.	Atlanta, Texas.

SCIENTIFIC TESTING OF NATURAL GAS for gasoline content is very essential to insure the proper plant installation. Consult our Chemical Engineering Department.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Conner, Geo. C.	*I. E.	Frank H. Stewart Elec. Co.	Philadelphia, Pa.
Conner, P.	*Ill.	Sals., La Porte Gas Meter Co.	La Porte, Ind.
Connors, Eugene F.	Nat. G.	P. Guffey Gasoline Co.	Bradford, Pa.
Connors, J. P.	Nat. G.	Cash., Iroquois Natural Gas Co.	Buffalo, N. Y.
Connors, Mathias	A.; Ill.	S., Pitney Court Sta. Peoples Gas Light & Coke Co.	Chicago, Ill.
Connor, Wm. L.	P. C.	Sals., Pacific Gas & El. Co.	San Francisco, Cal.
Connors, T. A.	Nat. C.	Clk., Westchester Lighting Co.	Yonkers, N. Y.
Conover, A. E.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Conover, A. V.	Ace.	American Gas Accumulator Co.	Elizabeth, N. J.
Conover, E. R.	Nat. C.; A.	S., Westchester Lighting Co.	Tarrytown, N. Y.
Conover, E. V.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Conover, John L., Jr.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Conrad, Herbert E.	Nat. C.	Sals., Allentown Gas Co.	Allentown, Pa.
Conroy, J. P.	*I. E.; *Mich.; *Pa.; N. J.; *Emp.; *A.		
Consolidated Electric Co.	Emp.	M., General Gas Lt. Co.	46 W. Broadway, N. Y. City.
Consolidated Gas Co.	O.; Nat. C.		Groenwich, N. Y.
Consolidated Gas Co. of New Jersey	Nat. C.		Newcomerstown, O.
Consolidated Gas Co. of New York	Nat. C.		Long Branch, N. J.
Consolidated Light & Power Co.	Nat. C.		New York, N. Y.
Consumers Electric Light & Power Co.	Nat. C.		Kewanee, Ill.
Consumers Gas Co.	Mo.		De Soto, Mo.
Consumers Gas Co.	Nat. C.		Hot Springs, Ark.
Consumers Gas Co.	Pa.		Reading, Pa.
Continental Supply Co.	N. G. S.		St. Louis, Mo.
Conway, W. A.	Nat. C.	Wilmington Gas Co.	Wilmington, Del.
Cook, Benjamin K.	N. E.	Bus. M., North Adams Gas Light Co.	No. Adams, Mass.
Cook, C. G.	Nat. C.	Public Service Gas Co.	Camden, N. J.
Cook, C. M.	Ind.	G. M., La Porte Gas Light Co.	La Porte, Ind.
Cook, Eugene E.	Nat. C.		65 Whittlessey st., W. Orange, N. J.
Cook, George H.	*I. E.; Wis.	M., Wisconsin Gas & El. Co.	Kenosha, Wis.
Cook, G. R.	*Pa.	Sals., Bartlett & Co.	Philadelphia, Pa.
Cook, Henry R., Jr.	A.	A. to G. S., United Gas Improvement Co.	Philadelphia, Pa.
Cook, J. M.	*Ind.	Sals., Parker-Russell Co.	St. Louis, Mo.
Cook, Ralph W.	N. E.		Providence, R. I.
Cooke, Horace G.	*A.	Sales Agt., Connorsville Blower Co.	New York, N. Y.
Cooke, William H.	Nat. C.	Street Dept., Laclede Gas Light Co.	St. Louis, Mo.
Cookham, P. J.	Nat. G.	S., Berea Pipe Line Co.	Berea, O.
Coolahan, F. V.	*Wis.	Sals., Lindsay Light Co.	161 E. Indiana St., Chicago.
Cooley, S. M.	Ace.	The Prest-O-Lite Co.	Indianapolis, Ind.
Coombs, Fred. S.	*A.	S., Met. Dept., Youngstown Gas & Elec. Co.	Youngstown, O.
Coons, J. W.	P. C.	Dis. M., Pacific Gas & Elec. Co.	Woodland, Cal.
Cooper, Arthur F.	G. G. M.; N. E.		Exeter, N. H.
Cooper, C. & G. Co.	N. G. S.; Nat. C.		Mt. Vernon, O.
Cooper, Frank	Sou.	Cash., Jacksonville Gas Co.	Jacksonville, Fla.
Cooper, Geo. A. S.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Cooper, H. C.	Nat. G.	G. S., Hope Natural Gas Co.	Clarksburg, W. Va.
Cooper, H. S.	\$So. W.		Dallas, Tex.
Cooper-Hewitt Elec. Co.	Nat. C.		Hoboken, N. J.
Cooper, W. H.	A.	V. P., Chuctanunda Gas Lt. Co.	Amsterdam, N. Y.
Cope, Clarence	P. C.	g. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Cope, P. C.	P. C.	Pacific Gas & Elec. Co.	San Rafael, Cal.
Copley, Ira C.	A.; *I. E.; Ill.; Nat. C.		
*Corbett, M. A.	Nat. G.; Sou.	P., Western United Gas & Elec. Co. Sec., Corbett-Stevens Co., and Sales M., Manufacturers Sales Co.	Aurora, Ill.
Corbly, Harry	Nat. C.		Columbus, O.
Corby, Ralph B.	*I. E.	V. P. & M., National X-Ray Reflector Co.	Newark, N. J.
Corbus, F. G.	*A.; *I. E.; Nat. C.; *Mich.		New York, N. Y.
Corcoran, Arthur	*Ill.	S., Retail Depts., Welsbach Co.	Gloucester, N. J.
Corcoran, W. F.	Nat. G.	M., Peninsular Stove Co.	Chicago, Ill.
Cordner, A. R.	*I. E.	Cont., Jas G. Corcoran Co.	Pittsburg, Pa.
Cork, D. W.	Nat. G.	Meter Tester, Philadelphia El. Co.	Philadelphia, Pa.
Corken, Edward E.	Ill.	Oil & Gas Producer	Clarksburg, W. Va.
Corliss, S. T.	Nat. C.	Sec., Springfield Gas & El. Co.	Springfield, Ill.
Cornell, C. E.	Ill.; Nat. C.	Agt., Public Service Gas Co.	Camden, N. J.
Cornine, Marshall	Nat. C.; A.	S. of dis., Peoples Power Co.	Moline, Ill.
Coming Light & Pr. Co.	Emp.	S., met. repair shop, Cons. Gas Co.	111th St. & 1st Ave., New York, N. Y.
Cornish, R. C.	A.; Wis.; Pa.		Corning, N. Y.
Corpus Christi Ry. & Lt. Co.	So. W.; Tex.	E., American Gas Co.	Philadelphia, Pa.
Correll, Harry T.	Ace.		Corpus Christi, Tex.
Corrin, John B.	Nat. G.	A. G. M., Hope Natural Gas Co.	Johnstown, Pa.
Corscot, John.	A.; Wis.; Nat. C.	P., Madison Gas & Elec. Co.	Pittsburg, Pa.
Corscot, John, Jr.	Wis.	Pur. Agt., Madison Gas & Elec. Co.	Madison, Wis.
Corsicana Gas & El. Co.	So. W.		Madison, Wis.
Corson, A. S.	Nat. C.	United Gas Imp. Co.	Corsicana, Tex.
Cortelyou, Geo. B.	A.; Nat. C.	P., Consolidated Gas Co. of N. Y.	Philadelphia, Pa.
*Cortelyou, Geo. B. Jr.	Sou.	M., Gulf Cities Gas Co.	New York, N. Y.
Cortelyou, W. L.	Nat. C.	Col., Public Service Gas Co.	Gulfport, Miss.
Cortese, John	Nat. C.		116 Bayard St., New Brunswick, N. J.
			Paterson, N. J.



The initial cost of changing from leather, poppet or mechanically operated valves to MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is insignificant compared to the saving effected in fuel consumption, reduced repairs, attendance, etc. Write for Bulletin "D." MESTA MACHINE COMPANY PITTSBURGH, PA.

ASSOCIATION MEMBERS

809

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Cortis, Dwight T.	*G. G. M.; *N.		Boston, Mass.
Cortland Co. Trac. Co.	Emp.		Cortland, N. Y.
Cory, R. J.	Ind.	M. Lighting Co.	Valparaiso, Ind.
Cory, C. L.	P. C.	Con. E., Nevada Bank Bldg.	San Francisco, Cal.
Cosani, Frank	Nat. G.	Land Dept. Clk., Dominion Natural Gas Co.	Buffalo, N. Y.
Coshooton Gas Co.	O.		Coshooton, O.
Coste, D. A.	Nat. G.	T., Provincial Natural Gas Co.	Niagara Falls, Ont., Can.
Coste, Dillon	Nat. G.	Sec., Canadian Western Natural Gas, Lt. Ht. & Pr. Co., Ltd.	Calgary, Alberta, Can.
Coste, Eugene	Can.; Nat. G.	P., Canadian Western Natural Gas Light, Heat & Power Co.	Calgary, Alta., Canada.
Costello, J. M.	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Cotabish, N. C.	*I. E.	Sals. M., National Carbon Co.	Cleveland, O.
Cottle, Henry F.	Nat. C.	A. B. Stove Co.	Allston, Mass.
*Cotton, Francis J.	I. A.	S. A., Astoria Lt. Ht. & Pr. Co.	Astoria, N. Y.
Couch, H. C.	Ark.	P., Ark. Lt. & Pr. Co.	Arkadelphia, Ark.
Coughlin, J. J.	Nat. C.; N. E. C.	N. B. M., Lawrence Gas Co.	Lawrence, Mass.
Coulter, A. F.	Nat. G.	Field S., Am. Natural Gas Co.	Apollo, Pa.
Counties Gas & Elec. Co.	Nat. C.; Pa.		Ardmore, Pa.
Countryman, J. A.	Ia.	M., Vinton Gas Co.	Vinton, Ia.
Cover, A. F.	Nat. G.	S., Dominion Natural Gas Co.	Hamilton, Ont., Can.
Courter, W. S.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Cousins, Geo. C.	*I. E.	Hydro Electric Power Commission of Ont.	Toronto, Ont., Can.
Cowdery, Edward G.	A.; Ill.; *I. E.; Soc. G.; Wis.	P., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Cowell, C. H.	P. C.	M., Carbon Fuel Dept., Pac. G. & E. Co.	Oakland, Cal.
Cowham, H. I.	Nat. G.	M., Land Dept., Kasigan Oil, Gas & Power Co.	Independence, Kan.
Cowles, J. W.	I. E.	S. of Install., Edison Electric Illuminating Co.	Boston, Mass.
Cowperthwait, B. W.	A.	M., Consumers Power Co.	Faribault, Minn.
Cowperthwait, Geo. E.	N. E.; A.	Sec. & S., Danbury & Bethel Gas Lt. Co.	Danbury, Conn.
Cox, Frank	Nat. G.	Sec., Navajo Gas Co.	Charleston, W. Va.
Cox, George C.	Ill.	Fm., Public Service Co. of No. Ill.	Oak Park, Ill.
Cox, J. A.	Ind.	S., Columbus Gas Light Co.	Columbus, Ind.
Cox, W. A.	Ace.	Jenne Acetylene Machine Co.	Lafayette, Ind.
Cox, W. A.	*I. E.	A. to Div. Agt., Public Service El. Co.	Newark, N. J.
Coyle, Henry	Nat. G.	G. S., Logan Natural Gas & Fuel Co.	Columbus, O.
Coyle, Patrick	G. G. M.; N. E.	S., Charlestown Gas & El. Co.	Charlestown, Mass.
Cozens, John H.	I. A.	S. A., Holder Dist. Dept., B'klyn. Union Gas Co.	Brooklyn, N. Y.
Crady, E. B.	Nat. C.	Philadelphia Gas Works.	Philadelphia, Pa.
Craft, Charles	Nat. G.	Chf. E., East Ohio Gas Co.	West Park, Ohio.
Crafts, Harry C.	A.; G. G. M.; N. E.; Nat. C. M.	Pittsfield Coal Gas Co.	Pittsfield, Mass.
Crahan, B. J.	A.; Nat. C.; Nat. G.; Mich.	Port Huron Gas & Elec. Co.	Port Huron, Mich.
Craig, Albert B.	Nat. G.	Geologist, Greensboro Gas Co.	Pittsburgh, Pa.
Craig, Allan C.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Craig, James K.	Nat. C.	Burner Dept., United Gas Imp. Co.	Philadelphia, Pa.
Craig, W. P.	Nat. G.	G. S., United Natural Gas Co.	Oil City, Pa.
Craigie, Norman A.	*I. E.	Testing E.	863 DuPont Bldg., Wilmington, Del.
Cralle, M. F.	P. C.	Mgr., U. S. Flexible Metallic Tubing Co.	Los Angeles, Cal.
Cramer, G. C.	Nat. C.	Public Service Gas Co.	Morristown, N. J.
*Crampton, Geo. S.	I. E.	Physician	1700 Walnut St., Philadelphia, Pa.
Crandall-Petee Co.	Nat. C.		New York, N. Y.
Crane, A. L.	P. C.	M., Western Ret. Furn. & Carpet Dealers' Assn.	San Francisco, Cal.
Crane Co.	Nat. C.		Buffalo, N. Y.
Crane Co.	Nat. G.		Dallas, Tex.
Crane, Henry W.	Nat. C.	Elizabeth Gas Light Co.	Elizabeth, N. J.
Crane, William M.	A.; Nat. C.	P., William M. Crane Co.	New York, N. Y.
Crane, Wm. M. Co.	Can.; Nat. C.		20 W. 32d St., New York.
Crankshaw, J. Ward	I. A.; Nat. C.; Pa.	Com. Agt., Allentown-Bethlehem Gas Co.	Allentown, Pa.
Cranse, Fred D.	Nat. C.; Can.	Cash., Public Service Gas Co.	Montclair, N. J.
Crarer, Frederic C.	Nat. C.	Syracuse Lighting Co.	Syracuse, N. Y.
Craty, James M.	Nat. G.	Fm. Met. Dept., Penn. Gas Co.	Jamestown, N. Y.
Cravath, J. R.	I. E.	Con. E.	140 So. Dearborn St., Chicago.
Crawford, A. A.	Nat. G.	S., Manufacturers Gas Co.	Bradford, Pa.
Crawford, C. E.	Nat. G.	Dir., Ohio Fuel Supply Co.	Pittsburgh, Pa.
Crawford, C. J.	Nat. G.		1028 Liberty St., Franklin, Pa.
Crawford, Charles M.	Sou.; Nat. C.	S. z., North Carolina Public Serv. Co.	Greensboro, N. C.
Crawford, David B.	Nat. G.	A. A. H. P. H. L. & B. L. Co.	Parkersburg, W. Va.
Crawford, David F.	I. E.	G. M., Penna. Lines W. at Pittsburg.	Pittsburgh, Pa.
Crawford, Alvin Bryon	*Pa.	Sals., Rulu Gas Lighter Co.	Philadelphia, Pa.
Crawford, F. H.	Nat. G.	Chf. E., The Ohio Fuel Supply Co.	Columbus, O.
Crawford, Fred W.	Nat. G.	P., United Fuel Gas Co.	Columbus, Ohio.
Crawford, George W.	Nat. G.	P., Ohio Fuel Supply Co.	Pittsburg, Pa.
Crawford, H. M.	P. C.	Com. Dept., Pacific Gas & Elec. Co.	San Francisco, Cal.
Crawford, J. B.	Nat. G.	P., The United Natural Gas Co.	Oil City, Pa.
Crawford, James R.	Ace.	Union Carbide Sales Co.	New York, N. Y.
Crawford, J. W. R.	Nat. G.	V. P., The Hope Natural Gas Co.	New York, N. Y.
Crawford, John M.	Nat. G.	P., Parkersburg Rig & Reel Co.	Parkersburg, W. Va.
Crawford, Leigh R.	*I. E.	S., Sioux City Service Co.	Sioux City, Ia.
Crawford, R. A.	Nat. G.	V. P. & M., Oblong Gas Co.	DeKalb, Ill.



Tycos Temperature Instruments

are designed for every purpose. Let us work with you on your temperature, indicating, controlling, and recording problems to secure the results you should have. Over half a century of Tycos experience will thus be at your disposal. Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Crawford, R. D.	A.; I. E.	B. F. Goodrich Co.	Akron, O.
Crawford, R. P.	Nat. C.	Sals., Baltimore Gas Appl. & Mfg. Co.	Doyldestown, Pa.
Crawford, Ronald.	Nat. C.; N. E.	Oven Equipment & Mfg. Co.	New Haven, Conn.
Crawford, Ronald B.	Nat. G.	S., United Natural Gas Co.	Oil City, Pa.
Crawford, Thomas.	A.; Ia.; Nat. C.	G. M., Clinton Gas & Electric Co.	Clinton, Ia.
Crawford, V. L.	Kan.	Sals., Hubbard & Co.	Pittsburgh, Pa.
Crawford, Wm. H.	Nat. C.; Ind.	No. Indiana Gas & Electric Co.	Hammond, Ind.
Creeden, D. J.	Ind.	Fm. Appl. Shop, Citizens Gas Co.	Indianapolis, Ind.
Creeden, Daniel F.	Nat. C.		408 E. 111th St., New York
Creighton, John T.	P. C.; A.	S., g. mnf., Los Angeles Gas & Electric Corporation	Los Angeles, Cal.
Crenshaw, L. G.	*Ill.; Sou.; Mich.	Sals., Parker-Russell M. & M. Co.	St. Louis, Mo.
Cressey, Frank A., Jr.	A.; P. C.	M., Modesto Gas Co.	Modesto, Cal.
Cressey, Frank A.	P. C.	P., Modesto Gas Co.	Modesto, Cal.
Cressler, A. D.	A.		646 Munsey Bldg., Washington, D. C.
Cressler, George H.	*A.; *Ia.; *Wis.		
Cressman, R. B.	Ill.	Walker & Cressler.	Chicago, Ill.
Cresson, B. F.	I. E.	Sals. Gleason Tiebout Glass Co.	New York, N. Y.
Creveling, J. D.	A.	Con. E.	30 Church St., New York
	Nat. G.	Con. E., Logan Natural Gas & Fuel Co.	Columbus, O.
Creviston, A. E.	Sou.	Sals., Detroit Stove Works.	Atlanta, Ga.
Cribben & Sexton Co.	Nat. C.		Chicago, Ill.
Crichton, David K.	Ill.	g. E., Hagenah & Erickson.	Oak Park, Ill.
Criley, Roger.	A.	G. Fm., Elizabethtown Gas Lt. Co.	Elizabeth, N. J.
Crisfield, J. A. P.	A.	E., United Gas Improvement Co.	Philadelphia, Pa.
Crissey, E. J.	Nat. C.		Newark, N. J.
Critchfield, C. F.	Nat. G.	Spec. Insp., The Ohio Fuel Supply Co.	Columbus, O.
Crittenden, E. C.	*I. E.	Bureau of Standards.	Washington, D. C.
Croasdale, Erasmus M.	Nat. C.		4911 Penn St., Philadelphia.
Crockett Ice, El. Lt. & Pr. Co.	So. W.		Crockett, Texas.
Crockett, L. S.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Croft, Terrell	I. E.	Con. El. E.	33 Amherst Ave., St. Louis, Mo.
Croker, Charles.	N. J.	Wildwood Gas Co.	Wildwood, N. J.
Cromer, Geo. W.	Ind.	Sec. Central Indiana Gas Co.	Muncie, Ind.
Cronin, John M.	Nat. G.	Clk., Columbia Gas & Electric Co.	4th and Plum Sts., Cincinnati.
Crosby, G. A.	Nat. G.	S., Land Dept., Potter Gas Co.	Pittsburgh, Pa.
Crosby, P. B.	Tex.		Waco, Tex.
Cross, Chas. A.	A.	E., Williamsburg Works, Brooklyn Union Gas Co.	Brooklyn, N. Y.
Cross, Chas. N.	P. C.	Asst. Prof. Mechanical Engineering.	Palo Alto, Cal.
Cross, F. A.	Nat. G.	Chf. E., United Natural Gas Co.	Ten Mile Bottom, Pa.
Cross, Frank L.	A.; Mich.; Wis.; Nat. C.		
Cross, Philip.	A.	St. Paul Gas Light Co.	St. Paul, Minn.
Cross, Raymond.	Nat. G.	Bond Dept., H. L. Doherty Co.	New York, N. Y.
		V. P. & M., The United Natural Gas Co.	Oil City, Pa.
Crossett, John.	Nat. G.	Div. S., The Philadelphia Co.	Kittanning, Pa.
Crossley, W. F.	Ill.	G. S., Cairo City Gas Co.	Cairo, Ill.
Crossman, F. B.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Crossmon, Roy.	P. C.	A. g. Ex. Dept., Pacific Gas & El. Co.	Oakland, Cal.
Crouch, Jos. H.	Sou.	Cash., Wash. County Gas Co.	Johnson City, Tenn.
Crouch, O. L.	Ill.	S., So. Ill. Gas Co.	Marion, Ill.
Crouse, Wm. T.	Ia.	United Gas Imp. Co.	Philadelphia, Pa.
Crouse-Hinds Co.	So. W.		Chicago, Ill.
Crowe, P. E.	Nat. G.	Agt., Potter Gas Co.	Galeton, Pa.
Crowe, R. R.	Nat. G.	Agt., United Natural Gas Co.	Bradford, Pa.
Crowell, Hugh R.	Ia.	F. A., Consolidated Gas Co. of N. Y.	New York, N. Y.
Crowell, James K.	Ia.	Supt. of Streets, Westchester Light Ing Co.	Mt. Vernon, N. Y.
Crowell, T. Allen.	*I. E.	Dist. M., Philadelphia Elec. Co.	Philadelphia, Pa.
Crowley, John P.	A.	Sec. and T., St. Paul Gas Light Co.	St. Paul, Minn.
Crowley, Wm. P.	Ill.	A. S., Public Serv. Co. of No. Ill.	Evanston, Ill.
Crownfield, David.	I. E.	Designer, Pettingell-Andrews Co.	Boston, Mass.
Crowther, A. W.	*N. E.	Fm. g. Works.	East Boston, Mass.
Crum, M. C.	Nat. G.	Agt., The Peoples Natural Gas Co.	Monessen, Pa.
Crumback, Geo. T.	Nat. C.		6803 Woodland Ave., Philadelphia, Pa.
Cruse-Kemper Co.	G. I.		Ambler, Pa.
Crystal City Gas Co.	Emp.		Corning, N. Y.
Cuddihoe, J. J.	Nat. C.	Application Dept., Laclede Gas Lt. Co.	St. Louis, Mo.
Culbertson, Albert B.	Nat. C.		6160 Columbia Ave., Philadelphia, Pa.
Cullen, D. M., Jr.	N. E.	S. works, Pittsfield Coal Gas Co.	Pittsfield, Mass.
Cullen, M. J.	Nat. C.	Rockville Willimantic Ltg. Co.	Rockville, Conn.
Cullinan, M. P.	Nat. G.	P. The Border Gas Co.	Laredo, Tex.
Culp, Harry C.	Nat. G.	Sals., Ingersoll Rand Co.	Cleveland, O.
Culver, O. T.	Nat. C.	Clk., Public Service Gas Co.	Englewood, N. J.
Cummings, C. E.	Nat. G.	P. & G. M., East Brady Gas Fuel Co.	East Brady, Pa.
Cummings, Con.	Nat. G.	S., Portland Gas & Pipeline Co.	Independence, Kan.
Cummings, E. A.	Nat. G.	A. T. Moncton Tramways Electricity & Gas Co.	Moncton, N. B., Can.
Cummings, Henry	Nat. G.	Field Fm., The Mfrs. Lt. & Ht. Co.	McDonald, Pa.
Cummings, M. J.	Nat. G.	Field Fm., The Mfrs. Lt. & Ht. Co.	Cameron, W. Va.
Cummings, William W.	*N. E., Nat. C.	Roston Cons. Gas Co.	Woburn, Mass.
Cunningham, Geo. W.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Cunningham, J. C.	Nat. G.	G. S., West Virginia & Md. Gas Co.	Cumberland, Md.
Cunningham, J. R.	*Mich.; *Ind.	Trav. Sals., American Stove Co.	Philadelphia, Pa.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent) have proved to be the ideal valves for blowing and compressing units. They are rapidly replacing the old leather, poppet and mechanically operated valves. Bulletin "D" describes these valves in detail.

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

811

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Cunningham, R. H.	Nat. G.	Sales E., Ingersoll-Rand Co.	Pittsburgh, Pa.
Curie, Chas. E.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Cupitt, Frank R.	Nat. C.	A. E., United Gas Imp. Co.	Philadelphia, Pa.
Curtman, F. G.	*Ia.; *Pa.; *A.		2100 Montrose Ave., Chicago, Ill.
Curran, G. W.	A.; *Emp.; *I.E.		
Curran, Sidney	Nat. C.	Sec., United Gas Improvement Co.	Philadelphia, Pa.
Currier, B.	l. E.	Clk., Public Service Gas Co.	Newark, N. J.
Currier, E. W.	Ace.	Philadelpha Electric Co.	Philadelphia, Pa.
Curry, J. F.	Nat. G.	Air Reduction Co.	New York, N. Y.
Curry, J. P.	Nat. G.	S., Ohio Fuel Supply Co.	Columbus, O.
Curry, George H.	A.	Agt., United Natural Gas Co.	Sharon, Pa.
Curtin, J. M.	A.	Pur. Agt., Laclede Gas Lt. Co.	St. Louis, Mo.
Curtin Supply Co., The.	So. W.	Chf. Clk., Appl. Dept., Laclede Gas Lt. Co.	St. Louis, Mo.
Curtis, A. G.	Nat. G.; Sou.	G. M., Southwestern Gas & El. Co.	Chicago, Ill.
Curtis, Augustus D.	*I. E.	P., National X-Ray Reflector Co.	Shreveport, La.
Curtis, Geo. W.	A.		235 W. Jackson Blvd., Chicago, Ill.
Curtis, Samuel P.	A.; Soc. G.	S., Camden Coke Works, g. Dept.	Camden, N. J.
Cusack, W. M.	Nat. G.	G. M., American Gas Co.	Philadelphia, Pa.
Cushing, J. W.	Nat. G.	T., Iroquois Natural Gas Co.	Buffalo, N. Y.
Cushing, Robert W.	Nat. G.	Oil and Gas Producer.	Sistersville, W. Va.
Cushing, S. B.	Ill.	Field S., Natural Gas Co. of West Va.	Leetonia, O.
Custer Coupling Co.	N. G. S.	Stat., Public Service Co. of No. Ill.	72 W. Adams St., Chicago, Ill.
Custer, Z. B.	Nat. G.	V. P., Custer Coupling Co.	Bradford, Pa.
Cutcheon, Fred R. M.	N. J.; A.	G. M., Cons. Gas Co. of N. J.	Bradford, Pa.
Cutler, A. C.	Ace.	Searchlight Gas Machine Co.	Long Branch, N. J.
Cutler, C. W.	*I. E.	Physican	Chicago, Ill.
Cutler-Hammer, The Mfg. Co.	So. W.; N. G. S.		24 E. 48th St., New York, N.Y.
Cutten, C. P.	P. C.	Atty. Pacific Gas-El. Co.	Milwaukee, Wis.
Cypher, M. B.	Nat. G.	Contractor and Producer.	San Francisco, Cal.
Dalley, Eugene	Nat. G.	Adm. Dept., Wichita Natural Gas Co.	Marwood, Pa.
Dally, Eugene V.	P. C.; Nat. C.; Sou.	Jas. B. Clow & Sons.	Bartlesville, Okla.
Daily, James M.	Nat. C.; A.	G. M., Pueblo Gas & Fuel Co.	Chicago, Ill.
Dains, H. P.	Nat. C.; N. J.; Can.	Sals., Roberts & Mander Co.	Pueblo, Col.
Dale, J. A.	Nat. C.	Public Service Gas Co.	Philadelphia, Pa.
Dallas Con. El. Ry. Co.	So. W.		Paterson, N. J.
Dallas El. Lt. & Pr. Co.	So. W.		Dallas, Tex.
Dallas Gas Co.	So. W.		Dallas, Tex.
Dallas Ice F., Lt. & P. Co.	So. W.		Dallas, Tex.
Dallas, Robert E.	A.		Dallas, Tex.
Dallow, J. C.	Nat. G.	R., National Supply Co.	Kennett Square, Pa.
Dally, A. B., Jr.	Nat. G.	P. & M., South Hills Oil & Gas Co.	Lancaster, O.
Dally, C. A., Jr.	Nat. G.	M., Reserve Natural Gas Co. of La.	Pittsburg, Pa.
Daly, David R.	*A.; *I. E.	V. P. & T., J. H. Gautier & Co.	Shreveport, La.
Daly, Martin B.	Nat. G.; Nat. C. P. & G. M.	E., East Ohio Gas Co.	Jersey City, N. J.
Dame, F. L.	Nat. C.; *Emp.	V. P., Electric Bond & Share Co.	Cleveland, O.
Dana, C. E.	Ace.		Garden City, N. Y.
Danbury & Befhel Gas & El. Co.	Nat. C.		Eau Claire, Mich.
Danaher, Cornelius	Nat. C.	Sals., United Gas Imp. Co.	Danbury, Conn.
Dangler, Clifford S.	Nat. C.	Dangler Stove Co.	Philadelphia, Pa.
Dangler Stove Co.	Nat. C.		Cleveland, O.
Daniell, Edward	Wis.	Sec. & M., Menominee & Marinette Light & Traction Co.	Cleveland, O.
Daniels, C. F.	Tex.		Menominee, Mich.
Danielson, F. G.	*Mich.	Sales M., Lake Erie Coal Co.	Detroit, Mich.
Dannaher, J. W.	Can.	S., Standard Meter Co.	Cleveland, O.
Dannettell, Henry	Ind.	S., g. wks., Public Service Co.	Toronto, Ont., Can.
Danser, H. W.	Nat. C.	Con. Gas Co. of N. J.	Evansville, Ind.
Danser, Howard W.	Nat. C.	Public Service Gas Co.	Long Branch, N. J.
Dansville Gas & Elec. Co.	Emp.		Trenton, N. J.
Darbyshire, Homer F.	Ia.	M., Iowa Gas & Electric Co.	Dansville, N. Y.
Darling, Thos.	Ind.	M., No. Indiana Gas & El. Co.	Washington, Ia.
Darnall, C. L.	Ace.	Hercules Mfg. Co.	Lafayette, Ind.
Darrah, W. A.	*I. E.	A. Chf. E., Ohio Brass Co.	Chattanooga, Tenn.
Dashiell, Philip T.	A.; *I. E.	A. E. Wks., United Gas Improvement Co.	Mansfield, Ohio
Dater, A. W.	N. E.	V. P. and G. M., Stamford Gas & El. Co.	Philadelphia, Pa.
Daugherty, O. J.	Nat. G.	S. La Belle Gas & Oil Co.	Stamford, Conn.
Dauler, Harvey N.	Nat. G.	P., Petroleum Products Co.	220 West St., Steubenville, O.
Davey, A. F.	Nat. C.; Wis.	Wisconsin Public Service Co.	Pittsburgh, Pa.
David, P. Co.	*P. C.		Sheboygan, Wis.
Davidson, Jack P.	P. C.		San Francisco, Cal.
Davidson, R. E.	*Ace.		312 W. 9th St., Los Ang'ls, Cal.
Davidson, W. N.	P. C.	Mfrs. Agt.	Clifton, Tex.
Davies, C., Jr.	A.	S., By-Products Coke Works, Republic Iron & Steel Co.	853 Walker Av., Oakland, Cal.
Davies, Edward L.	A.; Pa.	g. S., Queensboro Gas & El. Co.	Youngstown, O.
Davies, Hubert W.	A.; *I. E.	Safety Car Heating & Ltg. Co.	Far Rockaway, N. Y.
Davies, James E.	A.; Ill.	G. Storekeeper, Peoples Gas Lt. & Coke Co.	Philadelphia, Pa.
Davies, O. L.	Nat. G.	Agt., United Fuel Gas Co.	Chicago, Ill.
Davies, Stuart W.	Nat. G.	Inform. Dept., Calgary Gas Co., Ltd.	Huntington, W. Va.
Davies, William B.	Nat. G.	S., United Gas Co.	Calgary, Alberta, Can.
Davies, William B.	Nat. G.	A. S., Alden Batavia Gas Co.	St. Catharines, Ont., Can.
Davis, A. E.	P. C.	Gas Meter Mfg.	Batavia, N. Y.
			San Diego, Cal.

1803

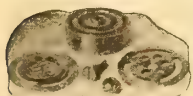
1918

Our long experience at your service
HOLDERS, PURIFIERS, CONDENSERS, ETC.
R. D. WOOD & CO., PHILA., PA.



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN
Davis, A. P.	Nat. G.; N. G. E. Com. Dept.	Peoples Natural Gas Co.	Pittsburg, Pa.
Davis, Augustine	Ace.	Care, Davis Bournonville Co.	Jersey City, N. J.
Davis, Augustine, Jr.	Ace.	Care, Ohio Welding & Mfg. Co.	828 W. 6th St., Cincinnati, O.
Davis-Bournonville Co.	N. G. S.		Merion Station, Jersey City, N. J.
Davis, Delamore L.	*I. E.	Sec. & T., Salem Electric Light Co.	Salem, O.
Davis, Edward L.	*Pa.	Sals., Strong, Carlisle & Hamnd Co.	New York, N. Y.
Davis, E. L.	Ace.	Acetylene Stove Mfg. Co.	Cleveland, O.
Davis Electric Light Co.	Okla.		Davis, Okla.
Davis, Emory P.	Mich.	M., Holland City Gas Co.	Holland, Mich.
Davis, Ernest H.	A.; *I. E.	P., Locoming Edison Co.	Williamsport, Pa.
Davis, F. R.	Nat. C.	Adv. Dept., General Electric Co.	Schenectady, N. Y.
Davis, Garfield W.	Nat. C.		213 E. Park ave., Haddonfield, N. J.
Davis, Glenn R.	Ind.	Gas Light Co.	Columbus, Ind.
Davis, Glenn R.	Mich.		Flint, Mich.
Davis, Geo. H.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Davis, George W.	Nat. C.	Public Service Gas Co.	Morristown, N. J.
Davis, Herbert G.	Emp.	No. N. Y. Utilities Co.	Watertown, N. Y.
Davis, Herbert R.	Nat. G.	S., Dominion Gas Co.	Buffalo, N. Y.
Davis, Isaac	Nat. C.	Public Service Gas Co.	Orange, N. J.
Davis, J. G.	*I. E.	S., Records Div., U. G. I. Co.	Philadelphia, Pa.
Davis, L. J.	Sou.	M., Mobile Gas Co.	Mobile, Ala.
Davis, Lyman	Ill.	Fm. g. fitters, Decatur Ry. & Lt. Co.	Decatur, Ill.
Davis, Merrill N.	Nat. G.	Sals., The B. F. Goodrich Co.	Akron, O.
Davis, R. N.	A.; Ill.	E. Dept., People's Gas Lt. & Coke Co.	Chicago, Ill.
Davis, Robert H.	P. C.	Surveyor	53 12th st., Oakland, Cal.
Davis, Silas	Nat. G.	E., The Mfrs. Light & Heat Co.	Wallace, W. Va.
Davis, Wm. E.	Ja.; Nat. C.	M., Omaha Gas Co.	So. Omaha, Neb.
Davis, Wm. L.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Davis, Wm. M.	Nat. G.	Sec., The Wichita Natural Gas Co.	Wichita, Kan.
Davis, William W.	*A.	M. Coke Oven Dept., By-Product Coke Corp.	Chicago, Ill.
Davison, Mathew	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Davison, N. C., Gas Burner & Welding Co.	N. G. S.		Pittsburgh, Pa.
Dawes, B. G.	Nat. G.	P., Columbus Gas & Fuel Co.	Columbus, O.
Dawes, H. M.	Ill.; Nat. G.; A. T.	Dawes Bros.	Chicago, Ill.
Dawes, Rufus C.	A.; Nat. C.; Ind.		Chicago, Ill.
Dawson, B. G.	Ill.	P., Dawes Bros.	Chicago, Ill.
Dawson, George H.	Ja.; Nat. C.; A. S.	S., Fairbury Gas Co.	Fairbury, Neb.
Dawson, James	Ill.; A.	S. of Dis., Springfield Gas Light Co.	Springfield, Ill.
Day, A. B.	*I. E.	Sals., Commonwealth Edison Co.	Chicago, Ill.
Day, B. Frank	Nat. C.; A.; P. C.	M. of Oper., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Day, C. L.	*I. E.	Paymaster & Stat., Phila. Elec. Co.	Philadelphia, Pa.
Day, David Talbot	A.; Ill.	G. S., St. & Meter Depts. Peoples Gas Light & Coke Co.	Chicago, Ill.
Day, John Q.	*I. E.	Geologist, U. S. Geological Survey	Washington, D. C.
Dayton Pipe Coupling Co.	Mo.	John Q. Dayton Service Co.	St. Louis, Mo.
Dazey, K. I.	N. G. S.		Dayton, O.
Deal, E. O.	P. C.	Pacific Gas & Elec. Co.	San Francisco, Cal.
Dean, F. G.	Nat. G.	The East Ohio Gas Co.	Canton, O.
Dean, H. C.	Nat. C.		Wallaston, Mass.
Dean, H. Alexander	Ind.	A. S., No. Indiana Gas & Elec. Co.	Michigan City, Ind.
De Castro, Joseph L.	Nat. G.	P., Elk Natural Gas Co.	Pittsburgh, Pa.
Deck, Benj. Franklin	A.	A. S., Consolidated Gas Co.	New York, N. Y.
Decker, D. Nelson	*I. E.	Dftmn., Welsbach Co.	Gloucester, N. J.
Dee, Thomas A.	Nat. C.	Head Sals., Public Service Gas Co.	Paterson, N. J.
Deemer, F. C.	Nat. C.	Chf. Clk., Public Service Gas Co.	Jersey City, N. J.
De Forest, Chas.	Nat. G.	g. & oil operator	200 Jefferson St., Brookville, Pa.
De Forest, C. W.	Wis.	M. & Sec. Ft. Atkinson Gas Co.	Ft. Atkinson, Wis.
De Freitas, Wm.	Nat. G.	El. E., Union Gas & Electric Co.	Cincinnati, O.
De Frese, S. E.	A.; Nat. C.	A. S. General Fuel Appl. Dept., Consolidated Gas Co.	New York, N. Y.
DeHart, J. S., Jr.	Sou.; A.; Nat. C.	G. M., Chattanooga Gas Co.	Chattanooga, Tenn.
De Huff, G. L.	*A.	P., Ishell-Porter Co.	Newark, N. J.
Deierlein, Edward	N. J.	Millville Gas Light Co.	Millville, N. J.
Deily & Fowler Mfg. Co.	Nat. C.		117 Oak St., New Rochelle, N. Y.
De Kosenko, Stepan	G. I.		Philadelphia, Pa.
Delacey, Thomas	I. E.	Sterling Bronze Co.	18 E. 40th St., New York, N. Y.
Delaney, E.	*I. E.	Com. Insp., Phila. Elec. Co.	Philadelphia, Pa.
Delaney, Joseph	Nat. C.	Public Service Gas Co.	118 Main St., Hackensack, N. J.
Delaney, Paul J.	Nat. G.	City S., The Union Gas & El. Co.	Cincinnati, O.
De Lange, R. L.	Nat. C.	Adv. Sals. M. of Ovens, The Crandall Pettee Co.	New York, N. Y.
De Lano, S. P.	Kan.	Dist. Sals. M., Economy Fuse & Mfg. Co., Chicago, Ill.	301 Frisco Bldg., St. Louis, Mo.
De Lano, S. P.	Ace.	The Linde Air Products Co.	New York, N. Y.
De Lay, Frederic A.	*I. E.	Head Instr., Chicago Central Sta. Ins.	Chicago, Ill.
Delcampe, C.	Ace.	Delcampe Welding Co.	Bridgeport, Conn.
Dell, John	A.; *Ill.; *Ind.; *Mich.; Wis.	P., Hannibal (Mo.) Gas & El. Co. and P., Missouri Fire Brick Co.	St. Louis, Mo.
De Long, James C.	A.; Nat. C.; Emp. P.	Syracuse Lighting Co.	Syracuse, N. Y.
Dembke, H. O. A.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Demlow, E. K.	Ill.	S. g. dept., Urbana-Champaign Gas & Electric Co.	Champaign, Ill.
Dempsey, Paul E.	Nat. C.	R., Pittsburg Water Heater Co.	St. Paul, Minn.



Leather, poppet and mechanically operated valves in your compressor units are everlastingly wasteful. Stop this waste by replacing them with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

813

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Dempsey, William T.	*I. E.	G. Fm., New York Edison Co.	New York, N. Y.
Denison, B. W.	*Mich.	Dist. Sales M., Pittsburg Water Heat- er Co.	Detroit, Mich.
Denman, B. J.	A.	A. G. M., United Lt. & Rys. Co.	Davenport, Ia.
Denning, L. B.	Nat. G.	Counsel, The Ohio Fuel Supply Co.	Columbus, Ohio.
Dennington, Arthur R.	*I. E.	El. E., Westinghouse Lamp Co.	New York, N. Y.
Dennis, H. V. M.	N. J.	Freehold Gas Lt. Co.	Freehold, N. J.
Denton, A. P.	Kan.	P., Denton Eng. & Const. Co.	Kansas City, Mo.
Denton, Charles C.	Nat. C.; N. J.	M. Appl. Dept., Elizabethtown Gas Light Co.	Elizabeth, N. J.
Denton, Dow T.	Nat. G.	Div. S., Iroquois Natural Gas Co.	Buffalo, N. Y.
Dequigne, L. E.	Wis.; A.	G. S., Consolidated Gas Co. of N. J.	Long Branch, N. J.
Des Moines Gas Co.	Nat. C.		Des Moines, Ia.
Detroit Brass Works.	Nat. C.		Detroit, Mich.
Detroit City Gas Co.	Nat. C.		Detroit, Mich.
Detroit Stove Works.	Mo. Nat. C.		Detroit, Mich.
Detweiler, C. A.	Nat. C.	Sals. Dept., Pittsburg Water H'tr Co.	Crafton, Pa.
Detwiler, D. R.	Kan.	Westinghouse Elec. Mfg. Co.	Kansas City, Mo.
Detweller, F. R.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Devereux, Washington	*I. E.	A. Chf. El. Dept., Philadelphia Fire Underwriters Assn.	Philadelphia, Pa.
Devericks, Filmore C.	Nat. G.	Independent Producer	251 Buena Vista Ave., Clarks- burg, W. Va.
Devers, Wm. A.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Devery, W. P.	*I. E.	Solic., Philadelphia Electric Co.	Philadelphia, Pa.
DeVoe, Frederick R.	A.	Sec. & T., Northern Union Gas Co.	Bronx, New York, N. Y.
Dewey, F. S.	Ia.; A.	N. B. M., Muscatine Lighting Co.	Muscatine, Iowa
Dewey, V. F.	A.; Mich.	G. M., Detroit City Gas Co.	Detroit, Mich.
De Witt, D. C.	Nat. G.	Lease Dept., Southern Gas Co.	Corpus Christi, Tex.
DeWolfe, James	*Mich.	D. S. Agt., Pittsburg Coal Co.	Detroit, Mich.
Dexter, MacDougald	A.; Nat. C.; Sou.	S. Gas Light Co. of Columbus.	Columbus, Ga.
Dezendorf, R. L.	Nat. C.; A.	S. Meter & Stove Dept., New Amster- dam Gas Co.	New York, N. Y.
Dibbens, W. J.	Nat. G.	V. P. & G. M., Guthrie Gas Co.	Guthrie, Okla.
Dibelius, Ernest F.	*I. E.	Asst. Bur. of Illum. E., New York Edison Co.	New York, N. Y.
Dick, Frank	Ind.	Fm. Jeffersonville Gas Wks., United Gas & Elec. Co.	Jeffersonville, Ind.
Dick, John	Ind.	Fm., New Albany Gas Works, United Gas & Elec. Co.	New Albany, Ind.
Dicker, Alfred O.	I. E.	Sec. & T., El. Sales Engineers, Inc.	Chicago, Ill.
Dickerman, C. P.	Mo.		St. Louis, Mo.
Dickerman, Judson C.	*I. E.	E., Virginia Corporation Comm'n.	Richmond, Va.
Dickerson, A. F.	I. E.	Illum. E., General Electric Co.	Schenectady, N. Y.
Dickey, Charles H.	A.; *I. E.; P. C.	P., Chas. H. Dickey & Co.	Baltimore, Md.
Dickey, Chas H., Jr.	P. C.	Dist. Agt. Southern Counties Gas Co.	San Pedro, Cal.
Dickey, E. D. V.	A.; Wis.; Ill.; Nat. C.	M., Freeport (Ill.) Gas Co.	Freeport, Ill.
Dickey, Edmund S.	*A.; *Wis.; *I. E.; *Mich.; *P C.; Nat. C.	Sec. & T., Chas. H. Dickey & Co.	Baltimore, Md.
Dickey, Jas. M.	P. C.	Pacific Gas & Electric Co.	San Jose, Cal.
Dickey, Philip S.	Ia.; Wis.	Fm. Fitting Shop, Beloit Water, Gas & Electric Co.	Beloit, Wis.
Dickey, Samuel J.	A.; *I. E.	United Gas Impt. Co.	Philadelphia, Pa.
Dickinson, Malcolm M.	Nat. C.	Public Service Gas Co.	Riverton, N. J.
Dickmann, E. F.	*Ind.; *A.	Sec. Crescent Stove Works.	Evansville, Ind.
Dickinson, Neville S.	*I. E.	El. & Illum. E., Newark Tech. School.	Newark, N. J.
Dicks, Norman J.	Nat. C.	Denver Gas & Electric Co.	Toledo, Ohio.
Dickson, A. M.	Nat. C.	Northern Union Gas Co.	New York, N. Y.
Dickson Car Wheel Co.	So. W.		Houston, Tex.
Didier-March Co.	G. I.		Perth Amboy, N. J.
Dieckman, E. F.	*Ind.; *A.	Crescent Stove Works.	Evansville, Ind.
Diescher, Alfred J.	Nat. G.	V. P. & G. M., Wichita Nat'l Gas Co.	New York City.
Dieter, Adam W.	*Ace.		Naperville, Ill.
Dieterle, Edward A.	A.; Ill.	A. Ch., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Dietsch, C. R.	Nat. G.	Agt., The Peoples Natural Gas Co.	Turtle Creek, Pa.
Diffenderffer, Chas. H.	*A.	P., Blair-Parke Coal & Coke Co.	Philadelphia, Pa.
Diggles, George L.	*I. E.	Electrical Testing Laboratories.	New York City.
Diggs, D. N.	I. E.	General Electric Co.	New York, N. Y.
Dilger, Harry	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Dillon, Harry J.	A.; Emp.	S., Brooklyn Borough Gas Co.	Coney Island, N. Y.
Dillon, J. G.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Dillon, John J.	Nat. C.	Credit Clk., Fall River Gas Wks. Co.	Box 156, Fall River, Mass.
Dillon, Miss M. E.	Nat. C.	Office M., Brooklyn Boro. Gas Co.	Coney Island, N. Y.
Dillon, S. E.	Ark.	M., Citizens Electric Co.	Hot Springs, Ark.
Dlmick, W. H.	Nat. G.	Agt., The East Ohio Gas Co.	New Philadelphia, O.
Dingman, L. R.	Nat. G.	Dist. Fm., Equitable Gas Co.	Braddock, Pa.
Dings, P. C.	Nat. G.	G. M., Ardmore Gas Co.	Ardmore, Okla.
Dion, A. A.	*I. E.; Can.	G. S., Ottawa Gas Co.	Ottawa, Ont., Can.
Dittman, C. E.	Nat. G.	M., Waynesburg Home Gas Co.	Waynesburg, Pa.
Dittman, D. M.	Nat. G.	Fm., Iroquois Natural Gas Co.	Hamburg, N. Y.
Ditto, William A.	Nat. G.	S., Bradford Gas Co.	Roulette, Pa.
Dixon, James I.	P. C.	S., Municipal Plant	Santa Clara, Cal.
Dixon, J. Alfred	A.	V. P. & M., Pintsch Compressing Co.	New York, N. Y.
Dixon, P. E.	Nat. G.	Dist. S., Am. Natural Gas Co.	Ford City, Pa.
Dixon, Philip	Nat. G.	S., St. Marys Gas Co.	St. Marys, Pa.
Dixon, R. M.	A.; *I. E.	V. P., Pintsch Compressing Co.	2 Rector St., New York, N. Y.
Doan, Frank	Nat. C.	Public Service Gas Co.	Trenton, N. J.
Doane, George W.	A.; *I. E.; Nat. C.	P., New Amsterdam Gas Lt. Co.	New York, N. Y.

RELIABLE

ANGLIRON

RANGES

The heavy, unbreakable angle iron cooking top, main front and base, and improved construction involving elimination of parts liable to breakage or disarrangement insure **self-maintaining durability**. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Doane, S. E.	I. E.	Chf. E., Natl. Lamp Wks. of G.E.Co.	Cleveland, O.
Dobrin, Harry	P. C.	Indust. Salesman, Portland Gas & Coke Co.	Portland, Ore.
Dobson, W. P.	*I. E.	E., Hydro Electric Power Com. of Ont.	Toronto, Ont., Can.
Dockson, C. H.	Ace.	Alexander Milburn Co.	Baltimore, Md.
Dodd, George B.	Nat. C.; A.	St. Dept., Laclede Gas Light Co.	St. Louis, Mo.
Dodds, Caryl J.	Nat. G.; A.	G. M., Citizens Light, Heat & Power Co.	Lawrence, Kan.
Dodge, Kern	*I. E.	E.	1421 Chestnut St., Philadelphia
Dodge, Wm. A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Dodson, Herbert K.	I. E.; Nat. C.	S. N. B. Dept., Consolidated Gas, Electric Light & Power Co.	Baltimore, Md.
Doelker, W. F.	Kan.	Delco Farm Lighting System	Manhattan, Kan.
Doering, H. A.	Nat. C.	S., Westchester Lighting Co.	New Rochelle, N. Y.
Doherty, Henry L.	A.; *I. E.; Nat. C.; Nat. G.; P. C.; Sou.; Wis. P.	Henry L. Doherty & Co.	New York, N. Y.
Doherty, Henry L., & Co.	Nat. C.		60 Wall St., New York, N. Y.
Doherty, James A.	Nat. G.; Nat. C. M.	Woodstock Gas Light Co.	Woodstock, Ont., Can.
Dolan, Edward J.	*Ace.	3267 Chancellor St., Philadelphia, Pa.	
Dolan, John B.	N. E.; Nat. C.	S., Boston Consolidated Gas Co.	Boston, Mass.
Dold, G. T.	Nat. C.	Public Service Gas Co.	Burlington, N. J.
Dole, Walter S.	A.	Cons. E. Santa Monica Water Co.	Santa Monica, Cal.
Dolen, R. F.	Nat. G.	Fm., Pittsburgh & West Va. Gas Co.	Clarksburg, W. Va.
D'Olier, Henry, Jr.	*I. E.	E.	94 Elwood Ave., Bridgeport, Ct.
Dolkart, Leo	*I. E.	Tri-City Electric Co.	Moline, Ill.
Dolley, George M.	Ind.; Nat. C.	Bangor Gas Co.	Bangor, Me.
Dolton, Parker C.	*I. E.	Sals., Philadelphia Electric Co.	Philadelphia, Pa.
Donahue, E. J.	A.; I. E.; Nat. C.	E. g. Dept., Hudson Div., Public Service Gas Co.	Jersey City, N. J.
Donahue, G. C.	Nat. G.	Pressure Dept., East Ohio Gas Co.	Cleveland, O.
Donahue, H. F.	Mich.	S., Cadillac Gas Co.	Cadillac, Mich.
Donahue, M. A.	Nat. C.	Northern Indiana Gas & El. Co.	South Bend, Ind.
Donaldson, F. N.	Nat. G.; O.	Owner, The Donaldson Gas Co.	Jewett, Ohio.
Donelan, J. J.	Ia.	Eakin-Donelan Co.	Junction City, Kan.
Donkin, Wm. A.	I. E.	Allegheny County Light Co.	Pittsburgh, Pa.
Donley, W. H.	*I. E.	Spec. Asst. to Test. E., Philadelphia Electric Co.	Philadelphia, Pa.
Donnelly, Wm. E.	Nat. G.	G. S., Northeastern Oil & Gas Co.	Geneva, O.
Donohue, Thomas	Ind.	M. No. Ind. Gas & El. Co.	Lafayette, Ind.
Donovan, B. H.	Nat. G.	Fm., Penna. Gas Co.	Erie, Pa.
Dooling, E. L.	Mich.	Mutual Gas Co.	St. Johns, Mich.
Dooling, F. T.	Nat. G.	Machinist, East Ohio Gas Co.	Cleveland, O.
Doolittle, Wm.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Doran, H. G.	Ace.	Commercial Acetylene Welding Co.	Chicago, Ill.
Dorchester, Paul	Nat. C.		550 E. 21st St., Brooklyn, N.Y.
Dorey, W. A.	*I. E.	Chf. E., Holophane Works of G. E. Co.	Newark, O.
Doring, Charles G.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Dorner, William F.	A.	S. 25th Ward Gas Works, United Gas Improvement Co.	Philadelphia, Pa.
Dorr, William J.	A.; P. C.	S. g. Dis., Los Angeles Gas & Electric Corp.	Los Angeles, Cal.
Dorrance, J. E.	Nat. C.	Pub. Affairs Information Service	New York, N. Y.
Dorszski, V. A.	Ill.	E., Hagenah & Erickson	Chicago, Ill.
Dorting, E. E.	*I. E.	Ltg. E., Interboro R. T. Co.	New York, N. Y.
Dortsch, L. K.	Texas		Waxahachie, Tex.
*Doty, Paul	A.; I. E.; Nat. C.	V. P. & G. M., St. Paul Gas Light Co.	St. Paul, Minn.
*Doty, W. J.	Nat. G.	Leaser, South Shore Natural Gas & Fuel Co.	Sheridan, N. Y.
Dougall, A. C.	*I. E.	Sales Agt., General Electric Co.	30 Church St., New York, N.Y.
Dougherty, Benj. A.	A.	S., Richmond Water & Light Co.	Richmond, Ky.
Dougherty, Charles	*A.	Air Compressor & Pneumatic Tool Sals., Ingersoll-Rand Co.	New York, N. Y.
Dougherty, F. D.	Nat. G.	S. g. wells, Wm. Harris Co.	Wooster, O.
Dougherty, J. E.	*I. E.; Ill.	Solic., Philadelphia Electric Co.	Philadelphia, Pa.
Dougherty, Thomas F.	Ill.	Contract Agt., Western United Gas & Electric Co.	Aurora, Ill.
Douglas, Allen C.	*Wis.	g. E., Evens & Howard Fire Bk. Co.	St. Louis, Mo.
Douglas Gas Corporation	*P. C.		Douglas, Ariz.
Douglas, Henry W.	A.; Mich.; Nat. C.		
Douglas, James B.	Pa.	M., Washtenaw Gas Co.	Ann Arbor, Mich.
Douglas, James B.	A.; Nat. C.	Care Consumers Gas Co.	Reading, Pa.
Douglas, John R.	Nat. C.	M. Claim Dept., United Gas. Imp. Co.	Philadelphia, Pa.
Douglas, P. J.	P. C.	Public Service Gas Co.	Trenton, N. J.
Douglas, R. C.	Wis.	Fm., Pacific Gas & El. Co.	San Leandro, Cal.
Douglas, Samuel T.	Mich.	G. M., Manitowoc Gas Co.	Manitowoc, Wis.
Douglass, S. M.	Nat. G.	P., Counsel, Logan Natural Gas & Fuel Co.	80 Moffat Bldg, Detroit, Mich.
Doull, R. S.	Nat. C.	Consolidated Gas Co.	Mansfield, O.
Douthirt, W. F.	A.; *I. E.; Nat. C.; Nat. G.	4th V. P., United Gas Imp. Co.	Philadelphia, Pa.
Dover, Elmer	P. C.	P., Tacoma Gas Co.	Tacoma, Wash.
Dow, Fred N.	*N. E.; A.	P., Portland Gas Light Co.	Portland, Me.
Dow, John S.	*I. E.	Journalist	Highgate St., London, S. W., Eng.
Dowd, Bernard F.	Nat. G.	M., Peoples Natural Gas Co.	Buffalo, N. Y.
Dowdy, W. C.	Ill.	A. S., Public Serv. Co. of No. Ill.	Park Ridge, Ill.
Dowell, S. C.	Ark.	P., Walnut Ridge & Hoxie Lt. & Transit Co.	Walnut Ridge, Ark.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent)
can be adapted to any make of gas-compressing cylinders. A few of these adaptations are described in our Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

815

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Dowler, H. C.	Nat. C.; P. C.	M., Nevada Gas Co.	Tonapah, Nev.
Dowley, Edwin	IA.	Insp., Laclede Gas Light Co.	St. Louis, Mo.
Downey, James N.	A.	A. S., Camden Coke Co.	Camden, N. J.
Downing, Benj.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Downing, C. W.	Nat. G.	A. Sec. & T., East Ohio Gas Co.	Cleveland, O.
Downing, R. C.	Ill.	Ch., The Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Downs, Frederick D.	Nat. C.	Derby Gas Co.	Derby, Conn.
Downs, Walter F.	Nat. C.		New York, N. Y.
Dows, Chester L.	I. E.	E. dept., Nat'l Lamp Works.	Cleveland, O.
Doyle, Frederick	Nat. G.; P. C.	Chf. E., Midway Gas Co.	Taft, Cal.
Doyle, J. A.	Nat. C.	W. S. Rockwell Co.	New York, N. Y.
Doyle, John	Nat. C.; *I. E.	Municipal Lighting Co.	New York, N. Y.
Doyle, W. A.	Nat. C.	Public Service Corp.—L. I.	Port Washington, N. Y.
Draeger Oxygen Appar. Co.	N. G. S.	Sales Agt., Lake Erie Coal Co.	Pittsburg, Pa.
Drake, E. A.	Can.	Bless & Drake.	Walkerville, Ontario.
Drake, Edgar B.	Nat. C.		Newark, N. J.
Drake, Francis E.	A.; N. E.	M. g. dept., Lynn Gas & Electric Co.	Lynn, Mass.
Drake, L. J.	Nat. C.	Solic., Public Service Gas Co.	Somerville, N. J.
Drake, R. H.	Kan.	B. R., Electric Co.	Kansas City, Mo.
Drakenfield, B. F. & Co.	Nat. C.		50 Murray St., New York City.
Drakes, Ltd.	Can.		Halifax, Eng.
Draper, Charles Edward	*Ind.	Trav. Sals., Estate Stove Co.	Sullivan, Ind.
Draper, C. L.	Kan.	Dist. M., General Electric Co.	Kansas City, Mo.
Draper, Howard H.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Draper, H. L.	Sou.	Com. M., B. R. L. & P. Co.	Birmingham, Ala.
Drawbaugh, E. C.	Nat. C.	Solic., Harrisburg Gas Co.	Harrisburg, Pa.
Drichelbis, H. H.	Nat. G.	Div. S., The Ohio Fuel Supply Co.	Zanesville, O.
Drcher, R. G.	Nat. G.	Acct., Dominion Natural Gas Co.	Buffalo, N. Y.
Dressell, Oscar F.	N. E.	Ch., Lynn Gas & Electric Co.	Lynn, Mass.
Dresser, Carl K.	Nat. G.	Sec. and T., S. K. Dresser Mfg. Co.	Bradford, Pa.
Dresser, G. W.	Ind.	M., Goshen Gas Co.	Goshen, Ind.
Dresser, S. R., Mfg. Co.	*P. C.; N. G. S.		Bradford, Pa.
Drews, Harry	P. C.	H. R. Basford Co.	San Francisco, Cal.
Drewson, John	*A.	S., Coke Ovens, River Furnace Co.	Cleveland, Ohio.
Drexel Institute Library	I. E.		Philadelphia, Pa.
Drey, Richard C.	Nat. C.	Boston Cons. Gas Co.	Boston, Mass.
Driscoll, T. L.	Tex.		Wortham, Tex.
Droppleman, W. J.	Nat. G.	Fm., Hope Natural Gas Co.	McWhorter, W. Va.
Druffel, D. O.	P. C.		Santa Clara, Cal.
Drum, Charles A.	Nat. C.	P., Pacific Gas & El. Co.	108 Richard St., W. Haven, Ct.
Drum, F. G.	P. C.; A.		West Coast Life Bldg., San Francisco, Cal.
Drummond, C. H.	*I. E.	Illum. E., Philadelphia Electric Co.	Philadelphia, Pa.
Drury, George F.	Nat. G.	Oil Producer, J. W. Leonard Oil Co.	Washington, Pa.
Duane, Dr. Alex.	*I. E.	Physician	139 E. 37th St., New York.
Du Bois, Geo., Jr.	N. J.	Bridgeton Gas Light Co.	Bridgeton, N. J.
Dubois, Leon A.	N. J.		Atlantic City, N. J.
Dudley, A. D.	Nat. C.; A. Emp.	N. B. Agt., Syracuse Ltg. Co.	Syracuse, N. Y.
Duffield, J. C.	Nat. G.	M. Dir., London City Gas Co.	London, Ont., Can.
Duff, Jackson	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Duffield, C. S.	Nat. G.	Pur Agt., United Fuel Gas Co.	Charleston, W. Va.
Duffy, Charles G.	Nat. C.	Central Union Gas Co.	New York, N. Y.
Duffy, Frank J.	Sou.; Nat. C.	G. M., So. Ry. & Light Co.	Natchez, Miss.
Dufton, J. E.	Nat. C.	City Gas Co.	London, Ont., Can.
DuGan, Frank	Nat. C.	Pa., Central Lt. & Power Co.	Lewistown, Pa.
Dugdeli, William E.	P. C.	Pacific Gas & El. Co.	Vallejo, Cal.
Duggan, Frank P.	A.; Nat. C.	S. g. Dept., Penn. Cen. Lt., Ht. & Pr. Co.	Lewistown, Pa.
Duggan, W. H.	P. C.	Pres., Milwaukee Gas Specialty Co.	Milwaukee, Wis.
Dummi, T. A.	Nat. G.	Field S., Potter Gas Co.	Port Allegany, Pa.
Dummett, Harry O.	*Ia.; IA.	Sals. M., Humphrey Co.	Kalamazoo, Mich.
Dunavan, H. L.	Ill.	Store Supv., Peo. Gas Lt. & Coke Co.	6520 Ladin St., Chicago, Ill.
Dunbar, James W.	A.; Ind.; Nat. C.	A. to P., United Gas & Electric Co.	New Albany, Ind.
Dunberg, Benjamin H.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Duncan Electric Mfg. Co.	So. W.; Mo.		Lafayette, Ind.
Duncan, F. C.	Ill.	V. P., T. and M., Princeton Gas Co.	Princeton, Ill.
Duncan, John	Nat. G.	G. M. Sales, Wheeling Steel Iron Co.	Wheeling, W. Va.
Duncan, H. W.	IA.; Nat. C.		47 Ruth St., Hammond, Ind.
Duncan, Ronald Bruce	A.; *I. E.; Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Duncan, William C.	*I. E.	Sals., W. G. Warren Co.	Chicago, Ill.
Dunderdale, Thos.	Can.	S. g. dept., Winnipeg El. Ry. & Gas Co.	Winnipeg, Man., Can.
Dunham, Carl C.	Nat. G.	Meter Dept., Pitts. & W. Va. Gas Co.	Weston, W. Va.
Dunham, E. C.	*N. E.		New Haven, Conn.
Dunham, M. Keith	Ace.		50 Church St., New York, N.Y.
Dunkle, C. C.	*Ia.; Wis.	Sals., 4-Wheel Drive Truck Co.	Chicago, Ill.
Dunn, F. S.	A.; Nat. C.; Emp.	E., Municipal Gas Co.	Albany, N. Y.
Dunn, Gano	*I. E.	P. J. G. White & Co., Inc.	New York, N. Y.
Dunn, George A.	Nat. C.	Watertown Light & Power Co.	Watertown, N. Y.
Dunn, James P.	Ace.	Bay State Acetylene Generator Co.	Taunton, Mass.
Dunn, W. O., Jr.	Kan.	Cash., Manhattan Ice, Lt. & Pr. Co.	Manhattan, Kan.
Dunne, Philip	A.	Night S., Consolidated Gas Co.	New York, N. Y.
Dunning, E. C.	P. C.	S. g. dis., Pacific Gas & El. Co.	Sacramento, Cal.
Dunning, H. S.	I. E.	Div. S., Westinghouse Lamp Co.	Bloomfield, N. J.
Dunsheath, John	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Durant Light & Ice Co.	Okla.		Durant, Okla.
Durfee, C. G.	Emp.	Ch., Rochester Ry. & Light Co.	Rochester, N. Y.
Durfee, I. W.	Mich.		38 So. Dearborn St., Chicago
Durgin, William A.	I. E.	Commonwealth Edison Co.	Chicago, Ill.
Durr, E. C.	Nat. C.	Public Service Gas Co.	759 Broad St., Newark, N. J.

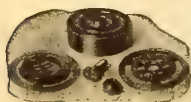
EASY WORKING
DIE STOCKS
1/8 TO 12 INCH

BEAVER

SQUARE END
PIPE CUTTERS
1/8 TO 6 INCH

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Dusenberry, D. F.	Nat. G.	g. E., W. Va. Trac. & Elec. and City & Suburban Gas Co.	Weston, W. Va.
Dusenberry, H. Syril	*I. E.	Student, University of California	2232 Pacific Ave., San Francisco, Cal.
Dustin, Guy K.	A.; Nat. C.; N. E.	P. Gas & El. Development Co.	Boston, Mass.
Dutton, H. S.	P.; †A.	Cash., Chester County Gas Co.	West Chester, Pa.
Dutton, Lewis R.	A.; I. E. Nat. C.	Div. M., Philadelphia Suburban Gas & El. Co. (Jenkintown District)	Wyncote, Pa.
Dutton, R. H.	A.; *I. E.		Colmar, Pa.
Duvall, B. A.	Nat. C.		606 Hilton St., Baltimore, Md.
DuVal, Wm. M.	P. C.		112 Market St., San Francisco, Cal.
Dwaas Electric Co.	Emp.		Hudson Falls, N. Y.
Dwight, C. C.	Ace.	Care, The Dwight Co.	Portland, Ore.
Dwyer, F. L.	P. C.	M. Pittsburg Water Heater Co.	Los Angeles, Cal.
Dwyer, Patrick A.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Dyer, John C.	Sou.; Nat. C.	Sals., Rund Mfg. Co.	Jacksonville, Fla.
Dyre, Walter T.	*I. E.	Sals., Philadelphia Electric Co.	Philadelphia, Pa.
Dyson, O. E.	P. C.	Fm. dis., Southern California Gas Co.	Los Angeles, Cal.
Eager, Wm. G.	I. E.	2d V. P., Valdosta Lighting Co.	Valdosta, Ga.
Eagleson, James P.	Nat. G.	Dir. Mfrs. Lt. & Heat Co.	Washington, Pa.
Earl, John T.	Ace.	c/o Davis Acetylene Co.	Elkhart, Ind.
Earle, A. G.	N. E.	S. Bristol Co. Gas & Elec. Co.	Bristol, R. I.
Earnshaw, Edward H.	A.; Soc. G.	A. G. M., Public Service Gas Co.	Newark, N. J.
Earnshaw, Warner G.	*A.	G. Sals. M., Barnes & Tucker Co.	Philadelphia, Pa.
E. Creek Elec. L. & P. Co.	Emp.		St. Johnsville, N. Y.
E. Monroe Elec. L. & G. Co.	Emp.		East Rochester, N. Y.
E. Ohio Gas Co.	O.		Cleveland, O.
East River Gas Co.	Nat. C.		New York, N. Y.
Easterly, Harry W.	Wis.; †A.	Sheboygan Gas Lt. Co.	Sheboygan, Wis.
Eastern Wisconsin El. Co.	Nat. C.		Fond du Lac, Wis.
Eastland, S. H.	Nat. G.	Dist. Fm., Philadelphia Co.	Sharpsburg, Pa.
Eastman, Joseph P.	Wis.; †A.	S. Manitowoc Gas Co.	Manitowoc, Wis.
Easton, Frank A.	P. C.	Asst. to Supt. Gas Dept., San Joaquin Light & Power Corporation	Bakersfield, Cal.
Easton Gas Works	Pa.		Easton, Pa.
Easton, Irving A.	P. C.	Solicitor, Portland Gas & Coke Co.	Portland, Ore.
Eaton, Alfred B.	A.; *Ill.; Wis.; *Mich.; *Ind.	Western Sals. Agt., United Gas Imp. Co.; V. P.; Sheboygan Gas Lt. Co.	1519 Peo. Gas Bldg., Chicago.
Eaton, C. J.	Ind.	M. Com. Dept., Interstate Public Service Co.	Indianapolis, Ind.
Eaton, Cyrus S.	A.	P. and M. Continental Gas & El. Corp.	Cleveland, O.
Eaton, Homer M.	A.; Mich.; Nat. C. Ind.	M., Gas Light Co.	Columbus, Ind.
Eaton, James B.	A.; Mich.; Nat. C.	Pur. Agt., Rochester Ry. & Lt. Co.	Rochester, N. Y.
Eaton, W. M.	A.; Mich.	With Hodenpyl, Hardy & Co.	1834 4th St., Jackson, Mich.
Eavenson, W. K.	A.; Nat. C.	Boston Cons. Gas Co.	Boston, Mass.
Ebbetts, Daniel C.	Nat. C.	Sals. N. B. Dept., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Eberhard, C. F.	*Ace.		2167 E. Second St., Cleveland, N. J.
Eberspeacher, H.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Ebert, Peter	Nat. C.	Central Union Gas Co.	New York, N. Y.
Eccles, A. D.	N. E.	S. Ware Gas Light Co.	Ware, Mass.
Eccles, G. W.	*G. G. M.; *N. E.	Davis & Farnum Co.	Taunton, Mass.
Eckert, A. B.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Eckert, Geo. H.	P. C.	Sec. & T., W. F. Boardman Co.	718 Mission St., San Francisco, Cal.
Eckstein, Herman	*I. E.	El. Cont.	1742 Sansom St., Philadelphia, Pa.
Eclipse Gas Stove Co.	Nat. C.		Rockford, Ill.
Economy Steam Htg. & Electric Co.	Mo.		Sedalia, Mo.
Eddy, Bret W.	Sou.	G. M., Lake Charles Gas Co.	Lake Charles, La.
Edgar, C. L.	I. E.	P. & G. M., Edison Elec. Illum. Co.	Boston, Mass.
Edgar, H. T.	*So. W.		Boston, Mass.
Edgecomb, Henry R.	*I. E.	Speer Carbon Co.	St. Marys, Pa.
Edgerton, Glenn	P. C.		312 W. 9th St., Los Angeles.
Edie, Wm. W.	I. E.	Illum. E., West Penn Power Co.	Connellsville, Pa.
Edina Light Co.	Mo.		Edina, Mo.
Edison El. Lt. & Pwr. Co.	Emp.		Amsterdam, N. Y.
Edison, Thomas A.	*I. E.	Inventor	Orange, N. J.
*Edmund, H. W.	*I. E.; Ill.; Nat. C.	Com. Agt., Western United Gas & El. Co.	Aurora, Ill.
*Edson, Walter S.	Sou.	Sals. R., Jas. B. Clow & Sons.	Atlanta, Ga.
Edwards, Arthur C.	Nat. C.		2634 E. 19th St., Brooklyn.
Edwards, Evan J.	I. E.	Asso. E., Natl. Lamp Wks. of G. E. Co.	Cleveland, O.
Edwards, H. J.	Ace.	Oxweld Acetylene Co.	Newark, N. J.
Edwards, L. M.	Ind.	Pur. Agt., Citizens Gas Co.	Indianapolis, Ind.
Edwards, Wm. C.	Nat. G.	V. P., Parker & Edwards Oil Co.	Pittsburgh, Pa.
Egan, E. J.	Nat. G.	Ag't., The Mfrs. Lt. & Heat Co.	Pittsburgh, Pa.
*Egan, Paul C.	*I. E.	Sals., Lighting Studios Co.	220 W. 42d St., New York.
Egleston, G. P.	Nat. C.; P. C.	Com. M., Coast Counties Gas & El. Co.	San Francisco, Cal.
Eglin, W. C. L.	*I. E.	2d V. P. & E., Philadelphia El. Co.	Philadelphia, Pa.
Egner, Frederic	A.	Con. E. (retired)	516 Quincy St., N. W., Washington, D. C.



The soundness of replacing your old gas and gasoline compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is attested to by the large number of these valves that are now being sold for this purpose. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

817

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Egolf, Elwood	*Pa.	T. Royal Stove & Fdy. Co.	Royersford, Pa.
Ehlers, Wm. A.	Nat. C.	National Comm. Gas Assn.	New York, N. Y.
Ehrenzeller, Chas. H.	*Pa.	R. Long-Landreth-Schneider Co.	Philadelphia, Pa.
Eichelberger, Kirk F.	P. C.	Platt Iron Works	San Francisco, Cal.
Eichengreen, L. B.	I. E.; Nat. G.		
Eichengreen, S. L.	*A.	A. G. S. United Gas Impt. Co.	Philadelphia, Pa.
Eisenman, F. N.	Nat. C.	Philadelphia Gas Works	Philadelphia, Pa.
Elbert, V. L.	*A.; *N. E.	Dist. Sals. M. Gulf Refining Co.	Boston, Mass.
Flecock, Frank	*A.; Nat. C.	G. M. St. Joseph Gas Co.	St. Joseph, Mo.
Flecock, Thomas R., Jr.	Can.	S. g. works, Ottawa Gas & El. Co.	Ottawa, Ont., Can.
Elder, T. A., Jr.	*I. E.; Nat. C.	Adv. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Elder, David	Ind.	S. Interstate Public Service Co.	Indianapolis, Ind.
Eldon Electric Light Co.	A.	Minnesota Steel Co.	Duluth, Minn.
Eldon Water Works	Mo.		Eldon, Mo.
Electric Appliance Co.	Mo. W.; Mo.		Eldon, Mo.
Electric Co. of Missouri	Mo.		Chicago, Ill., and Dallas, Tex.
Elec. L. Co. of New Paltz	Emp.		Webster Groves, Mo.
Electric Power Co., Ltd.	I. E.		New Paltz, N. Y.
Elec. Ry. Journal	*So. W.		Toronto, Ont., Can.
Elec. Service Supply Co.	So. W.		New York, N. Y.
Elec. Testing Laboratories	*Emp.; So. W.		St. Louis, Mo.
Electrical World	*So. W.		New York, N. Y.
Electro Lamp Co.	Ace.		Chicago, Ill.
Eliot, Edw. M.	I. E.		2 Rector St., New York, N. Y.
Elkhart Gas & Fuel Co.	Nat. C.		Box 186, Chicago, Ill.
Ellard, George W.	Nat. C.	Citizens Gas Lt. Co.	Elkhart, Ind.
Ellenville Electric Co.	Emp.		Quincy, Mass.
Elles, E. J.	Mich.	M. New Charlotte Gas Co.	Ellenville, N. Y.
Ellinger, Edgar	I. E.	V. P. L. K. Comstock & Co.	Charlotte, Mich.
Fillington, Girard A.	Ill.	Atty. Pub. Serv. Co. of No. Ill.	30 Church St., New York City.
Elliott, Geo. W.	Ace.; Nat. C.	Jenne Acetylene Gas Machine Co.	Chicago, Ill.
Elliott, H. J.	*Ill.	M. Pittsburg Coal Co.	Warsaw, Ind.
Elliott, La Rue B.	A.; Ill.	S. W. Shop, Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Elliott, Richard P.	Ace.		53 State St., Boston, Mass.
Ellis, A. V.	Nat. C.	Sals., Reliable Stove Co.	Cleveland, Ohio.
Ellis, Harry	A.	S. of Dis. Public Service Gas Co.	Camden, N. J.
Ellis, R. L.	*A.; Sou.	S. Selma Lighting Co.	Selma, Ala.
Ellis, S. S.	Nat. C.	Trav. Aud. Pub. Service Gas Co.	Newark, N. J.
Elmer, C. B.	Nat. C.; *A.	V. P. & T. General Gas Appl. Co.	New York, N. Y.
Elmes, Cecil F.	Ill.	E. Sanderson & Porter	Chicago, Ill.
Elmira W. L. & R. R. Co.	Emp.		Elmira, N. Y.
El Paso & Juarez Trac. Co.	So. W.		El Paso, Texas.
El Paso Electric Ry. Co.	So. W.		El Paso, Tex.
El Paso Gas Co.	So. W.		El Paso, Tex.
Elsman, Ralph	Nat. C.	Kings Co. Light Co.	Brooklyn, N. Y.
Elston, I. C., Jr.	A.	Elston, Clifford & Co.	Chicago, Ill.
Ely, Robert B.	I. E.	Westinghouse Lamp Co.	New York, N. Y.
Emerson, Guy C.	*I. E.	Con. E. Boston Finance Com.	73 Tremont st., Boston, Mass.
Emerson, Harrington	*I. E.	Efficiency E. Emerson Co.	30 Church St., New York City.
Emerson, Orrin E.	Nat. C.	Boston Cons. Gas Co.	Boston, Mass.
Emmerling, K.	Nat. G.; N. G. E.	Ch. East Ohio Gas Co.	3105 Walton Ave., Cleveland, O.
Emmert, C. S.	Nat. C.		Leavenworth, Kan.
Emmett, Carl	Tex.		Tulsa, Okla.
Emory, G. N.	Ace.	Economy Light Co.	Friendsville, Md.
Empire District Elec. Co.	Mo.; Kan.		Joplin, Mo., & Columbus, Kan.
Empire Gas & Elec. Co.	Emp.		Geneva, N. Y.
Enander, E. H.	Ill.	E. Gas Div., P. S. Co. of No. Ill.	Chicago, Ill.
Engel, Francis	A.; N. J.; Nat. C.		Elizabeth, N. J.
England, A. E.	Ill.	Sec., Elizabethtown Gas Light Co.	Alton, Ill.
Eugle, T. W.	Nat. G.	S. Alton Gas & El. Co.	
Engle, Warren B.	Nat. C.	Div. S. Pittsburg & West Virginia Gas Co.	Grafton, W. Va.
English, A. L.	A.; Ia.; Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Enos, C. K.	Nat. C.; Tex.	M. Citizens Gas & Electric Co.	Council Bluffs, Ia.
Entwistle, I. H.	Nat. C.	Sals., National Stove Co.	Dallas, Tex.
Epp, W. R.	Nat. C.; *Ill.	Washington Gas Lt. Co.	Washington, D. C.
Equitable Meter Co.	*Ia.	M., Eriez Stove & Mfg. Co.	Erie, Pa.
Erhard, Theodore	*P. C.; N. G. S.		445 Water St., Pittsburg, Pa.
Erickson, E.	N. E.	A. S., Cambridge Gas Light Co.	E. Cambridge, Mass.
Erickson, F. W.	Nat. C.		2805 Washington Ave., New- port News, Va.
Eriez Stove & Mfg. Co.	I. E.	Chf. E., Lord Electric Co.	105 W. 40th st., New York City
Ernst, H. M.	Nat. G.	P. Dempseytown Gas Co.	Erie, Pa.
Erskine, Robert	P. C.	Fm. Dis. Dept., San Jose Dist., Pa- cific Gas & Electric Co.	Treet Co. Bldg., Oil City, Pa.
Esau, Ralph	*A.	M. of Sals., Barrett Mfg. Co.	San Jose, Cal.
Espach, F.	Nat. G.	Chf. Insp., Union Gas & Electric Co.	Chicago, Ill.
Estberg, Howard C.	A.	E. Washington Gas & El. Co.	4th and Plum Sts., Cincinnati.
Estell, Joseph A.	Nat. C.	Col. Public Service Gas Co.	Washington C. H., Ohio.
Etienne, Victor, Jr.	P. C.		Orange, N. J.
Eustace, E. W.	Ill.; Ia.	Key City Gas Co.	837 Folsom St., San Francisco.
Eustace, John H.	A.; Ill.; Nat. C.	E. Peoples Gas Light & Coke Co.	Dubuque, Ia.
Evans, C. D.	A.; Nat. G.	Div. S., The Philadelphia Co.	Chicago, Ill.
Evans, David M.	Nat. C.	B'klyn Union Gas Co.	Pittsburg, Pa.
Evans, George B.	A.; *I. E.; Nat. C.		Brooklyn, N. Y.
Evans, Howard S.	*I. E.	Chf. E., Laclede Gas Light Co.	St. Louis, Mo.
			1452 Beechwood Blvd., Pitts- burgh, Pa.

Do your GOODMAN STOPPERS need repairs? Send them to us today. They will be returned like new.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Evans, J. J.	Nat. G.	Div. S., Hope Natural Gas Co.	Clarksburg, W. Va.
Evans, Owen Brooke	A.; *N. E.; *I. E.	S. Exper. Plant. U. G. I. Co.	Philadelphia, Pa.
Evans, W. A. D.	I. E.	E., Cooper-Hewitt Electric Co.	Hoboken, N. J.
Everitt, K. L.	Tex.		Houston, Tex.
Everts, L. R.	Pa.	N. B. M., Lewisburg Gas Co.	Lewisburg, Pa.
Eves, Philmer	A.; Nat. C.		
Evins, H. D.	\$Ind.	Ad. M., New Haven Gas Lt. Co.	New Haven, Conn.
Ewart, Frank	Ark.	S., Dardanelle Water Co.	Dardanelle, Ark.
	*I. E.	Con. El. E., Ewart & Jacob.	501 Excelsior Bldg., Toronto, Ont., Can.
Ewing, A. M.	Nat. G.	Met. Dept., Central States Gas Co.	Vincennes, Ind.
Ewing, R. E.	Nat. C.; I. E.	Welsbach Co.	119 N. Brown St., Gloucester, N. J.
Excelsior Springs Water Gas & El. Co.	Mo.		Excelsior Springs, Mo.
Ewing, Frederick	Nat. G.	Leasing S., Medina Gas & Fuel Co.	Wooster, O.
Ewing, J. J.	Nat. G.	House piper	952 Fifth Ave., Coraopolis, Pa.
Eyman, Chas. M.	P. C.	G. Mgr., Utah Gas & Coke Co.	Salt Lake City, Utah.
Eysenbach, E. E.	A.; *N. E.; I. E.	G. M., Hartford City Gas Co.	Hartford, Conn.
Faas, Emil	Nat. C.		Newark, N. J.
Faber, Frederick A.	*I. E.	Geo. W. Walther & Co.	Baltimore, Md.
*Fabian, Conrad	Sou.	Chf. Clk., Tampa Gas Co.	Tampa, Fla.
Fabry, Prof. C. H.	*I. E.		1 Rue Clapier, Marseilles, France
Fair, Campbell W.	la.; Nat. C.	P. & M., Webster City Gas Co.	Webster City, Ia.
Fair, C. W.	Nat. C.		Bernardsville, N. J.
Fair, F.	Nat. G.	S., Shore Natural Gas & Fuel Co.	Dunkirk, N. Y.
Fairbanks, R. E.	P. C.	Salesman, Holbrook Merrill & Stetson	San Francisco, Cal.
Fairchild, F. A.	Nat. G.	Agt., United Natural Gas Co.	Meadville, Pa.
Fairchild, Samuel E., Jr.	*A.; Pa.	P., Cruse-Kemper Co.	Ambler, Pa.
Fairfax Light, Heat & Power Co.	Mo.		Fairfax, Mo.
Fairfield, C. L.	Nat. C.	Rund Mfg. Co.	Springfield, Mass.
Falk, F. I.	Nat. G.	A. T. Ohio Fuel Supply Co.	2017 Farmers Bk. Bldg., Pittsburgh, Pa.
Falk, G. E.	Nat. G.	Cash. South Shore Natural Gas & Fuel Co.	Dunkirk, N. Y.
Faller, C.	*A.	S., Carlisle Gas & Water Co.	Carlisle, Pa.
Falvey, Edwin C.	*Ill.; *Ind.; *A.		
	*Wis.	R., Sprague Meter Co.	Davenport, Iowa.
Fancy, Raymond Ashley	Nat. C.; N. E.	C.; *I. E.	
	*Wis.	Com. M., Newton & Wat'rtn Gas Lt. Co.	Newton, Mass.
Fagan, J. H.	Nat. C.	Pittsburg Water Heater Co.	Chicago, Ill.
Fall River Gas Wks. Co.	Nat. C.		Fall River, Mass.
Fancher, H. P.	Nat. C.	Lebanon Gas & Fuel Co.	Lebanon, Pa.
Fannin, Thomas T.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Farley, James	Nat. C.	Des Moines Gas Co.	Des Moines, Ia.
Farmer, William	Nat. C.	Des Moines Gas Co.	Des Moines, Ia.
Farmersville Mill & Lt. Co.	So. W.		Farmersville, Tex.
Farner, J. W.	Nat. G.	S., Potter Gas Co.	Port Allegheny, Pa.
Farner, William E.	Nat. C.	Fm. dis. Dept., Harrisburg Gas Co.	Harrisburg, Pa.
Farnsworth, Edw. M., Jr.	*N. E.	V. P., Old Colony Gas Co.	Boston, Mass.
Farrand, Dudley	I. E.	A. to P., Public Service Corp.	Newark, N. J.
Farrar, H. L.	Ill.; A.	E., Southern Illinois Gas Co.	Marion, Ill.
Farrall, Frank	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Farrell, J. L.	Nat. C.	Public Service Gas Co.	Ridgewood, N. J.
Farrell, Matthew	Nat. C.	A. S., Meter & Stove Dept., New Amsterdam Gas Co.	New York, N. Y.
Farrow, E. D., Jr.	P. C.	General Agt. San Joaquin Light & Power Corp.	Bakersfield, Cal.
Fatz, Edward	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Faure, R. J.	Ace.	Commercial Acetylene Co.	80 Broad'y., New York, N. Y.
Fausek, A. F.	*Ind.	Sals. & E., Missouri Fire Brick Co.	St. Louis, Mo.
Fawcett, C. D.	I. E.	A. Sec., Illum. Engineering Society.	New York, N. Y.
Fay, Peter	Nat. G.	Field S., Potter Gas Co.	Smithport, Pa.
Fayette Light, Ice & Coal Co.	Mo.		Fayette, Mo.
Featherly, Frank	Wis.	S., Wis.-Minn. Light & Pr. Co.	La Crosse, Wis.
Federal Sign System, Electric	Mo.		St. Louis, Mo.
Fees, J. Sidney	Nat. C.	Sals., Welsbach Co.	Philadelphia, Pa.
Feiker, Frederick M.	I. E.	Ed., Electrical World	New York, N. Y.
Feldman, A. M.	*I. E.	Con. E.	120 Liberty St., New York
Felix, Otto F.	Nat. G.; *Ill.		
	*A.	Sec. & T., Equitable Meter Co.	Pittsburg, Pa.
Fell, H. P.	Nat. C.	Kings County Lighting Co.	Brooklyn, N. Y.
Fellows, W. H.	Kan.	V. P. & G. M., Leavenworth Lt., Heat & Pr. Co.	Leavenworth, Kan.
Felton, John G.	*A.	S. El. dept., Charleston Consolidated Rv. & Ltz. Co.	Charleston, S. C.
Fenniman, John R.	Nat. C.; A.	S., Consolidated Gas Co.	New York, N. Y.
Fenno, Thos. I.	N. E. C.	Com. M., Salem Gas Lt. Co.	Salem, Mass.
Ferdon, C. J.	Nat. C.	Bronx Gas & Elec. Co.	Westchester, N. Y.
Ferguson, B. B.	A.	P. & S., Portsmouth Gas Co.	Portsmouth, Va.
Ferguson, Chas. T.	P. C.	S. g. works, Pac. Gas & El. Co.	Santa Rosa, Cal.
Ferguson, J. M.	Mo.	P., Richmond Electric Light Co.	Richmond, Mo.
Ferguson, Louis A.	*I. E.	2d V. P., Commonwealth Edison Co.	Chicago, Ill.
Ferguson, Wm. H.	Nat. C.	Meriden Gas Lt. Co.	Meriden, Conn.
Fernholtz Mchy. Co.	*P. C.		Los Angeles, Cal.
Ferree, C. E.	I. E.	Asso. Prof. Psychology, Bryn Mawr College	Bryn Mawr, Pa.
Ferrick, John	Nat. C.	Indexer, Public Service Gas Co.	Paterson, N. J.



Replace the leaky and worn valves on your gas compressors with
MESTA AUTOMATIC PLATE VALVES (Iversen Patent).
 Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

819

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Ferrier, James	A.; Sou.; Nat. C.	Atlanta Gas Light Co.	Atlanta, Ga.
Ferris, Herbert H.	A.	E. of Mfr., Public Service Gas Co.	Newark, N. J.
Ferris, Wm. K.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Fessler, T. A.	Nat. G.	Agt., Potter Gas Co.	Elkland, Pa.
Fette, Harry P.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Feuers, H. C.	Nat. C.		Sedalia, Mo.
Feuerlein, Otto	I. E.	Siemens & Halske.	Charlottenburg, Germany.
Fickes, R. L.	Ill.	M., Mattoon Gas Light Co.	Mattoon, Ill.
Field, Horace H.	Ill.; A.	E., Sanderson & Porter.	Chicago, Ill.
Field, Roy Albright	A.; Nat. C.; Nat. G.	N. B. M., National Gas, El. Lt. & Pr. Co.	Philadelphia, Pa.
Fielding, Laurie O.	Nat. C.	S., Chelsea Sta., East Boston Gas Co.	Chelsea, Mass.
Fiels, Edward B.	*I. E.		170 25th St., Elmhurst, L. I.
Filler, W. H.	Nat. G.	Sec. & T., Pennsylvania Gas Co.	Warren, Pa.
Finley, H. F.	Nat. G.	Agt., Logan Natural Gas & Fuel Co.	Mansfield, O.
Findley, Lonzo	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Finegan, Robert H.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Fink, E. O.	Ind.	A. S., Indiana Lighting Co.	Ft. Wayne, Ind.
Fink, Charles H. P.	Nat. C.	Allentown & Bethlehem Gas Co.	Allentown, Pa.
Fink, I. Harold	Nat. C.	Citizens Gas & Elec Co.	Kewanee, Ill.
Finley, Geo. G.	*I. E.	Solic., Philadelphia Electric Co.	Philadelphia, Pa.
Finn, H. J.	Ill.	A. Dept. M., Peoples Gas Light & Coke Co.	Chicago, Ill.
Finnerty, Luke N.	Ill.; Nat. C.	Sals., Pub. Service Co. of No. Ill.	Morris, Ill.
Finney, Frank F.	Nat. G.	S. g. Cons., Indian Ty. Oil Co.	Bartlesville, Okla.
Finney, Wm. A.	Nat. C.	Dist. Cash., Boston Cons. Gas Co.	Boston, Mass.
Firstbrook, H.	Sou.	Iowa Elec. Co.	Fairfield, Ia.
Firth, C. J.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Fischer, A. J.	*Ia.; *Wis.	Peninsular Stove Co.	Detroit, Mich.
Fischer, Frank	*I. E.	Citizens Electric Co.	Williamsport, Pa.
Fischer, George J.	Nat. G.	Sec. & M., Modern Iron Works.	Quincy, Ill.
Fischer, Jacob, Jr.	Ind.	A. Ch Clk., Gary Ht., Lt. & Water Co.	Gary, Ind.
Fischer, W. M.	Nat. C.	Mutual Gas Lt. Co.	New York, N. Y.
Fish, Harry	Nat. G.	Fm., The East Ohio Gas Co.	Youngstown, O.
Fish, Ralph H.	N. E.	S., Taunton Gas Co.	Taunton, Mass.
Fisher, B. F., Jr.	*I. E.	Mazda Serv. Research Lab'y G. E. Co.	Schenectady, N. Y.
Fisher, R. E.	P. C.	Com. Dept., Pacific Gas & Elec. Co.	San Francisco, Cal.
Fisher, Casper	*Ace.		Bucyrus, O.
Fisher, David G.	Ia.	E., David G. Fisher & Co.	Davenport, Ia.
Fisher, F. P.	Nat. G.	A. G. M., Wichita Natural Gas Co.	Bartlesville, Okla.
Fisher, George T.	N. J.; *Pa.	General Gas Light Co.	New York, N. Y.
Fisher, George T.	Nat. C.	Cumberland County Lt. & Pr. Co.	Portland, Me.
Fisher, Howell	N. E.; A.	Bartlett Hayward Co.	Baltimore, Md.
Fiske, E. P.	*N. E.	Sals., J. H. Cunningham Co.	Boston, Mass.
Fisler, John	Nat. G.	Fm., Akron Natural Gas Co.	Akron, N. Y.
Fiss, W. S.	*Ia.; Pa.	Macon Gas Co.	Macon, Ga.
Fisse, John H.	*Wis.	E., Missouri Fire Brick Co.	St. Louis, Mo.
Fitch, F. W.	Nat. C.	Office M., Kings Co. Ltg. Co.	Brooklyn, N. Y.
Fitch, H. D.	Nat. C.	Kentucky Public Service Co.	1714 Ford Bldg., Bowling Green, Ky.
Fitch, Walter S.	*I. E.	E., Dennison Mfg. Co.	Framingham, Mass.
Fitchburg Gas & Elec. Lt. Co.	Nat. C.		Fitchburg, Mass.
Fittler, Edwin H., Co.	N. G. S.		Philadelphia, Pa.
Fitzgerald, John J.	*N. E.	Ch., City of Holyoke Gas & El. Dept.	Holyoke, Mass.
*Fitzgerald, Leonard	A.; Nat. C.	310th U. S. Engineers.	Camp Custer, Battle Creek, Mich. (formerly Gary, Ind.)
Fitzherbert, Ernest	Nat. C.	Public Service Gas Co.	Newark, N. J.
Fitzpatrick, P. J.	Nat. C.		134 St. Paul's Ave., Jersey City, N. J.
Fitzsimmons, J. C.	P. C.	M., Fuel & Gas Oil Dept., Standard Oil Co.	San Francisco, Cal.
Flanagan, John D.	Nat. C.	Rome Gas, El. Lt. & Fr. Co.	Rome, N. Y.
Flanner, T. U.	*Mich.; Nat. C.	Welsbach Company	Gloucester, N. J.
Flanigan, J. T.	Nat. G.	Fm., Iroquois Natural Gas Co.	Buffalo, N. Y.
Flatt, C. G.	Kan.	Sals.	1610 Broadway, Denver, Colo.
*Flattery, W. R.	Nat. C.	Sals., Humphrey Co.	Detroit, Mich.
Flaunt, John J.	Nat. C.	New Orleans Ry. & Lt. Co.	New Orleans, La.
Flavey, E. C.	*Ia.	Sals., Sprague Meter Co.	Davenport, Ia.
Fleisch, A. J.	Nat. C.	Public Service Gas Co.	Hoboken, N. J.
Fleming, A. C.	Nat. G.	S., Pennsylvania Fuel Supply Co.	Broad St., New Bethlehem, Pa.
Fleming, Claude M.	Nat. G.	Fm., Hope Natural Gas Co.	Mannington, W. Va.
Fleming, Curtis B.	Nat. G.	Producer	P. O. Box 193, Fairmont, W. Va.
Fleming, G. F.	Nat. G.	Agt., United Natural Gas Co.	Titusville, Pa.
Fleming, Jas.	Nat. C.		Newark, N. J.
Fleming, John P.	Nat. C.	N. B. R., United Gas Improvement Co.	Philadelphia, Pa.
Fletcher, Freeman D.	Ill.	A. E., Pub. Utilities Com.	Springfield, Ill.
Fletcher, James Young	I. E.	General Electric Co.	67 Queen Victoria St., London, E. C., Eng.
Fletcher, John A.	Nat. G.	Agt., The Mfrs. Light & Heat Co.	Bellaire, O.
Fletcher, Walter E.	P. C.	Pittsburg Water Heater Co.	Oakland, Cal.
Flinn, T. W. II.	Nat. G.	Flinn Appliance House.	Denison, Tex.
Flintoff, Geo. S.	P. C.	Reliance Gas Reg. & Machine Co.	Pasadena, Cal.
Flood, Miss K. V.	Nat. C.		6323 Westminster Ave., Philadelphia, Pa.
Floeken, Alfred F.	Nat. G.	Union Gas & El. Co.	Cincinnati, O.
Flook, William M.	A.	Memphis Gas & Elec. Co.	54 Wall St., New York, N. Y.
Florence, E. W.	P. C.	M., Redwood Dist., Pacific Gas & Elec. Co.	Redwood, Cal.
*Floro, Thomas	Sou.	Sals. E., Gen'l Fire Extinguisher Co.	Providence, R. I.

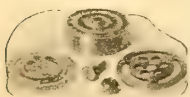
SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Flowers, Dean Wilcox.....	A.....	G. S., St. Paul Gas Light Co.....	St. Paul, Minn.
Flowers, E. A.....	Mo.....	Columbia University.....	Columbia, Mo.
Floyd, Edward T.....	P. C.....	A. S. g. dis. dept., Pac. Gas & El. Co.....	San Francisco, Cal.
Floyd, J. T.....	P. C.....	Auditor International Hale Gas Mixer Co.....	Neodesha, Kan.
Flynn, M. F.....	*I. E.....	Dist. Sales Agt., Milwaukee El. Ry. & Lt. Co.....	Milwaukee, Wis.
Fobes, Geo. Shaw.....	*I. E.....	Macbeth Evans Glass Co.....	Boston, Mass.
Foersterling, Dr. H.....	*A.; *I. E.....	Care, The Abor Farm.....	Jamesburg, N. J.
*Fogg, Oscar H.....	A.; *I. E.; *Ace.; Nat. C.; Soc. G.....	Capt. Ordnance Dept., U. S. Army.....	Washington, D. C.
Foley, Harry F.....	Ill.....	S. of met. shop, Western United Gas & El. Co.....	Aurora, Ill.
Foley, J.....	Nat. G.....	G. Field S., Mfg. Lgt. & Ht. Co.....	Cannonsburg, Pa.
Foley, T. B.....	Nat. G.....	Contractor.....	410 Diamond Bank Bldg., Pittsburgh, Pa.
Foley, T. H.....	Nat. G.....	S. T. B. Foley, Contractor.....	Pittsburg, Pa.
Folger, C.....	Can.....	G. M., Kingston Light & Power Co.....	Kingston, Ont., Canada.
Folger, Oliver H.....	A.....	A. S. of Dis., Public Service Gas Co.....	Newark, N. J.
Folsom, Chas. E.....	*I. E.....	Op'met., Am. Optical Assn.....	Atlanta, Ga.
Folsom, Robert Morse.....	A.; N. E.....	2d A. S., New England Gas & Coke Everett, Mass.	
Fonner, Geo.....	Nat. G.....	Field S., Am. Natural Gas Co.....	Gibsonia, Pa.
Fonner, J. H.....	Nat. G.....	Shop Fm., The Peoples Natural Gas Co.....	Midland, Pa.
Foose, W. H.....	Nat. C.....	Public Service Gas Co.....	Newark, N. J.
Foot, D. H.....	P. C.....	Sec., Pacific Gas & El. Co.....	445 Sutter St., San Francisco.
Foot, Edward F.....	Nat. C.....	Public Service Gas Co.....	Hackensack, N. J.
Foot, Frank H.....	*I. E.....	M. Spec. Dept., Pettingell-Andrews Co.....	Boston, Mass.
Forbes, J. W.....	*Ia.....	Sals., Rathbone, Sard & Co.....	Waterloo, Ia.
Ford, A. H.....	*I. E.....	V. P. & G. M., Cumberland Ry., Lt. & Fr. Co.....	Portland, Me.
Ford, Andrew J.....	*A.....	Prof. El. E., State Univ. of Iowa.....	Iowa City, Ia.
Ford, Charles McC.....	*A.....	Dist. Dftmn., Consolidated Gas Co. of N. Y.....	Newark, N. J.
Ford, Dr. C. E.....	*I. E.....	Chf. Clk. & A. G. Fm., Brooklyn Union Gas Co.....	Brooklyn, N. Y.
Ford, H. D.....	Nat. C.....	General Chemical Co.....	New York, N. Y.
Ford, J. C.....	Nat. G.....	American Sugar Refining Co.....	New York, N. Y.
Ford, W. B.....	Sou.....	Dist. S., South Penn. Oil Co.....	Union Trust Bldg., Charleston, W. Va.
Forest Oil & Gas Co.....	O.....	Mueller Mfg. Co.....	Box 2729, Birmingham, Ala.
Forman, E. T.....	Kan.....		Forest, O.
Forman, H. A.....	Nat. G.....		910 Grand Ave., Kansas City, Mo.
Forney, C. S. S.....	P. C.....	V. P. Eastern Oil Co.....	Buffalo, N. Y.
Forney, J. A.....	Nat. C.....		1307 Hobart Bldg., San Francisco, Cal.
Forrest, J. D.....	Ind.....	Consumer Gas Co.....	Toronto, Ont., Can.
Forrest, L. R.....	Ill.....	Sec. & G. M., Citizens Gas Co.....	Indianapolis, Ind.
Forstall, Alfred E.....	A.; *I. E.; Soc. G.; Nat. G.; Nat. C.....	Ch. E., By-Products Coke Corp.....	South Chicago, Ill.
Forstall, Walton.....	A.; *I. E.; Nat. C.....	Forstall & Robison, Engineers.....	15 Park Row, New York, N. Y.
Fort Dodge Gas & El. Co.....	Nat. C.....	A. E. of Dis., Philadelphia Gas Wks., United Gas Imp. Co.....	Philadelphia, Pa.
Fortman, Albert.....	Ace.....		Fort Dodge, Ia.
Ft. Plain Gas & Elec. Lt., Ht. & Power Co.....	Emp.....	J. B. Colt Co.....	New York, N. Y.
Ft. Scott & Nevada Light Heat, Water & Pwr. Co.....	Mo.....		Fort Plain, N. Y.
Fort Wayne Elec. Works.....	Mo.....		Nevada, Mo.
Fort Worth Gas Co.....	So. W.....		Fort Wayne, Ind.
Fort Worth Pr. & Lt. Co.....	So. W.....		Fort Worth, Tex.
Foshay, Wilbur B.....	Nat. G.....	Dist. M., Wash.-Ore. Corp.....	Ft. Worth, Tex.
Foster-Harris Gin & El. Co.....	Okla.....		Centralia, Wash.
Foster, D. H.....	Nat. G.....	Frederick, Okla.	
Foster, H. V.....	Nat. G.....	Sec., Ohio Oil Association.....	808 Harrison Bldg., Columbus, O.
Foster, J. E.....	Nat. G.....	P. Indian Ter. Illum. Oil & Gas Co.....	Bartlesville, Okla.
Foster, Spottswood C.....	I. E.....	Agt., The East Ohio Gas Co.....	Massillon, O.
Foster, W. H.....	P. C.....	S., Rappahannock Electric Light & Power Co.....	Fredericksburg Va.
Foster, William.....	*I. E.....	M., Marin Dist., Pac. Gas & El. Co.....	San Rafael, Cal.
Foutz, Charles C.....	Ind.....		3218 Turner St., Philadelphia,
Foveaux, Frank.....	P. C.....	A. M., Great Western Mfg. Co.....	La Porte, Ind.
Fowle, Frank F.....	I. E.....		1415 Morton St., Alameda, Cal.
*Fowler, Irving D.....	Nat. C.....		212 W. Washington St., Chicago, Ill.
Fowler, J. Scott.....	*A.; Nat. C.....	Meriden Gas Light Co.....	Meriden, Conn.
*Fowler, Richard C.....	Nat. C.; Mich.....	V. P., Deily & Fowler, Mfg. Co.....	Philadelphia, Pa.
*Fowler, Ross O.....	Nat. C.....	Care, Detroit City Gas Co.....	Detroit, Mich.
Fowler, Samuel J.....	A.; G. G. M.; N. E.; Soc. G.....	Care, Public Service Gas Co.....	Newark, N. J.
Fowles, B. C.....	Ark.....	T. & Agt., Charlestown Gas & Elec. Co.....	Charlestown, Mass.
Fowles, Byron A.....	Nat. C.....	Sec. & T., The Pine Bluff Co.....	Pine Bluff, Ark.
Fox, Charles J.....	*A.; Nat. C.....	M., Pine Bluff Lt. & Water Co.....	Pine Bluff, Ark.
Fox, Clifford S.....	A.; *I. E.; Nat. C.; Soc. G.....	S. of Dis., Philadelphia Suburban Gas & Elec. Co.....	Darby, Pa.
		S. of Dis., East River Gas Co.....	Long Island City, New York.



To replace your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is not difficult and is inexpensive. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Fox, E. C.	Nat. G.	M. Gas Appliance Co.	713 Frankfort Ave., Cleveland.
Fox, John S.	Nat. C.	Supply store, Springfield Gas Lt. Co.	Springfield, Mass.
Fox, William A.	*I. E.	V. P. Commonwealth Edison Co.	Chicago, Ill.
Foxboro Co., The.	N. G. S.		Foxboro, Mass.
Foxe, E. D.	Nat. C.	Burlington Gas Light Co.	Burlington, Ia.
Foy, George G.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Frainer, J. E.	Nat. G.	Sun Gas Co.	Salem, W. Va.
Fralic, F. A.	Nat. G.	Agt. S., Logan Natural Gas & Fuel Co.	Galion, O.
Frame, W. J.	Nat. C.	Wilmington Gas Co.	Wilmington, Del.
Frampton, R. C.	Nat. C.; *Wis.	G. M. Hudson-Phillips Motor Car Co.	St. Louis, Mo.
France, Frank	Nat. C.	Sals. M., Public Service Gas Co.	Newark, N. J.
Francis, E. J.	Nat. C.	Public Service Gas Co.	Trenton, N. J.
Francis, I. H., Jr.	*I. E.	Con. E.	1508 Commonwealth Trust Bldg., Philadelphia, Pa.
Francisco, Elsworth	Nat. C.; *A.	Insp. of Gas & Gas Meters.	City Hall Annex, Newark, N.J.
Franch, Charles	*I. E.	G. M. of Sals., Holophane Glass Co., Inc.	New York, N. Y.
Franklin, Le Roy G.	P. C.	Agt., Humphrey Co.	Los Angeles, Cal.
Franklyn, Chas. G.	Nat. C.	Gen. Agt., Central Union Gas Co.	New York, N. Y.
Franklyn, Gilbert	A.; *I. E.	E. of Dis., Consolidated Gas Co.	New York, N. Y.
Frank, Dr. Karl George	I. E.	El. E. & R., Siemens & Halske & Siemens-Schuckert Co.	90 West St., New York, N. Y.
Franklin, S. J.	Nat. C.; N. J.	Cumberland County Gas Co.	Millville, N. J.
Frantz, I. D.	Nat. G.	Fm., Hope Natural Gas Co.	Smithville, W. Va.
Frauz, Louis F.	Ace.	St. Clair Mfg. Co.	Dayton, O.
Franz, W. E.	Nat. G.	St. fm. Natural g. dept., Dayton Gas Co.	218 S. Jefferson St., Dayton, O.
Frary, Chas. O.	Ill.	M. House Heating Section, Peoples Gas Bldg.	Chicago, Ill.
Fraser, G. H.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Frazee, W. M.	Ind.	Sec., Central Fuel Co.	Bushville, Ind.
Frazer, D. H.	A.; Mich.	V. P. & T., Calhoun Gas Co.	Battle Creek, Mich.
Frazier, E. B.	*N. E.	T. Lynn Gas & Electric Co.	Lynn, Mass.
Frazier, J. E.	Nat. G.	S., Charleston-Dunbar, Natural Gas Co.	Charleston, W. Va.
Frederick, J. A.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Frederick, R. E.	Ace.	American Lava Co.	Chattanooga, Tenn.
Fredericks, Theodore L.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Freeman, C. K.	I. E.	T., Armspear Mfg. Co.	New York, N. Y.
Freeman, Conrad	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Freeman, E. H.	*I. E.	Prof. El. E., Armour Institute of Technology	Chicago, Ill.
Freeman, Frank	Nat. C.		Newark, N. J.
Freeman, Frederick Chas.	A.; *I. E.	E., United Gas Improvement Co.	Philadelphia, Pa.
Freeman, R. J.	N. E.		
Freeman, W. W.	I. E.; Nat. G.	P., Union Gas & El. Co.	Cincinnati, O.
Freeport Gas Co.	Nat. C.		Freeport, Ill.
Freese, Fred W.	A.; Ind.; *Mich.	Gas Works Engineer & Contractor.	Fort Wayne, Ind.
Freese, W. H.	Nat. G.	Rig Builder	136 E. Bowman St., Wooster, Ohio.
Fremont Gas, Elec. Light & Power Co.	Nat. C.		Fremont, Neb.
French, C. H.	Nat. C.; N. J.		
French, C. W.	*I. E.	Head Sals., Public Service Gas Co.	Newark, N. J.
French, Henry C.	Nat. C.	Col., Philadelphia Electric Co.	Philadelphia, Pa.
French, F. A.	Nat. G.	Boston Cons. Gas Co.	Boston, Mass.
Freshwater, A. H.	Nat. G.	Agt., Potter Gas Co.	Port Allegany, Pa.
Freudenberger, W.	P. C.	Salesman, Rund Water Heater Co.	San Francisco, Cal.
	Nat. G.	P. Freudenberger Oil Co.	504 Charleston Nat'l Bk, Bldg., Charleston, W. Va.
Frevert, R. A.	N. G. E.; Nat. G. E.	Dayton Natural Gas Co.	Dayton, O.
Frey, H. F.	Nat. C.	Allentown-Bethlehem Gas Co.	Allentown, Pa.
Frey, W. S.	Nat. G.	Agt., Logan Natural Gas & Fuel Co.	Bucyrus, O.
Frick, John A.	A.; Nat. C.	V. P. & G. M., Allentown-Bethlehem Gas Co.	Allentown, Pa.
Frick, Joseph	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Frick & Lindsay Co.	N. G. S.		Pittsburg, Pa.
Friedenberg, D.	Nat. G.	Aud., Union Natural Gas Corp.	Columbus, O.
Friedman, Leo	Nat. C.	Cleveland Heater Co.	Cleveland, O.
Friedrich, A. V.	Mich.		Traverse City, Mich
Friend, W. E.	P. C.	Southern California Edison Co.	Riverside, Cal.
Fritsch, C. H.	*Ill.; *Ind.		
Fritz, H. C.	Sou.; Mo.	Sals., Russell Engineering Co.	St. Louis, Mo.
	*A.; *Ill.; Nat.		
Fritz, Walter E.	C.	M., Reliable Stove Co. Div.	Cleveland, Ohio.
Proget, Andre	Ill.	S. of dis. Ill. Northern Utilities Co.	Dixon, Ill.
	*I. E.		25 Ave. de la Republique, Paris, France.
Froebieb, L. C.	Nat. G.	Sec., Federal Engineering Co.	Pittsburg, Pa.
Frothingham, Francis E.	*Emp.	Perry, Coffin & Burr.	Boston, Mass.
Frueauff, Frank W.	A.; *I. E.; Nat.		
	C.	P. & G. M., Denver Gas & Elec Co.	Denver, Col. and 60 Wall St., New York, N. Y.
Frueauff, Harry D.	A.; Nat. C.	H. L. Doherty & Co.	New York, N. Y.
Frueauff, J. F.	Nat. C.	Spokane Gas & Fuel Co.	Spokane, Wash.
Fry, C. Harry	Nat. C.	Bucks County Public Service Co.	Newton, Pa.
Fugate, F. S.	*Mich.; Tex.		Austin, Texas.
Fuigle, J. Sylvester	Nat. C.	Public Service Gas Co.	Newark, N. J.
Fujioka, I.	*I. E.	P., Tokyo Electric Co.	Kawasaki, Japan.
Fuller, E. K.	Nat. G.	Agt., Iroquois Natural Gas Co.	East Aurora, N. Y.

SYPHON AND "U"

American Meter Company

561 W. 47th St., New York, N. Y.

PRESSURE GAUGES. These have been improved so they can be repaired without the use of cement. We also manufacture all types of Arch Pressure Gauges and Single Tube Gauges.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Fuller, Raymond S.	P. C.	E. Dept., So. Cal. Ed. Co.	Los Angeles, Cal.
Fuller, H. W.	*I. E.	H. M. Bylesby & Co.	Chicago, Ill.
Fuller, W. J.	Nat. C.	Consumers Gas Co.	Toronto, Canada.
Fullerton, G. H.	N. E.		
Fuller-Warren Co.	Nat. C.		Milwaukee, Wis.
Fulsom, H.	Nat. G.	Fm., Woodstock Gas Co.	Woodstock, Ont., Can.
Fulton Fuel & Light Co.	Emp.		Fulton, N. Y.
Fulton Iron Works.	So. W.		St. Louis, Mo.
Fulton Co. Gas & Elec. Co.	Emp.		Gloversville, N. Y.
Fulton Lt., Ht. & Pr. Co.	Emp.		Fulton, N. Y.
Fulweiler, Walter Herbert.	A.; *I. E.	Ch., Dept. of Tests, United Gas Imp. Co.	Philadelphia, Pa.
Funk, F. L.	Ind.	M. & T., Consumers Gas Co.	Princeton, Ind.
Funk, F. O.	Nat. G.	Cochran & Funk, Oil & Gas Operators.	Moundsville, W. Va.
Funk, Paul C.	P. C.	S. of g. dept., Pacific Gas & Elec. Co.	Stockton, Cal.
Funk, W. T.	Nat. G.	Aud., Oil & Gas Co.	Titusville, Pa.
Funsten, F. L.	Kan.	V. P., Funsten Elec. Co.	Kansas City, Mo.
Furlong, William G.	A.; Nat. C.	Sec. & T., Municipal Gas Co.	Albany, N. Y.
Furness, G. C.	Ace.	Union Carbide Co.	New York, N. Y.
Furniss, G. B.	P. C.	A. M., Pacific Gas & El. Co.	Oakland, Cal.
Furniss, William	Nat. C.	Public Service Gas Co.	Newark, N. J.
Fusselman, P. A.	Pa.	E. A., Counties Gas & Elec. Co.	Ardmore, Pa.
Fussenich, B. H.	*N. E.	Torrington Electric Co.	Torrington, Conn.
Fussey, A. W.	Nat. C.	Detroit Brass Wks.	Detroit, Mich.
Fye, J. L.	Nat. G.	Div. S., Philadelphia Co.	Waynesburg, Pa.
Fyfe, A. D.	Nat. G.	Geologist, Empire Fuel & Gas Co.	Bartlesville, Okla.
Gabbert, J. C.	Ind.	M. & Treas., Consumers Gas Co.	Princeton, Ind.
Gadsden, P. H.	Nat. C.; A.	P., Charleston Cons. Ry. & Ltg. Co.	Charleston, S. C.
Gage County Gas, Light & Power Co.	Nat. C.		Beatrice, Neb.
Gage, Edgar S.	Mich.	Peoples Gas & El. Co.	Mason City, Iowa.
Gage, Henry Phelps.	I. E.	Corning Glass Co.	Corning, N. Y.
Gage, W. P.	Nat. G.	V. P., Lone Star Gas Co.	Fort Worth, Tex.
Gager, H. A.	Nat. G.	Natural Gas Co. of W. Va.	136 E. 5th St., Salem, O.
Gaither, L. K.	Nat. C.	Public Service Gas Co.	118 Main St., Hackensack, N. J.
Galbraith, L. I.	P. C.	Com'l Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Gale, Glen N.	Nat. G.	S., Glenwood Station, Southern Ontario Gas Co.	Merlin, Ont., Can.
Galena Signal Oil Co.	So. W.		Franklin, Pa.
Gallagher, C. E.	Nat. G.	Agt., East Ohio Gas Co.	Youngstown, O.
Gallagher, E. F.	Mich.	Pur. Agt. & S., Ionia Gas Light & Coke Co.	Ionia, Mich.
Gallagher, F. A.	Mo.	S., Springfield Traction Co.	Springfield, Mo.
Gallagher, F. A., Jr.	Nat. C.; I. E.	Narragansett Elec. Lighting Co.	Providence, R. I.
Gallagher, R. W.	Nat. G.	G. S., East Ohio Gas Co.	Cleveland, O.
Gallagher, William	Mo.	Laclede Gas Light Co.	St. Louis, Mo.
Galligan, James E.	IA.	G. Fm. Mains, Westchester Ltg. Co.	Yonkers, N. Y.
Galloway, Dr. Lee	Nat. C.		250 Greenway South, Forest Hills, N. Y.
Galloway, Edward W.	A.	M., Consumers Light & Power Co.	Waurika, Okla.
Galloway, James W.	IA.	Consumers Gas Co.	Reading, Pa.
Galt, James H.	A.	S. of Wks., Public Service Gas Co.	Camden, N. J.
Galveston Electric Co.	So. W.		Galveston, Tex.
Galveston Gas Co.	So. W.		Galveston, Tex.
Galveston-Houston El. Ry. Co.	So. W.		Houston, Texas.
Gannett, F. E.	Mo.	Laclede Christy Clay Products Co.	St. Louis, Mo.
Gannett, H. I.	Ace.	V. P. & G. M., Monarch Acetylene Co.	66 Exchange St., Buffalo, N.Y.
Gannon, John J.	A.; Nat. C.	S., United Gas Improvement Co.	Vicksburg, Miss.
Ganser, Herbert H.	A.; *I. E.; Nat. C.; Pa.	M., Counties Gas & Electric Co.	Norristown, Pa.
Ganz, Prof. A. F.	I. E.	Con. E., Prof. El. E., Stevens Institute of Technology.	Hoboken, N. J.
Gapen, J. C.	Ill.	A. S., Dist. D. Pub. Ser. Co. of N. Ill.	Oak Park, Ill.
Garard, Charles H.	Nat. G.	S., So. Div., The Ohio Fuel Supply Co.	Wellston, O.
Garard, F. L.	Nat. G.	A. S. and Agt., Fayette Co. Gas Co.	Uniontown, Pa.
Garard, John M.	A.; Nat. G.	V. P., Ohio Fuel Supply Co.	Columbus, O.
Gardeza, Corina M.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Gardiner, William Howard.	*N. E.; Nat. C.	Con. E., H. L. Doherty & Co.	New York, N. Y.
Gardner, B. H.	N. E.	S., United Elec. Lt. & Water Co.	Norwalk, Conn.
Gardner, C. W.	Nat. G.	East Ohio Gas Co.	Cleveland, O.
Gardner, James, Co.	G. I.		Bolivar, Pa.
Gardner, Ralph R.	IA.	E. A., Old Colony Gas Co.	Weymouth, Mass.
Gardner, Thomas A.	Can.; Nat. C.	M., Belleville Gas Dept.	Belleville, Ont., Can.
Gardner, Willis W.	N. E.	Fitter, Winsted Gas Co.	Winsted, Conn.
Garlock Packing Co.	Mo.; N. G. S.		Palmyra, N. Y.
Garner, J. B.	Nat. G.	Chem. E., Hope Natural Gas Co.	Pittsburgh, Pa.
Garrison, A. C.	*I. E.	G. M., Columbia Lamp Div.	St. Louis, Mo.
Garrison, John J.	*A.	V. P., Rathbone-Sard Co.	Albany, N. Y.
Garrison, Ralph H.	Nat. C.; N. J.		
Garritty, Edward	Ill.; A.	Atlantic Highlands Gas Co.	Atlantic Highlands, N. J.
Garrity, M. J.	Nat. G.	Dist. M. Northwestern Dist., Western United Gas & Electric Co.	Wheaton, Ill.
Gartland, Edward P.	Nat. C.	Dist. Fm., Equitable Gas Co.	McKeesport, Pa.
Gartley, William H.	A.; I. E.; Nat. C.	E. of Philadelphia Gas Works, United Gas Improvement Co.	Denver, Col.
Garvin, A. E.	Nat. C.	Laclede Gas Light Co.	Philadelphia, Pa.
Gas Age, The	Nat. C.; N. G. S.		52 Vanderbilt Ave., N. Y. City



Make your compressors deliver more gas by replacing your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Gas Appliance Co.....	N. G. S.....		Cleveland, O.
Gas Appliance Exchange..	*P. C.....		Long Beach, Cal.
Gas Industry, The.....	Nat. C.....		64 Pearl St., Buffalo, N. Y.
Gas Light Co. of Waverly. Emp.			Waverly, N. Y.
Gas Record.....	N. G. S.; Nat. C.....		Chicago, Ill.
Gas World, The.....	Nat. C.....		8 Bouwerie St., London, E. C. England.
Gassdorf, G. I.....	Nat. G.; Tex.....		Tulsa, Okla.
Gassett, A. L.....	Nat. G.....	R. Trenkamp Stove & Range Co....	Cleveland, O.
Gast, Fred W.....	I. E.....	El. E., U. S. Treasury.....	Washington, D. C.
Gaston, Luther.....	Nat. C.; Sou.....	M., Knoxville Gas Co.....	Knoxville, Tenn.
Gatehouse, G. W.....	Nat. C.....	M. g. Appliance Dept., Brooklyn Union Gas Co.....	Brooklyn, N. Y.
Gates, C. B.....	Nat. G.....	Chf. Clk., East Ohio Gas Co.....	Cleveland, O.
Gates, E. L.....	Ill.....	Fuel E., Ill. No. Utilities Co.....	Dixon, Ill.
Gates, John, Jr.....	Nat. G.....	Land Agt., Philadelphia Co.....	Pittsburg, Pa.
Gatzek, Raymond J.....	Nat. C.....		Richmond, Ind.
Gaumer, Herman.....	Nat. C.....	United Gas Improvement Co.....	4017 N. 12th St., Philadelphia, Pa.
Gavin, A. W.....	Nat. G.....	A., City S., Iroquois Natural Gas Co.....	Buffalo, N. Y.
Garrett, Blaine.....	Mich.....	Sec., Am. Public Utilities Co.....	Grand Rapids, Mich.
Gawtry, Lewis B.....	A.; *I. E.....	V. P., Consolidated Gas Co.....	New York, N. Y.
Gaylord, J. H.....	Pa.; *A.....	Sals. M., Luzerne Co. Gas & Elec. Co.....	Kingston, Pa.
Gear, H. B.....	*I. E.....	E. of Dis., Commonwealth Edison Co.....	72 W. Adams St., Chicago, Ill.
Geary, D. J.....	Nat. G.....	Sals. M., The Republic Iron & Steel Co.....	Youngstown, Ohio.
Gebbert, J. C.....	Ind.....		Princeton, Ind.
Geffine, L. W.....	Nat. C.; *N. E.....	Welsbach Co. of New England.....	Somerville, Mass.
Gefvert, Chas. J.....	A.....	E. A., Consolidated Gas Co.....	New York, N. Y.
Gehnrich Indirect Heat Oven Co.....	Nat. C.....		60 Franklin Ave., Brooklyn.
Geist, Carlton.....	Nat. C.; N. J.; A.....	G. M., Atlantic City Gas Co.....	Atlantic City, N. J.
Geist, C. H., Co.....	Nat. C.....		Land Title Bldg., Philadelphia, Pa.
Geist, Clarence H.....	Ind.; A.....	P., Northern Ind. Gas & El. Co.....	Philadelphia, Pa.
Geist, Jay.....	Nat. G.....	S. Clk., United Fuel Gas Co.....	Spencer, W. Va.
Geist, J. F.....	Nat. G.....	Field S., United Fuel Gas Co.....	Spencer, W. Va.
Gelatt, P. M.....	Wis.....	Sec., Wis.-Minn. Lt. & Pr. Co.....	La Crosse, Wis.
Gellert, Nathan Henry.....	*A.....	Cons. g. E.....	Wayne, Pa.
Genay, T. Bertram.....	A.; Ia.; Nat. C.; Ind.....	M., No. Ind. Gas & El. Co.....	Peru, Ind.
Genay, Thomas S.....	A.; *I. E.....	Chf. Clk. to 2d V. P., United Gas Improvement Co.....	Philadelphia, Pa.
General Electric Co.....	Mo.....		St. Louis, Mo.
Genl. Fire Extinguisher Co.....	Nat. C.....		Providence, R. I.
General Gas Appliance Co.....	Nat. C.; N. G. S.....		New York, N. Y.
General Gas Light Co.....	*P. C.....		Kalamazoo, Mich.
General Vehicle Co.....	Mo.....		Chicago, Ill.
Genesee Light & Pr. Co.....	Emp.....		Batavia, N. Y.
Genesee Gas Light Co.....	Emp.....		Geneseo, N. Y.
Gentry, R. G.....	Nat. C.....	Denver Gas & Elec. Light Co.....	Denver, Colo.
Georgi, C. E.....	*Ill.....	W. M., Schaeffer & Budenberg Mfg. Co.....	Chicago, Ill.
Georgia, Earl L.....	Nat. C.....	Oneonta Lt. & Pr. Co.....	172 Main St., Oneonta, N. Y.
Gerard, E. H.....	Wis.....	V. P., Stoughton Light & Fuel Co.....	Stoughton, Wis.
Gerdenier, C. M.....	A.....	S., Bridgeport Gas Light Co.....	Bridgeport, Conn.
Gerhard, William C.....	*Pa.....	E., Cyrus Borgner Co.....	Philadelphia, Pa.
Gerlicke, Oscar C.....	Nat. G.....	Chem. E., East Ohio Gas Co.....	Cleveland, O.
Gerlich, Hans J.....	Nat. C.....	Flatbush Gas Co.....	Brooklyn, N. Y.
German, Wm. H.....	Nat. C.....	Chf. Clk., Harrisburg Gas Co.....	Harrisburg, Pa.
Germer, E. G.....	Nat. G.....	P., Germer Stove Co.....	Erie, Pa.
Germer Stove Co.....	N. G. S.....		Erie, Pa.
Gernon, Geo. H.....	*I. E.....	Macbeth-Evans Glass Co.....	New York, N. Y.
Gerould, Charles L.....	A.....		Lindenhurst Inn., Norwalk, Conn.
Gerrity, J. A.....	Tex.....		Dallas, Tex.
Gerry, N. E.....	Can.; Nat. C.....	Com. dept., Consumers Gas Co.....	Toronto, Ont., Can.
Gessel, B. M.....	Nat. G.....	P., Anchor Oil Co.....	Tulsa, Okla.
Getz, A. M.....	*I. E.....	Philadelphia Electric Co.....	Lansdowne, Pa.
Getzinger, Chas. A. J.....	Nat. C.....	United Gas Impt. Co.....	Philadelphia, Pa.
Gibbes, Thomas M.....	*I. E.....	M., N. B. Dept., Appalachian Pr. Co.....	Bluefields, W. Va.
Gibson, K. S.....	I. E.....	Bureau of Standards.....	Washington, D. C.
Gibson, Walter A.....	Ill.....	Stkpr., Public Service Co. of No. Ill.....	Oak Park, Ill.
Gibson, C. A.....	Nat. G.....	Kansas Natural Gas Co.....	Independence, Kan.
Gibson, F. J.....	*I. E.....	Philadelphia Electric Co.....	Philadelphia, Pa.
Gibson, W. C.....	Nat. G.....	M., Wichita Falls Gas Co.....	Wichita Falls, Tex.
Gicker, Edward A.....	Nat. C.....	Consumers Gas Co.....	Reading, Pa.
*Gideon, Roy.....	Ind.....	No. Ind. Gas & El. Co.....	Michigan City, Ind.
Giegel, F. G.....	Nat. G.....	G. Fmn., No'west Ohio Nat. Gas Co.....	Toledo, O.
Gierl, Frederic.....	Nat. C.....	N. Y. Mutual Gas Light Co.....	New York, N. Y.
Gifford, B. J.....	Nat. G.....	S. Little Rock Gas & Fuel Co.....	Little Rock, Ark.
Gifford, N. W.....	A.; G. G. M.; *I. E.; Nat. C.; N. E.....	P., East Boston Gas Co.....	East Boston, Mass.
Gifford, Raymond H.....	Nat. C.....	Public Service Gas Co.....	Newark, N. J.
Gilbert, A. J.....	Nat. G.....	Fm., Arkansas Natural Gas Co.....	Malvern, Ark.
Gilbert & Barker Mfg. Co.....	Nat. C.....		Springfield, Mass.
Gilbert, George L.....	Nat. C.....	A. to M., Fall River Gas Works Co.....	Fall River, Mass.
Gilbert, Maxwell F.....	Nat. C.....	M., Richardson & Boynton Co.....	Philadelphia, Pa.
Gilchrist, M. A.....	Wis.....	M., Rochester Lt. Heat & Pr. Co.....	Rochester, Minn.
Gilchrist, J. F.....	I. E.; A.; Ill.....	V. P., Commonwealth Ed. Co., and P., Missouri Gas & El. Serv. Co.....	Chicago, Ill.
Gilchrist, James M.....	*I. E.....	Sec., Federal Sign System (Electric).....	Chicago, Ill.

ULCO LEAD WOOL FOR SAFETY

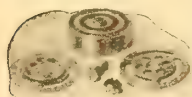
N ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Gillfillan, A.	*I. E.	Sals., Philadelphia Electric Co.	Philadelphia, Pa.
Gillfillan Machine Co.	N. G. S.		Edenport, N. Y.
Gillinger, E. C.	N. J.		Atlantic City, N. J.
Gill, John E.	Nat. G.	P., Manufacturers Light & Heat Co.	Pittsburg, Pa.
Gill, W. Herbert.	Nat. C.		1430 W. St., N. W., Washing- ton, D. C.
Gillespie, Alex. H.	Ill.	Fm., Peoples Gas Light & Coke Co.	Chicago, Ill.
Gillespie, C. A.	P. C.	Dis. Agt., Southern California Edi- son Co.	Riverside, Cal.
*Gillett, Melville	A.	Dir., Gas Companies.	Smethport, Pa.
Gillette, S. E.	N. E. C.	M. g. dept., Beverly Gas & Elec. Co.	Danvers, Mass.
Gilliland, L. L.	Ill.	Fm., Public Service Co. of No. Ill.	Evanston, Ill.
Gillin, Charles L.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Gillinder, E. A.	Nat. C.	Gillinder & Sons, Inc.	Tacony, Pa.
Gillinder, Edwin B.	*I. E.	Gillender Bros.	Port Jervis, N. Y.
Gillingham, Hubert D.	A.; Pa.; Nat. C.; *I. E.	A. Sales M., Public Service Gas Co.	Newark, N. J.
Gilman, Chandler R.	*I. E.	Chf. El. West Milwaukee Shops, Chi- cago, Milw'ke & St. Paul R. R. Co.	Milwaukee, Wis.
Gilmer, James.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Gilmore, F. M.	Nat. G.	M. and Sec., Mound Valley Natural Gas and Oil Co.	Mound Valley, Kan.
Gilmour, John G.	Nat. C.	Rockford Gas Light & Coke Co.	Kewanee, Ill.
*Gilpin, Francis Hopkinson A.	A.		Dover, N. J.
Gimbel, Daniel.	*I. E.	Gimbel Bros.	Philadelphia, Pa.
Gimper, E. A.	P. C.	Citrus Belt Gas Co.	Corona, Calif.
Gindele, Albert H.	Nat. G.	Indus. g. El., Toledo Ry. & Lgt. Co.	1120 Norwood Ave., Toledo, O.
Ginley, John.	A.; Ill.	S. of Mains, Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Ginther, Jacob B.	P. C.	A. S., g. Dis., Los Angeles Gas & Elec- tric Corp.	Los Angeles, Cal.
Girdwood, Kenneth.	*I. E.	Cooper Hewitt Elec. Co.	Hoboken, N. J.
Given, E. E.	Nat. G.	Field S., East Ohio Gas Co.	1447 E. 6th St., Cleveland, O.
Given, William.	Ill.	Dist. M., West'n United Gas & El. Co.	Aurora, Ill.
Glaentzer, George W.	Nat. C.	P., Century Light and Power Co.	New York, N. Y.
Glaessner, A. F.	Nat. C.	2d V. P., Union Stove Works.	Meriden, Conn.
Glahn, Fred.	Wis.; Ia.	Clk., Milwaukee Gas Light Co.	Milwaukee, Wis.
Glasgow, Arthur Graham.	*I. E.; Nat. G.	Humphreys & Glasgow.	Washington, D. C.
Glass, Francis J.	Ind.		Vincennes, Ind.
Glass, John.	Nat. G.	E., Carnegie Natural Gas Co.	Waynesburg, Pa.
Glass, Roy.	Nat. G.	E., Carnegie Natural Gas Co.	Hastings, W. Va.
Glass, Sheldon J.	A.; *I. E.; Wis.	V. P., Milwaukee Gas Lt. Co.	Milwaukee, Wis.
Gleason, C. W.	Nat. G.	Mech. El., United Natural Gas Co.	Oil City, Pa.
Gleason, Geo. F.	Nat. C.	Nassau & Suffolk Ltg. Co.	Hempstead, N. Y.
Gleason, Homer E.	*I. E.	H. E. Gleason Co.	1517 Second Ave., Seattle, Wash.
Gleason, Jos. J.	Nat. C.		59 Johnston Ave., Kingston, N. Y.
Gleason, Marshall T.	Nat. C.; *I. E.	P., Gleason-Tiebout Glass Co.	Brooklyn, N. Y.
Glendenning, Andrew H.	Nat. C.	Trav. Aud., Public Service Gas Co.	Bayonne, N. J.
Glens Falls Gas & Electric Light Co.	Emp.		Glens Falls, N. Y.
Goble, J. C.	*Ill.	A. M., Reynolds Gas Regulator Co.	Anderson, Ind.
Goedley, G. McM.	Ace.	The Linde Air Products Co.	New York, N. Y.
Godwin, Carl.	Nat. C.		1711 Tioga St., Philadelphia.
Goeke, John M.	Ace.	care Krein Mfg. Co.	Wapakoneta, Ohio.
Goeltz, C. G.	N. E.		Glenolden, Pa.
Goepel, C. P.	*I. E.	Patent Counsel.	165 Broadway, New York City
Goetsch, Edwin H.	Ill.	Dist. S., Central Illinois Light Co.	Peoria, Ill.
Goetz, Andrew J., Jr.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Goff, George S.	Nat. G.	G. M., Crystal City Gas Co.	Corning, N. Y.
Goff, Ira N., Jr.	A.	S., g. wks. for U. S. Government.	West Point, N. Y.
Goggin, E. F.	Nat. C.; N. E. C.	Solic., Marlboro Hudson Gas Co.	Marlboro, Mass.
Gohring, G. H.	Mo.	Fredericktown Electric Mfg. Co.	Fredericktown, Mo.
Goldbas, Moses J.	Nat. C.	M. Appl. Dept., Utica Gas & Elec. Co.	Utica, N. Y.
Goldberg, Edward.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Golden, John W.	A.; *I. E.; Nat. C.; Sou.	V. P., Savannah Gas Co.	Savannah, Ga.
Goldmark, Charles J.	I. E.	Con. E.	103 Park Ave., New York.
Goldsborough, J. R.	Nat. G.	Titusville Supply Co.	Pittsburg, Pa.
Goldschmidt Thermit Co.	So. W.		New York, N. Y.
Goldschmidt, W. N.	*I. E.	Stanford University.	Stanford, Cal.
Goldsmit, Chas. H.	Sou.	Sals., Thermophore Mfg. Co.	Birmingham, Ala.
Goliad Supply Co.	So. W.		Goliad, Tex.
Gollie, Benjamin F.	Nat. G.	Fm., United Natural Gas Co.	Shinglehouse, Pa.
Gonden, H. J.	*Ia.	Public Service Publishing Co.	Peoples Gas Bldg., Chicago
Goodale, Samuel P.	*I. E.	El. E., Thorndike Co.	Thorndike, Mass.
Goodenough, Francis Wm.	Nat. C.; *I. E.	Comp. of g. Sals. Dept., Gas Light & Coke Co.	Horseferry Rd., Westminster.
Goodhue, Allan J.	*Ill.; *Wis.	W. Sals. M., U. S. Cast Iron Pipe & Fdy. Co.	S. W., England. Chicago, Ill.
Goodloe, E. S.	Ace.	Commercial Acetylene Welding Co.	Washington, D. C.
Goodman, Patrick.	*A.; *P.C.; Can. *Ill.	M., Safety Gas Main Stopper Co.	New York, N. Y.
*Goodnow, Albert C.	Ill.; A.		108 S. La Salle St., Chicago Ill.
Goodnow, George F.	A.; Ill.; Wis.	P., Southern Gas Impt. Co.	Chicago, Ill.
Goodnow, Robert W.	Nat. G.	City gas inspector.	Kansas City, Mo.
Goodrich, B. F., Co.	N. G. S.		Akron, O.
Goodrich, H. B.	Nat. G.	Consulting Geologist.	Ardmore, Okla.
Goodrich, R. D.	Mich.	M., Public Utilities.	Ypsilanti, Mich.
Goodrich, W. W.	Ind.	Sec., Union Heat, Light & Power Co.	Winchester, Ind.



You can increase the efficiency of your compressors by replacing your old valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

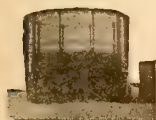
MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

825

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Goodwin, Fred. A.	N. E.	S. Works, Northampton Gas Co.	Northampton, Mass.
Goodwin, Fred. M.	*N. E.	A. S. St. Dept., Boston Cons. Gas Co.	Boston, Mass.
Goodwin, H.	*N. E.		Beverly, Mass.
Goodwin, Harold, Jr.	*I. E.	Asst. Supt. dis., Philadelphia El. Co.	Philadelphia, Pa.
Goodyear, Nelson	Ace.		50 Church St., New York, N. Y.
Gordon, George	Nat. C.	A. Agt., United Gas Imp. Co.	West Philadelphia, Pa.
Gordon, James	Nat. C.		Long Island City, N. Y.
Gordon, L. O.	A.	Jackson Light & Trac. Co.	Jackson, Miss.
Gore, J. M.	P. C.	Sals, M., Mangrum & Otter, Inc.	San Francisco, Cal.
Goreau, Nelson G.	Sou.	Go-Ro Mfg. Co.	New Orleans, La.
Gorgan, Geo.	Nat. C.		136 Hartwell St., Waukesha, Wis.
Gorham, R. W.	Ace.	J. B. Colt Co.	69 Murray St., New York, Waterlool, Iowa.
Gorman, J. J.	Nat. C.	Citizens Gas & Elec. Co.	826 Baronne St., New Orleans, La.
Go-Ro Mfg. Co.	Sou.		
Gorsuch, N. R.	Ind.	Bowser Tank Co.	Indianapolis, Ind.
Gorton, Robt. E.	*I. E.	Packard Lamp Works of G. E. Co.	Warren, Ohio.
Goshen Gas Co.	Nat. C.		Goshen, Ind.
Goslin, N. W.	Nat. C.		Philadelphia, Pa.
Gosling, J. Woodley	*I. E.	General Electric Co.	Schenectady, N. Y.
Goss, A. J.	Mich.; Nat. C.; Ia.	M., Ottumwa Gas Lt. Ht. & Pr. Co.	Ottumwa, Ia.
Gott, Douglass	*N. E.	A. to S., Derby Gas Co.	Derby, Conn.
Goudy, G. W.	*N. E.	Agt., Wright Gas Iron Co.	Boston, Mass.
Goudy, Roy A.	A.; Nat. C.	M., Petersburg Gas Co.	Petersburg, Va.
Goudy, W. R.	Nat. C.	with Williamson & Mead.	New York, N. Y.
Gould, B. S.	P. C.	Fm. g. Works, S'thn Cal. Gas Co.	Los Angeles, Cal.
Gould, Charles Newton	*Nat. G.	Geol. E.	Oklahoma City, Okla.
Gould, John A.	A.; G.G.M.; N.E.	E. of Dis., Boston Consol. Gas Co.	Boston, Mass.
Gould, William	N.E.C.; Nat. C.; N. E.	Com. M., Gas & Elec. Improvem't Co.	Boston, Mass.
Goward, A. T.	*I. E.	L. M., British Col. Electric Ry. Co.	P. O. Drawer 1580, Victoria, B. C., Canada.
Goza, W. C.	Nat. C.	National Tube Co.	Atlanta, Ga.
Grabowski, R. A.	Wis.		Sheboygan, Wis.
Grace, Clarence H.	Can.; Nat. C.; Nat. G.	Gas Journal Pub., Ltd.	Hamilton, Ont.
Grady, John D.	N. J.	Gas Appl. Sales Co. of America.	Philadelphia, Pa.
Grady, Stanley	Nat. C.; Sou. *Pa.; N. J.	Sec., Roberts & Mander Stove Co.	Philadelphia, Pa.
Graeff, Harold W.	A.		1513 N. 33d St., Philadelphia.
Graf, Carl H.	A.; Nat. C.; *I. E.; Emp.	V. P. & G. M., Municipal Gas Co.	Albany, N. Y.
Graff, Wesley M.	*I. E.	Con. E., Graves Engineering Co.	New York, N. Y.
Graffis, Herbert	Nat. C.; *Ind.; *Mich.	Ad. M., Gas Record.	Monadnock Blk., Chicago, Ill.
Graffis, Wm. H.	Nat. G.; *Ill.; *Ind.	P., Gas Publishing Co.	Chicago, Ill.
Graham, Allan S.	A.; Nat. C.; Ia.	S., Sioux Falls Gas Co.	Sioux Falls, S. D.
Graham, E. C.	*I. E.	National Electric Supply Co.	Washington, D. C.
Graham, John	Ill.	Fm., Peoples Gas Light & Coke Co.	Chicago, Ill.
Graham, J. W.	Nat. C.	G. M., Kirtson Co.	Philadelphia, Pa.
Graham, Lyman L.	Nat. G.	Sec., United Natural Gas Co.	Oil City, Pa.
Graham, Malcolm M.	A.; Nat. C.; *I. E.	Sec. & T., New Amsterdam Gas Co.	New York, N. Y.
Graham, Wm. H.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Grammel, B. J.	Nat. G.	Pur. Agt., Iroquois Natural Gas Co.	45 Church St., Buffalo, N. Y.
Grand Rapids Gas Lgt. Co.	Nat. C.		Grand Rapids, Mich.
Granger, Albert R.	*I. E.	M., Beacon Light Co.	Chester, Pa.
Granite City Gas Light & Fuel Co.	Nat. C.		Granite City, Ill.
Grant, Albert W., Jr.	*A.; I. E.	A. S. H. Koppers Co.	Pittsburg, Pa.
Grant, C. E.	Nat. G.	Agt. Penn. Fuel Supply Co.	416 Main St., Emlenton, Pa.
Grant, Robert	A.; *N. E.; Nat. C.	T., Boston Consol. Gas Co.	Boston, Mass.
*Grant, Thos. E.	*Wis.; *Ia.; †A.	Sales Agt., Humphrey Co.	Kalamazoo, Mich.
Granville Fuel & Light Co.	O.		Columbus, O.
Gratz, Alfred	Nat. C.	Alfred Gratz Co.	Philadelphia, Pa.
Graul, Carl L. O.	Ill.	Tech. R., By-Products Coke Corp.	Chicago, Ill.
Gravatt, C. S.	N. J.	R. F. D. No. 1, Box 126, Belmar, N. J.	
Graveley, R. S.	A.	M., Long Island Gas Corp.	Sag Harbor, N. Y.
Graves, C. A.	Emp.	Southern N. Y. Power Co.	153 Bay 35th St., Brooklyn, N. Y.
Graves, Clark R.	Mich.; Nat. C.	M., Lansing Fuel & Gas Co.	Lansing, Mich.
Graves, George W.	Nat. C.	Graves Supply Co.	210 Lawrence St., Cincinnati, N. Y.
Graves, L. H.	I. E.	E., National X-Ray Reflector Co.	New York, N. Y.
Graves Supply Co.	N. G. S.		Cincinnati, O.
Graves, William Lee	*I. E.	Cooper-Hewitt Elec. Co.	Hoboken, N. J.
Gray, A. R.	Nat. G.	A. G. S., Peoples Natural Gas Co.	Pittsburgh, Pa.
Gray, E. H.	Ill.	G. S., Jacksonville Ry. & Lt. Co.	Jacksonville, Ill.
Gray, Everett F.	*N. E.; Nat. C.	Office M., Lowell Gas Light Co.	Lowell, Mass.
Gray, Henry J. W.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Gray, Homer R.	Nat. G.	A. T., Iroquois Natural Gas Co.	Buffalo, N. Y.
Gray, J. F.	Nat. G.	E. Dept., East Ohio Gas Co.	Cleveland, O.
Gray, John R.	*Mich.	Hoffman Heater Co.	Lorain, Ohio.
Gray, N. O.	*Mich.	Sales M., Oppeman Coal Co.	Detroit, Mich.
Grayson Railway Supply Co.	So. W.		St. Louis, Mo.
Grayson, Theodore J.	N. J.; Pa.; †A.	P., Schuylkill Co. Lt. & Fuel Co.	Philadelphia, Pa.
Greacen, W., Jr.	A.; Nat. C.	Agt., Public Service Gas Co.	Jersey City, N. J.



HOLDER PAINTS:—

Our line includes No. 31 Williamsport Red.
The standard holder paint of many of the largest companies. No. 1908 Green on holder frames makes a pleasing contrast.

Write for
REVIEW OF TECHNICAL PAINTS. CHEESMAN & ELLIOT, 100 William St., New York

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Greear, W. S.	Nat. G.; *Ia.	R., Welsbach Street Lighting Co.	Chicago, Ill.
Great Bend Water & Elec. Co. (E. I. Murphy, Mgr.)	Kan.		Great Bend, Kansas
Great Western Smelting & Ref. Co.	So. W.		St. Louis, Mo.
Greeley Gas & Electric Co.	Nat. C.		Greeley, Colo.
Green, Albert	*Ia.; Nat. C.	G. Fm. of Fitters, Un. Gas Imp. Co.	Philadelphia, Pa.
Green, George Ross	*I. E.	E., Philadelphia Electric Co.	Philadelphia, Pa.
Green, J. W.	*Ia.; Nat. C.	S., Westchester Lighting Co.	Mount Vernon, N. Y.
Green, R. C.	Nat. C.		1339 Wisconsin Ave., Washington, D. C.
Greenwalt, E. J.	Nat. G.	Trunk L. fm. Columbia Gas & Electric Co.	Huntington, W. Va.
Greencastle Gas & Electric Light Co.	Nat. C.		Greencastle, Ind.
Greene, Raymond L.	A.	A. S., Brooklyn Union Gas Co.	Brooklyn, N. Y.
*Greenough, Malcolm S.	*N. E.; *Soc. G.		39 Court St., Boston, Mass.
Greenville Gas Co.	So. W.		Greenville, Tex.
Greenville Natural Gas Co.	Nat. C.		Greenville, Pa.
Grefe, Francis H.	Nat. C.	Am. Gas Furnace Co.	New York, N. Y.
Gregg, Guy F.	Wis.; Nat. C.		
Gregg, Wm. L.	*Ia.	Sales Agt., Milwaukee Gas Light Co.	Milwaukee, Wis.
Greulich, Louis E.	*Wis.	S., The Fuller-Warren Co.	Milwaukee, Wis.
Greis, Henry N.	Mich.	P., Traverse City Gas Co.	Traverse City, Mich.
Greis, John	Nat. G.	g. expert, Westcott & Gries	Tulsa, Okla.
Grey, John Chester	A.; Nat. C.	E., No. Ind. Gas & Elec. Co.	Ft. Wayne, Ind.
Gribbel, John	A.; *I. E.; Nat. C.		
*Gribbel, Wakeman Griffin	C.; P. C.; Sou. V. P., John J. Griffin & Co.		1513 Race St., Philadelphia, Pa.
Gribble, Wallace B.	*Pa.; N. J.; Nat. C.		
Griffith, C. J.	*A.; Sou. Sals., John J. Griffin & Co.		Philadelphia, Pa.
Griffith, David M.	Nat. G.	Sp'l Rm. Hope Natural Gas Co.	Clarksburg, W. Va.
Griffin, G. B.	Ark.	G. M., Little Rock Ry. & Elec. Co.	Little Rock, Ark.
Griffin, H. L.	*A	Mech. & g. E., Otto Coking Co.	New York, N. Y.
Griffin, John J., & Co.	*I. E.	M. Retail & Supply Dept., Westinghouse Electric & Mfg. Co.	Pittsburg, Pa.
Griffin, Orange G.	Ia.		Ames, Ia.
Griffs, Rowland E.	Nat. C.		Philadelphia, Pa.
Griffith, C. W.	*A.	Dfm., Consolidated Gas Co.	New York, N. Y.
Griffith, Norman J.	Ia.	Insp. Traffic, Phila. Gas Works, United Gas Imp. Co.	Philadelphia, Pa.
Griffiths, Chester A.	P. C.	A. S., g. dept., Pacific Gas & El. Co.	Sacramento, Cal.
Griffiths, G. M., Jr.	Nat. C.; *Ia.	Stat. Clk., Consolidated Gas Co.	New York, N. Y.
Grigsby, Bertram J.	*Ia.	Insp. of Ltg., Consolidated Gas Co.	New York, N. Y.
Grim, C. C.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Grimm, C. H.	*I. E.	Anderson Elec. Specialty Co.	Chicago, Ill.
Grimm, W. M.	*Ia.	S., Suburban Gas & Fuel Co. of York County	Dallastown, Pa.
Griswold, C. S.	Ia.	P., Blair Gas Co.	Blair, Neb.
Griswold, R. G.	P. C.	Supt., Gas Works	Santa Cruz, Cal.
Griswold, W. T.	Nat. C.; *N. E.	Meriden Gas Co.	Meriden, Conn.
Groble, J. C.	A.; Nat. G.	g. E., H. L. Doherty & Co.	New York, N. Y.
Grogan, Joseph	Nat. G.; *Mich.	Geologist, Philadelphia Co.	Pittsburg, Pa.
Groh, John M.	Ind.	Reynolds Gas Regulator Co.	Anderson, Ind.
Gron Dahl, L. O.	Nat. G.	Gas Maker, Public Service Co. of North Illinois	Streator, Ill.
Gross, Harry O.	Nat. C.	Col., Public Service Gas Co.	Newark, N. J.
Gross, H. A.	I. E.	John Hopkins University	Baltimore, Md.
Gross, I. W.	*Ia.	Chf. Clk. Transp. Div., United Gas Improvement Co.	Philadelphia, Pa.
Grosscup, F. P.	*I. E.	Care, M. E. Ash	752 West End Ave., New York, N. Y.
Grosscup, P. B.	*I. E.	El. E., Interboro Rapid Transit Co.	New York, N. Y.
Grover, Sherwood	Nat. G.	P., Charleston-Dunbar Natural Gas Co.	Charleston, W. Va.
Groverman, W. H.	Nat. G.	V. P. & G. M., Charleston-Dunbar Natural Gas Co.	Charleston, W. Va.
Grow, Fay	Nat. C.; A.	G. S. g. dept., San Joaquin Lt. & Pr. Corp.	Bakersfield, Cal.
Grow, H. A.	*Mich.	M., Island Creek Coal Sales Co.	Detroit, Mich.
Gruber, Chas. A.	*Ill.	Dist. Sales M., Kellum Co.	Chicago, Ill.
Grunder, F. D.	Ia.; Nat. C.	S. Dis., Sioux Falls Gas Co.	Sioux Falls, S. D.
Grunwell, Wm. B.	A.	Aluminum Co. of America	Massena, N. Y.
Guard, E. R.	Nat. C.	A. G. Sals. M., Jones & Laughlin Co.	Pittsburgh, Pa.
Guardian Gas Appliance Co.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Gurnsey, W. M.	Nat. C.; Sou.	Supt., Rock Hill Gas Co.	Rock Hill, S. C.
Guffey, Joseph F.	N. G. S.	S., Crystal City Gas Co.	Cleveland, O.
Guild, R. E.	Nat. G.	S., Crystall City Gas Co.	Cornwall, N. Y.
*Guise, J. Warren	A.; Nat. G.	U. S. Govt. Petroleum Administrator	Munsey Bldg., Washington, D. C.
Guiltteau, W. S.	Ind.	And., Citizens Gas Co.	Indianapolis, Ind.
	Nat. C.	Roberts & Mander Stove Co.	Philadelphia, Pa.
	*Ia.; *Mich.; *Wis.; Sou.; *Ill.; *A.		
	Nat. G.	Sals. M., Stacey Bros. Gas Construction Co.	Cincinnati, Ohio.
Guldransen, —	Nat. C.	Welsbach Co.	Gloucester, N. J.
Guldrin, Olaf N.	A.; *Ind.; P. C.		
Gulf Cities Gas Co.	*Mich.; *Wis.	P., Western Gas Construction Co.	Fort Wayne, Ind.
Gulf Refining Co.	Nat. C.		Biloxi, Miss.
Gulick, John H.	So. W.		Houston, Tex.
	Ill.	V. P., Public Serv. Co. of No. Ill.	Chicago, Ill.



An installation of MESTA AUTOMATIC PLATE VALVES (Iversen) in your compressor guarantees higher efficiency. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

827

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Gumz, J. M.	Ill.	Cadet E. Dis. Dept. Western United	Aurora, Ill.
Gunn, A. B.	Emp.	g. & El. Co.	Buffalo, N. Y.
Gunther, Irving J.	Nat. C.	Buffalo General Electric Co.	New Brunswick, N. J.
Gurney, E. H.	Can.	Public Service Gas Co.	Toronto, Ont., Can.
Guthrie Gas Light, Fuel & Imp. Co.	Okla.	Sals. M., Gurney Foundry Co.	Guthrie, Okla.
Gussio, W. H.	Nat. C.	Chf. Clk. Com'l. Dept., United Gas	Vicksburg, Miss.
Guyette, Geo.	Nat. C.	Imp. Co.	P. O. Box 214, Oneida, N. Y.
Gwinner, Ernest E.	Nat. C.	Washtenaw Gas Co.	Ann Arbor, Mich.
Gwynn, E. F.	Nat. G.	P., Gwynn Gas Burner & E. Co.	Pittsburg, Pa.
Gwynn Gas Burner & Engineering Co.	N. G. S.		Pittsburg, Pa.
Haag, F. E.	A.; Nat. C.	H. D. Walbridge & Co.	New York, N. Y.
Haas, F. J.	Ind.	G. M., Public Service Co.	Evansville, Ind.
Haas, T. J. J.	Nat. C.	Public Service Gas Co.	Burlington, N. J.
Haase, Ewald.	A.; Nat. C.; Wis.	Sec. & T., Milwaukee Gas Light Co.	Milwaukee, Wis.
Habig, L. C.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Hackstaff, J. D.	Nat. G.; A.; P.		
Hackstaff, Richard G.	Nat. G.	G. M., Empire Pipe Line Co.	Bartlesville, Okla.
Hackstetter, Ralph	Nat. G.	g. Producer, Gunsburg & Forman	Buffalo, N. Y.
Haddock, Isaac T.	*N. E.; A.	Ch., Cambridge Gas Lt. Co.	Cambridge, Mass.
Hadley, F. L.	Nat. G.	S. of Lines, The Peoples Natural Gas Co.	Pittsburg, Pa.
Hadley, W. R.	Nat. G.	Sec. and T., Union Natural Gas Corp.	Pittsburg, Pa.
Haertel, W. T.	Wis.; †A.	Solic., Milwaukee Gas Light Co.	Milwaukee, Wis.
Hafer, S. E.	Nat. G.	Fmn., Mfg. Lt. & Ht. Co.	East Liverpool, O.
Hafeigh, Horace M.	*I. E.	M. of Show Room, Phila. Elec. Co.	Lansdowne, Pa.
Haftenkamp, Joseph P.	A.	A. S., Rochester Railway & Light Co.	Rochester, N. Y.
Hagadorn, David P.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Hagan, W. G.	Nat. G.; N. G. E.	Mech. E., East Ohio Gas Co.	7918 Hough Av., Cleveland, O.
Hagen, O. C.	Nat. G.	G. M., Drilling Dept., Ohio Fuel Supply Co.	Columbus, O.
Hagerman, A. H., Jr.	Nat. C.; N. J.	S., Consolidated Gas Co. of N. J.	Asbury Park, N. J.
Hagerman, O. H.	N. J.		Red Bank, N. J.
Hagerty, J. H.	Sou.	G. M., Valdosta Gas Co.	Valdosta, Ga.
Hahn, E. J.	*Wis.	Sals., Art Stove Co.	Detroit, Mich.
Hahn, Lucian L.	P. C.	Estate Stove Co.	Hamilton, O.
Haig, Clifford W.	Nat. C.	St. Augustine Gas & El. Co.	Miami, Fla.
Haight, Harry W.	Nat. C.	N. Y. Mutual Gas Light Co.	New York, N. Y.
Haight, Theodore	A.	P. Plant Engineering & Equipment Co., Inc.	New York, N. Y.
Haight, W. H.	Nat. C.	Agt., Public Service Gas Co.	Hackensack, N. J.
Haines, E. L.	*I. E.	National X-Ray Reflector Co.	Chicago, Ill.
Haines, James R.	Sou.	Americus Lighting Co.	Americus, Ga.
Haines, Jansen	A.; Ia.; Mich.		
Hake, Harry G.	*I. E.	P., Des Moines Gas Co.	Des Moines, Ia.
Haldeman, Clifford L.	†A.	Prof. El. E., Washington University.	St. Louis, Mo.
Hale & Kilburn Co.	S. W.	Dist. Fm., Philadelphia Gas Works.	Philadelphia, Pa.
Hale, Henry A., Jr.	N. E.	E., Bureau of Safety.	Chicago, Ill.
Halley, Tim	†Ill.	Fm., Public Service Co. of No. Ill.	Boston, Mass.
Halket, Wm. D.	P. C.	Prop., Bay City Iron Works.	Ottawa, Ill.
Hall, A. H.	A.; *I. E.; Nat. C.; Soc. G.		San Francisco, Cal.
Hall, Arthur E.	P. C.	A. Sec. & S. of Dis., Central Union Gas Co.	New York, N. Y.
Hall, Arthur S.	Nat. C.; N. E.	A. E. g. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Hall, C. T.	Nat. G.	Springfield Gas Lt. Co.	Springfield, Mass.
Hall, Elmon L.	A.; Nat. C.	Oil & g. Op., Bula Oil Co.	Pittsburgh, Pa.
Hall, G. C.	Nat. C.	Chf. E., Portland Gas & Coke Co.	Portland, Ore.
Hall, H. E.	Nat. G.	Detroit Brass Wks.	Detroit, Mich.
Hall, H. F.	P. C.	E., Dominion Natural Gas Co.	Hamilton, Ont., Can.
Hall, Henry C.	Nat. G.	Dept. Mgr., Holbrook, Merrill & Stetson	San Francisco, Cal.
Hall, Herman H.	Nat. G.	G. Bookkeeper, Iroquois Natural Gas Co.	Buffalo, N. Y.
Hall, Homer G.	Kan.	Agt., The Ohio Fuel Supply Co.	Columbus, O.
Hall, J. A.	Nat. C.	Sals., Duncan Elec. Mfg. Co.	3218 St. John St., Kansas City, Mo.
Hall, Jesse J.	Nat. G.		
Hall, M. G.	P. C.	Acct., Randall Gas Co.	109 Vassall St., Wollaston, Mass.
Hall, T. A.	Nat. G.	M., Pacific Gas & Electric Co.	Morgantown, W. Va.
Hall, T. H.	P. C.	E., Dominion Natural Gas Co.	Santa Rosa, Cal.
Hall, W. Howard	Sou.	Salesman, Southern Counties Gas Co.	Hamilton, Ont., Can.
Hall, William P.	*I. E.	Charleston Cons. Ry. & Lt. Co.	Santa Monica, Cal.
Halla, Joseph	Ace.	Sals., Macbeth-Evans Glass Co.	Charleston, S. C.
Halladay, Guy D.	Nat. C.	U. S. Gauge Co.	Philadelphia, Pa.
Hallett, W. L.	Nat. C.; *N. E.	Grand Rapids Gas Light Co.	67 Wall St., New York, N. Y.
Hallett, H. W.	Nat. C.	Rund Mfg. Co.	Grand Rapids, Mich.
Halley, H. B.	Nat. C.	Western Electric Co.	Boston, Mass.
Halloran, Richard J.	Nat. C.; †A.; Pa.	M., Welsbach Co.	Kansas City, Mo.
Halls, Sidney J.	Nat. C.; Can.	M. Bartlett & Co., Inc.	Washington, D. C.
Halsey, W. M.	A.; Nat. C.	M. Victoria Gas Co., Ltd.	Kingstown, Pa.
Halstead, Chas. W.	I. E.	Agt., Public Service Gas Co.	Victoria, B. C., Can.
Halvorson, C. A. B., Jr.	I. E.	Sales S., Lowell Elec. Light Corp.	Newark, N. J.
Halvorson, Hawthorne P.	N. E.	General Electric Co.	Lowell, Mass.
Hambright, D. M.	†A.	S., Citizens Gas, El. & Power Co.	West Lynn, Mass.
Hamburg Gas Co.	Pa.	G. M., Bangor Gas Co.	Nantucket, Mass.
		A. J. Althouse, S.	Bangor, Pa.
			Hamburg, Pa.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with all Insurance Companies.

Only Heater for garages passed by the Underwriters' Laboratories.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Hamerstrom, F. N.	Nat. C.; *A.; N. J.		
	*Mich.; I. E.;		
	*Pa.	Com. Dept., Welsbach Co.	Gloucester, N. J.
Hamilton, Earl R.	*A.; N. E.	Ch. E., Fall River Gas Works Co.	Fall River, Mass.
Hamilton Elec. Light Co.	Mo.		Hamilton, Mo.
Hamilton, F. A.	P. C.		San Francisco, Cal.
Hamilton, S. P.	P. C.	M. Gas & Electric Appliance Co.	San Francisco, Cal.
Hamilton, W. M.	Nat. C.	Portland Ry., Lt. & Power Co.	Salem, Ore.
Hamilton, W. R.	Nat. G.	G. M., Montebello Oil Co.	433 California St., San Francisco, Cal.
Hamlink, L. C.	Sou.	V. P., Gas Machinery Co.	Cleveland, O.
Hamm, William S.	*I. E.	Expert, The Adams & Westlake Co.	Chicago, Ill.
Hammar, Berger	*Ace.		Burgermeisterhaus, Neuerwall 75-79 Hamburg, Germany.
Hammatt, Clarence S.	A.	Con. E.	1943 Main St., Jacksonville, Fla.
Hammer, Wm. J.	*I. E.	Con. El. E.	55 Liberty St., New York, N. Y.
Hammer, Geo.	P. C.	P., Hammer-Bray Co.	Adams Wharf, Oakland, Cal.
Hammett, Fred	Wis.; *A.	Asst. S. Dis.	Milwaukee, Wis.
Hammon Coupler Co.	N. G. S.		Mt. Vernon, O.
Hammon, M. E.	Nat. G.	Fm., South Shore Natural Gas & Fuel Co.	Dunkirk, N. Y.
Hammond, Eric W.	*A.	S. of Met. Shop, Kansas City Gas Co.	Kansas City, Mo.
Hammond, Frank	Nat. C.	Com. Agt., Birm. Ry., Lt. & Pr. Co.	Birmingham, Ala.
Hammond, V. A.	Okla.		Hinton, Okla.
Hamnett, Alfred A.	Nat. C.		8 Bryant St., Malden, Mass.
Hampton, Robert S.	Nat. G.	P., Frankfort, Kentucky, Natural Gas Co.	Titusville, Pa.
Hampton, W. J.	Nat. C.; N. E. C.	East Boston Gas Co.	East Boston, Mass.
Hampton, William	Ill.	Fm., Public Service Co. of No. Ill.	Park Ridge, Ill.
Hanchett, F. C.	Nat. G.	Fm., United Natural Gas Co.	Titusville, Pa.
Hancock, E. L.	Wis.	Sals., Milwaukee Gas Light Co.	Milwaukee, Wis.
Handley, W. J.	Nat. C.; Mich.	S. N. B., Michigan Light Co.	Jackson, Mich.
Handy, Clements	Nat. C.	Malden & Melrose Gas Lt. Co.	Malden, Mass.
Handy, Walter K.	*I. E.	Office M., Potomac Elec. Pr. Co.	Washington, D. C.
Hanford, J. W.	Nat. C.		499 Del'war Av., Albany, N. J.
Hanke, Edw. E.	N. E.	Ch., Providence Gas Co.	Providence, R. I.
Hankins, K. P.	Ind.	Cash., Gas Co.	Warsaw, Ind.
Hanks, J. G.	Nat. G.	S., East Ohio Gas Co.	Cleveland, O.
Hanlan, James P.	*I. E.; Nat. C.; N. J.	N. B. M., Public Service Gas Co.	Newark, N. J.
Hanley, T. L.	Nat. G.	S., Harley & Bird.	Bradford, Pa.
Hann, Thos. D.	Nat. G.	G. M., Greensboro Gas Co.	Brownsville, Pa.
Hanna, C. B.	Ind.	Sec. & T., The Ind. Public Service Co.	Aurora, Ind.
Hanna, Francis J.	Nat. C.	Public Service Gas Co.	Hoboken, N. J.
Hanna, John F.	Ace.	c/o Monmouth Acetylene-Electric Mfg. Co.	Monmouth, Ill.
Hanna, R. V.	Ace.	Davis Acetylene Co.	Elkhart, Ind.
Hannan, R. W.	Nat. G.	Oil Op. & g. expert, Eagle Oil Co.	Pittsburg, Pa.
Hannon, D. W.	Nat. G.	Div. Fm., East Ohio Gas Co.	Canton, O.
Hanscom, Wm. Wallace	I. E.	Con. E.	848 Clayton St., San Francisco, Cal.
Hansen, Alfred H.	*A.; Ia.	Tar Sals., Omaha Gas Co.	Omaha, Neb.
Hansford, E.	Nat. C.		2803 Huntington Ave., Newport News, Va.
Hanson, A. L.	Ace.	Justright Mfg. Co.	Chicago, Ill.
Hanson, Charles	Ia.	Cont. Agt., Citizens Gas & El. Co.	Council Bluffs, Ia.
Hanssen, D. W.	Ia.	Citizens Gas Co.	Carroll, Ia.
Hapner, R. M.	Ace.	Davis Acetylene Co.	Elkhart, Ind.
*Haralson, James M.	*A.	E. Asst. Utilization dept., Consolidated Gas Co.	New York, N. Y.
Harbison, Charles	Nat. C.; *Ind.; Sou.; *Mich.; *Ia.; *Wis.	Sales M., Ohio State Gas Co.	Columbus, Ohio.
Hardick, Charles F.	A.; Nat. C.	Dist. S., United Gas Imp. Co.	Philadelphia, Pa.
Hardie, J.	Mo.	Commercial Electric Supply Co.	St. Louis, Mo.
Harding, C. T.	Nat. C.	Water & Light Dept.	Virginia, Minn.
Harding, Floyd	Nat. C.		55 Grove St., Passaic, N. J.
Hardwick, R. E.	P. C.	Pacific Gas & Elec. Co.	Fresno, Cal.
Hardy, A. L.	Nat. C.	Fulton County Gas & El. Co.	Gloversville, N. Y.
Hardy, C. C.	Kan.	Court Reporter	Manhattan, Kan.
Hardy, Horace W.	Mich.	Chf. Clk., Grand Rapids Gas Light Co.	Grand Rapids, Mich.
*Hardy, J. Newton	Sou.	Cash., Consumers Gas & Coke Co.	Waycross, Ga.
Hare, A. S.	Nat. G.	Cash, Natural Gas Co. of W. Va.	1226 Chaplin St., Wheeling, W. Va.
Hare, C. Willing	A.; *I. E.; Nat. C.; Nat. G.	M. N. B. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Hare, John R.	Nat. C.; I. E.	City of Ponce Gas Co.	Ponce, Porto Rico.
Hare, Joseph B.	A.; Emp.	A. S., mains & services, Central Union Gas Co.	New York, N. Y.
Hargreaves, Robt. H.	P. C.; A.	S., San Jose Gas Works, Pacific Gas & Electric Co.	San Jose, Cal.
Harlow, Justin E.	A.	Chf. E., Pub. Ser. Co. of Oklahoma.	Tulsa, Okla.
Harman, Henry	Wis.; *A.	Pur. Agt., Milwaukee Gas Light Co.	Milwaukee, Wis.
Harman, Harold W.	Wis.		Milwaukee, Wis.
Harmer, Gustav	Mich.	Port Huron Gas Co.	Port Huron, Mich.
Harmer, William P.	Nat. C.	Agt., United Gas Imp. Co.	Philadelphia, Pa.
Harmon, F. A.	Nat. C.	Eastern Oregon Light & Power Co.	Baker, Ore.
Harmon, Fred C.	Nat. C.	Lawrence Gas Co.	Lawrence, Mass.
Harmon, Judson	*Nat. G.	Lawyer	Cincinnati, O.
Harms, Benno F.	Ill.	Pub. Service Co. of No. Ill.	Chicago, Ill.



The initial cost of changing from leather, poppet or mechanically operated valves to MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is insignificant compared to the saving effected in fuel consumption, reduced repairs, attendance, etc. Write for Bulletin "D." MESTA MACHINE COMPANY PITTSBURGH, PA.

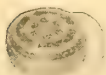
MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Harney, H. Jr.	Nat. G.	Insp. Iroquois Natural Gas Co.	Buffalo, N. Y.
Harper, H. D.	*A.; *Ill.; *Ind.; *Mich.; *Wis.		
	Nat. C.	Western M. American Meter Co.	Chicago, Ill.
Harper, Robert B.	A.; Ill.; Nat. C.	S. of Testing Lab'y, People's Gas Lt. & Coke Co.	Chicago, Ill.
Harr, Dewitt C.	*Mich.; *Wis.; Nat. C.; *Ind.		
	*Ill.; *A.	W. Sals, M., Estate Stove Co.	6911 Wayne Ave., Chicago, Ill.
*Harries, Geo. H.	A.; Ill.	H. M. Byllesby & Co.	Chicago, Ill.
Harrill, A. V.	Sou.	V. P., Charlotte Gas & El. Co.	Charlotte, N. C.
Harriman, Horace M.	A.; Sou.	G. S., New Orleans Gas Lt. Co.	New Orleans, La.
Harrington, A. S.	Ill.	Northern Iowa Gas & El. Co.	Eagle Grove, Ia.
Harrington, D. P.	Nat. G.	A. to G. S., The Texas Co.	Fort Worth, Tex.
Harrington, H. H.	Nat. G.	S. Citizens Gas & Electric Co.	Elyria, O.
Harrington, J.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Harrington, R. E.	*I. E.	General Electric Co.	Harrison, N. J.
Harrington, Walter K.	A.; *I. E.; Nat. C.	M., The American Meter Co.	New York, N. Y.
Harris, Alan H., Jr.	N. E.; A.; Ill.	E. Coal Products Mfg. Co.	Joliet, Ill.
Harris, Arthur C.	*I. E.	Dist. Sales Agt., Milwaukee El. Ry. & Lt. Co.	Racine, Wis.
Harris, Geo. S.	Nat. G.	Chf. B'kkeeper, East Ohio Gas Co.	Cleveland, O.
Harris, Henry	*I. E.	Gen. Con. Agt., Duquesne Light Co.	Pittsburg, Pa.
Harris, Percy M.	Nat. C.	Sals., Consolidated Gas Co.	New York, N. Y.
Harris, P. A.	P. C.	Fmn. Sta. B., Pac. Gas & El. Co.	Oakland, Cal.
Harris, Ralph	N. J.	Bridgeton Gas Light Co.	Bridgeton, N. J.
Harris, R. A.	Kan.	J. & P. Ry.	Pittsburg, Kan.
Harris, Thomas H.	*Ace.		Box 650, Havana, Cuba.
Harrisburg Gas Co.	Pa.	L. S. Williams, Mgr.	Harrisburg, Pa.
Harrison, A. T.	Nat. C.		1765 Union St., B'klyn, N. Y.
Harrison, Hayden T.	*I. E.	El. & Illum. E.	11 Victoria St., London, S. W.
		Eng.	
Harrison, J. Scott.	Nat. C.		Excelsior Springs, Mo.
Harrison, Ward.	I. E.; Nat. C.	Eng. Dept., Natl. Lamp Wks. G. E. Co.	Cleveland, O.
Harrop, Dr. H. B.	Wis.	M., Societe Anonyme du Gaz.	Rio de Janeiro, Brazil.
Harsh, J. E.	Mo.; Nat. C.; A.	G. M., Lincoln Gas & El. Lt. Co.	Lincoln, Neb.
Harry, M. A.	Ill.	G. S., Decatur Railway & Light Co.	Decatur, Ill.
Hart, E. A.	Mo.	Sec. Jefferson City Lt., Ht. & Pr. Co.	Jefferson City, Mo.
Hart, Frank	Nat. C.	Public Service Gas Co.	Morristown, N. J.
Hart, Julian G.	A.; Ill.; Wis.	G. M., North Shore Gas Co.	Waukegan, Ill.
Hart Mfg. Co.	N. G. S.		Cleveland, O.
Hartman, H. J.	Ace.	Oxweld Acetylene Co.	St. Louis, Mo.
Hartman, Prof. L. W.	*I. E.	University of Nevada	Reno, Nev.
Hartman, William E.	A.; Ill.	Con. E., By-Products Coke Ovens.	Port Huron, Mich.
Hartshorn, O. M.	Nat. C.	Sec. City Light & Water Co.	Amarillo, Tex.
Hartsock, L. H.	P. C.	M., Pacific Gas & El. Co.	Nevada City, Cal.
Hartzell, A. C.	Nat. G.	T., Greenville Natural Gas Co.	Greenville, Pa.
Harvey, H. J.	Nat. C.	Gas Appliance Co.	Superior, Wis.
Harvey, J. L.	Kan.	Sals., General Elec. Co.	945 N. Emporia St., Wichita, Kan.
Harvey, R. M.	Ark.	P., Booneville Lt. & Pr. Co.	Booneville, Ark.
Harwood, J. A.	Nat. G.	Natural Gas Co. of W. Va.	41 Vine St., Salem, O.
Haseltine, W. E.	Wis.; A.	Sec. Ripon Light & Power Co.	Ripon, Wis.
Haskell, L. C.	Can.	Sec. and T., The Southern Canada Power Co. Ltd.	Montreal, Que., Can.
Haskins, G. Albert	Nat. C.	Fm., Fall River Gas Works Co.	Fall River, Mass.
Haslett, James A.	N. J.	Staunton Gas Co.	Staunton, Va.
Hassan, John S.	Nat. C.	Zenith Furnace Co.	Duluth, Minn.
Hassfield, A. F.	Nat. C.	International Stewards Assn.	Chicago, Ill.
Hastie, J. H.	*I. E.		1009 Chestnut St., Philadel- phia, Pa.
Hastings, A. L.	Nat. G.	Field Fm., Oklahoma Nat. Gas Co.	Tulsa, Okla.
Hastings Gas Co.	Nat. C.		Hastings, Neb.
Hastings, John	Nat. G.	Fm., Iroquois Natural Gas Co.	Hamburg, N. Y.
Hastings, W. A.	Mich.	S. N. B. Dept., Flint Gas Co.	Flint, Mich.
Hastings, William	Nat. G.	Div. S., Iroquois Natural Gas Co.	Buffalo, N. Y.
Hatfield, J. S.	Nat. G.	A. S., Killbuck & Millersburg Oil & Gas Co.	Millersburg, O.
Hathaway, J. H.	Wis.		712 Eliza St., Green Bay, Wis.
Hathaway, E. C.	Nat. C.; A.; Sou.	P., Railway Audit & Inspection Co.	Philadelphia, Pa.
Hathorn, Geo. W.	*N. E.	Chem., Lawrence Gas Co.	Lawrence, Mass.
Hatsel, G. L.	Sou.	S., Tampa Gas Co.	Tampa, Fla.
Hattersby, Harry R.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Hatton, Richard D.	*A.	V. P. & G. M., Laclede-Christy Clay Products Co.	St. Louis, Mo.
Hatzel, J. C.	I. E.	Hatzel & Buehler	New York, N. Y.
Haug, Jno. S.	A.	United Gas Impt. Co.	Philadelphia, Pa.
Haugh, Paul E.	P. C.	R., Trenkamp Stove & Mfg. Co.	Los Angeles, Cal.
Haverhill Gas Light Co.	Nat. C.		Haverhill, Mass.
Hawk, C. M.	Nat. G.	Chf. E., Logan Nat. G. & Fuel Co.	Sugar Grove, O.
Hawkins, B. L.	Nat. G.	Aud., Eastern Oil Co.	Buffalo, N. Y.
Hawkins, S.	Nat. C.		Phoebus, Va.
Hawks, E. L., Roller Mills Co.	Mo.		Puxico, Mo.
Hawks, William	Nat. C.; P. C.	V. P., Hugo Mfg. Co.	Duluth, Minn.
Hawley, B. Frank	Nat. C.	Sals. Clk., United Gas Imp. Co.	Philadelphia, Pa.
Hawley, E. M.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Haworth, Erasmus	*Kan.; *Nat. G.	University of Kansas	Lawrence, Kan.
Hawthorne, Wm. James	A.	S. g., Astoria Lt., Ht. & Pr. Co.	Astoria, N. Y.
Hay, Ralph W.	Nat. G.	A. G. S., Mfrs. Lt. & Heat Co.	Pittsburg, Pa.

MacDONALD-MANN COKE QUENCHING CHUTES quench the coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Hayden, H. D.	Ill.	M. Hoopeston Gas & El. Co.	Hoopeston, Ill.
Haydenfeldt, F. F.	P. C.	Potrero Gas Works.	San Francisco, Cal.
Hayes, Clifton R.	A.; N. E.	M. Fitchburg Gas & El. Lt. Co.	Fitchburg, Mass.
Haymaker, F. B.	Nat. G.	Oil & g. Producer.	Clarksburg, W. Va.
Haymond, E. L.	Nat. G.; *Ind.	G. M., Haywood Co.	Muncie, Ind.
Haynes, Harry W.	Nat. C.; P. C.	A. S. g. dept., Santa Barbara Gas & El. Co.	Santa Barbara, Cal.
Haynes, Pierre E.	I. E.		169 Chandler St., Buffalo, N. Y.
Haynie, W. R.	So. W.		New York, N. Y.
Hays, Charles, Jr.	Sou.	G. M., Columbus Ry., Light & Power Co.	Columbus, Miss.
Hays, F. L.	Okl.		Oklahoma City, Okla.
Hays, J. T., & Son.	Ace.		Emmitsburg, Md.
Hays Mfg. Co.	N. G. S.; Nat. C.		Erie, Pa.
Hays, Victor A.	Nat. G.; Mo.; A. P. & Aud.	Kansas Natural Gas Co.	Independence, Kan.
Hayti Light Co.	Mo.		Marston, Mo.
Hayward, E. Bartlett.	*A.	P., Bartlett, Hayward & Co.	Baltimore, Md.
Hayward, Harold A.	*A.	A. G. M., Connelly Iron Sponge & Governor Co.	New York, N. Y.
Hayward, Sterling F.	*A.; *I. E.; *N. E.; Nat. C.	T., Connelly Iron Sponge & Governor Co.	Cambridge, Mass.
Hazard Mfg. Co.	N. G. S.		Pittsburgh, Pa.
Hazelrigg, E. E.	P. C.	A. Ch., San Diego Cons. G. & El. Co.	San Diego, Cal.
Hazeltine, Roy S.	Nat. G.	A. Chf. Geol., Continental Oil & Gas Co.	Bartlesville, Okla.
Hazlett, Ira I.	Nat. G.	Sec., Jackson Pike Oil & Gas Co.	New Lexington, O.
Hazlett, P. S.	Nat. G.	Fm., Hope Natural Gas Co.	West Union, W. Va.
Head, H. C.	Nat. C.	Winchester Water & Gas Co.	Winchester, Eng.
Healey, F. R.	Nat. G.	S., El. Dis., Union Gas & El. Co.	4th and Plum Sts., Cincinnati.
Healy, J. H.	Nat. G.	A. T., Potter Gas Co.	Pittsburgh, Pa.
Heard, T. J.	Nat. G.	Sec. & T., Reserve Natural Gas Co.	P.O. box 191, Shreveport, La.
Heasley, Harry	Nat. G.	P., Okla. Fuel Supply Co.	Tulsa, Okla.
Heath, C. B.	Ind.; Nat. G.	V. P., Indiana Gas Light Co.	Noblesville, Ind.
Heavner, L. C.	*A.	Allentown-Bethlehem Gas Co.	Allentown, Pa.
Heazlett, Frank	Nat. G.	Shop Fm., The Peoples Natural Gas Co.	Blairsville, Pa.
Heazlett, William	Nat. G.	Shop Fm., The Peoples Natural Gas Co.	Latrobe, Pa.
Hecht, Julius L.	Ill.	Mech. El., Pub Serv. Co. of Northern Ill.	Chicago, Ill.
Heck, A. S.	Nat. G.	M., Goff & Heck.	Spencer, W. Va.
Heckert, Oscar H.	Nat. C.; A.	Sec., York Gas Co.	York, Pa.
Hedger, S. C.	Nat. C.	Sec., Aberdeen Gas Co.	Aberdeen, S. D.
Hedges, William C.	A.	Sec. & T., Mansfield Gas Light Co.	Mansfield, O.
Heebner, Chas. K.	Nat. C.	Peoples Gas Light Co.	Kansas City, Kan.
Heeter, C. M.	Nat. G.	P., C. M. Heeter Sons & Co.	Butler, Pa.
Heeter, Sons & Co., Inc.	C. M.		Butler, Pa.
Heffron, W. P.	Ill.	S. Station No. 27, P. S. Co. of North Illinois	Blue Island, Ill.
Hegerty, F. P.	Nat. G.	Sals., Westinghouse Machinery Co.	Pittsburg, Pa.
Heggem, Alf G.	Nat. G.	Pet. E.	512 Daniel Bldg., Tulsa, Okla.
Hein, Herman	Nat. C.	Public Service Gas Co.	Newark, N. J.
Heins, J. W.	Nat. C.	The U. G. I. Co.	Philadelphia, Pa.
Heiple, F. C.	Ill.	Acting S., Cen. Ill. Lt. Co.	Pekin, Ill.
Heisler, Chas. F.	Nat. C.		5911 Ellsworth St., Phila., Pa.
Heiss, Lawrence C.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Heitmann, Alfred W.	*I. E.	General Electric Co.	Harrison, N. J.
Heitmann Co., F. W.	So. W.		Houston, Tex.
Helena Gas & Electric Co.	Nat. C.		Helena, Ark.
Hellen, Frank	A.; Nat. C.	S. g. Dist. Dept., Rochester Railway & Light Co.	Rochester, N. Y.
Hellen, John	A.; Mich.	S. of Dist., Grand Rapids Gas Lt. Co.	Grand Rapids, Mich.
Hellen, William	Mich.	S. of Dist., Kalamazoo Gas Co.	Kalamazoo, Mich.
Heller, Chas. W.	Ill.	Fm., Public Service Co. of No. Ill.	Oak Park, Ill.
Heller, Emery E.	Nat. C.	Clk. New Bus. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Heller, Max	Nat. C.; *Pa.	P., Strause Gas Iron Co.	Philadelphia, Pa.
Hellman, Andrew	Nat. C.	Public Service Gas Co.	Orange, N. J.
Helm, Carl F.	Ind.	S. Serv., Citizens Gas Co.	Indianapolis, Ind.
Helm, Charles L.	Nat. G.	Agt., East Ohio Gas Co.	Dennison, O.
Helman, Hiram	*A.	Atthol Gas & El. Co.	Atthol, Mass.
Helme & McIlhenny	Nat. C.		Philadelphia, Pa.
Helme, William E.	A.; *I. E.	Helme & McIlhenny	Philadelphia, Pa.
Helps, George	A.	Civil E. M., Nuneaton Gas Co.	Nuneaton, Eng.
Helvie, O. F.	Ind.	Indus. Sals., Heat, Lt. & Water Co.	Gary, Ind.
Hem, H. O.	Kan.	H. N. Strait Mfg. Co.	Kansas City, Mo.
Hemminger, Geo. Reverdey.	A.; *I. E.; Nat. C.	E. with United Gas Imp. Co.	Philadelphia, Pa.
Hemphill, S. W.	Son.; *Wis.	Sals., Hugo Mfg. Co.	Duluth, Minn.
Hendershott, W. G.	Nat. C.	Care Sill Stove Works.	Rochester, N. Y.
Henderson, Charles R.	Mich.	Ch., Washtenaw Gas Co.	Ann Arbor, Mich.
Henderson, C. L.	A.; Ill.	E., Hale Gas Co.	Neodesha, Kan.
Henderson, Geo. D.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Henderson, J. A. L.	Nat. G.	Con. Petroleum E.	3 London Wall Bldg., London, England.
Henderson, John I.	Nat. G.	E., The Logan Natural Gas Co.	Columbus, O.
Henderson, Samuel W.	A.	V. P. and G. M., Water Gas & El. Co.	Excelsior Springs, Mo.
Henderson, Wm.	Nat. C.; A.; P. C.	A. g. E., Pacific Gas & Electric Co.	San Francisco, Cal.
Henderson, W. O.	Can.	Sec. & T., A. B. Stove Co.	Montreal, Que.
Hendrickson, Geo. S.	A.	S. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Hendry, W. Ferris	*I. E.	A. S., Western Electric Co.	New York, N. Y.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent) have proved to be the ideal valves for blowing and compressing units. They are rapidly replacing the old leather, poppet and mechanically operated valves. Bulletin "D" describes these valves in detail.

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

831

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Henley, E. B.....	P. C.....	M. Land Dept., Pacific Gas & Electric Co.	San Francisco, Cal.
Hennessey El. Lt., Pr. & Ice Co.	Okla.		Hennessey, Okla.
Hennessey, Geo. F.....	Nat. G.	United Fuel Gas Co.	Charleston, W. Va.
Henning, A. P.....	P. C.	g. met. shop, San Diego Cons. Gas & El. Co.	San Diego, Cal.
Henning, H. W.....	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Henning, J. A.....	Nat. G.	Clk. Mrs. Gas Co.	Kane, Pa.
Henning, M. H.....	Nat. G.	S. Peoples Natural Gas Co.	424 6th Ave., Pittsburgh, Pa.
Henning, T. J.....	P. C.	g. serv. fm., San Diego Con. Gas & Elec. Co.	San Diego, Cal.
Henninger, John G.....	I. E.		4101 5th St., Washington, D.C.
Hennings, Paul W.....	Nat. C.	Reliable Stove Co.	Detroit, Mich.
Henoyer, J. P.....	A.	S. Holder Stations, Public Service Gas Co.	Jersey City, N. J.
Henry, C. S. A.....	*Pa.	M., Iron Hydroxide Co.	Camden, N. J.
Henry, J. R.....	*I. E.	Sals., Natl. X-Ray Reflector Co.	Indianapolis, Ind.
Henry, William G.....	*A.; *Wis.; Nat. C.	V. P., Detroit Stove Works.	Detroit, Mich.
Henson, Edward B.....	*A.	Dis. Fm., g. plant, San Antonio Gas & Electric Co.	San Antonio, Tex.
Henwood, J. E.....	Nat. C.	Asst. to Comp., The Gas Lt. & Coke Co.	Action Hill, London, Eng.
Hergert, Geo.....	Nat. C.	Clk., Northern Union Gas Co.	New York, N. Y.
Hergesheimer, G. M.....	Nat. C.	Clk., United Gas Imp. Co.	Philadelphia, Pa.
Hering, Carl.....	I. E.	El. E.	210 S. 13th St., Philadelphia.
Hermann Electric Light Co.	Mo.		Herman, Mo.
Herr, J. P.....	Nat. G.	Ad. M., Tulsa Daily World.	Tulsa, Okla.
Herrick, Ralph W.....	Nat. C.	Sioux City Gas & El. Co.	Sioux City, Ia.
Herring, A. W.....	Nat. G.	G. M., Commercial Oil & Gas Co.	Ashtabula, O.
Herrman, Robt.....	Wis. fA.	Insp., Milwaukee Gas Light Co.	Milwaukee, Wis.
Herron, F. W.....	Nat. G.	Sec., Producers Gas Co.	Olean, N. Y.
Hersch, Grier.....	Pa.; fA.	P. York Gas Co.	York, Pa.
Hersey, Elmer P.....	Nat. C.	Boston Consolidated Gas Co.	Brookline, Mass.
Hertz, Adolph.....	*I. E.	Stat., New York Edison Co.	New York, N. Y.
Heryford, H. B.....	P. C.	M. Chico Dist., Pacific Gas & Electric Co.	Chico, Cal.
Hess, Frederick C.....	Nat. C.		6218 Torresdale Av., Tacony, Pa
Hess, J. R.....	Ill.	Cash., North Shore Gas Co.	Waukegan, Ill.
Hess, L. W.....	Ill.	G. S., Citizens Lighting Co.	La Salle, Ill.
Hessler, Wm. S.....	Nat. C.	N. Y. Mutual Gas Lt. Co.	New York, N. Y.
Hester, John G.....	Mich.	caré, Semet-Solvay Co.	Detroit, Mich.
Heuperman, F. J.....	Nat. G.	E., Calgary Gas Co., Ltd.	215 Sixth Ave., West Calgary, Alberta, Canada.
Hewins, Edmund H.....	*I. E.	Con. E.	201 Devonshire St., Boston, Mass.
Hewitt, Arthur.....	*A.; Can.; Nat. C.	G. M., Consumers Gas Co.	Toronto, Ont., Can.
Hewitt, Conrad.....	*I. E.	Civil E. S., Metropolitan Museum of Art.	New York, N. Y.
Hewitt, F. F.....	*Mich.	Sals., Pittsburgh Water Heater Co.	Bay City, Mich.
Hewitt, Peter Cooper.....	*I. E.	Inventor.	Mad. Sq. Garden Tower, New York, N. Y.
Hewitt Rubber Co.....	N. G. S.		Pittsburgh, Pa.
*Heyburn, Henry B.....	*I. E.	El. E., Belknap Hdw. & Mfg. Co.	Louisville, Ky.
Heydrick, James C.....	Nat. G.	Leasing Dept., United Fuel Gas Co.	Box 596, Irvine, Ky.
Heyl, Chas. E.....	Nat. C.	Madison Gas & El. Co.	Madison, Wis.
Hibbard, Robert L.....	*A.	A. M., g. E., Riter-Conley Mfg. Co.	Pittsburgh, Pa.
*Hibben, S. G.....	I. E.	Con. Illum. E.	5599 Baum Blvd., Pittsburgh.
Hibbs, Weston J.....	*I. E.; Nat. C.		420 E. Lancaster Ave., Wayne, Pa.
Hice, Geo. F.....	Nat. C.		Manayunk, Philadelphia, Pa
Hickernell, George W.....	Nat. G.	Agt., Penn. Gas Co.	Warren, Pa.
Hickox, Norman B.....	*I. E.	Spec. R., Natl. X-Ray Reflector Co.	Chicago, Ill.
Hicks, Geo. Cleveland, Jr.....	*Ind.		Connersville, Ind.
Hicks, Harry J.....	Sou.		Norfolk, Va.
Hicks, John C.....	Mich.	Mutual Gas Co.	St. Johns, Mich.
Hicks, Leslie R.....	I. E.	El. E., Chas. H. Tenney & Co.	Boston, Mass.
Hicks, W. S.....	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Higbie, H. H.....	*I. E.	Prof. El. E., University of Mich.	Ann Arbor, Mich.
Higgins, W. C.....	Nat. G.	Appl. Dept., East Ohio Gas Co.	Cleveland, O.
Higgins, Arthur A.....	*N. E.; Nat. C.; N. E. C.	Providence Gas Co.	Providence, R. I.
Higgins, C. M.....	*A.; *I. E.	R., Standard Oil Co.	New York, N. Y.
Higgins, H. C.....	Ill.	Builder & Owner of gas properties.	Centralla, Ill.
*Higgins, H. C., Jr.....	Sou.	M. & Soc., Tri-City Gas Co.	Gadsden, Ala.
Higgins, James.....	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Higgins, W. C.....	Nat. C.	M. Com. Dept., East Ohio Gas Co.	Cleveland, O.
Higgins, Warren S.....	*I. E.		267 Park Pl., Brooklyn, N. Y.
Higes, Isaac W.....	Ace.		92 La Salle St., Chicago, Ill.
Highland Gas Co.....	Pa.		Philadelphia, Pa.
Highstrete, Martin.....	Mich.	Shop Fm., Grand Rapids Gas Lt. Co.	Grand Rapids, Mich.
Hildabrand, J. S.....	Nat. G.	Field S., South Hills Oil & Gas Co.	Fair Haven, Pa.
Hildebrand, H. D.....	Nat. G.	P., Hammon Coupler Co.	Pittsburg, Pa.
Hill, Andrew F.....	Nat. C.	Sals., The U. G. I. Co.	Philadelphia, Pa.
Hill, C. E.....	Nat. G.	S., Alden-Batavia Natural Gas Co.	Batavia, N. Y.
Hill, Daniel L.....	fA.	S. of Records, Toronto Gas Co.	Toronto, Can.
Hill, Dudley M.....	Nat. G.	A. to Mech. E., Philadelphia Co.	Pittsburgh, Pa.
Hill, F. H.....	Nat. C.; Emp.	Elmira Water, Lt. & R. R. Co.	Elmira, N. Y.
Hill, George C.....	Nat. C.	Boston Consolidated Gas Co.	18 West St., Boston, Mass.

RELIABLE

ANGLIRON

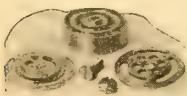
RANGES

The adoption, in their construction, of all of the specifications of the National Commercial Gas Association, contributes toward all around efficiency. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Hill, J. B.	Nat. C.; Nat. G.	M. Welsbach Co.	Pittsburg, Pa.
Hill, J. H.	P. C.	Sals. Pittsburgh Meter Co.	Los Angeles, Cal.
Hill, Jas. G.	Ace.	Great Lakes Welding Co.	Cleveland, O.
Hill, William J.	*Mich.	Sales M., Michigan Stove Works	Detroit, Mich.
Hill, Wm. H. P.	P. C.	c/o Northwest Elec. Co.	Pittcock blks., Portland, Ore.
Hill, W. W.	Nat. G.	Actg. Chf. E., Quapaw Gas Co.	Bartlesville, Okla.
Hillemeier, Joseph E.	A.	St. Louis County Gas Co.	Webster Groves, Mo.
Hilton, R. S.	Nat. C.	Gas Dept. Corporation of Birmingham	Birmingham, England.
Hilton, T. M.	Ia.	S., Peoples Gas & Power Co.	Chariton, Ia.
Hilly, John	Nat. G.	Shop Fm., The Peoples Natural Gas Co.	Altoona, Pa.
Himsworth, Hines H.	A.	S. A., Astoria Lt., Heat & Power Co.	Astoria, N. Y.
Hine, Willard Foster	A.	Chf. g. E., Public Service Com.	New York, N. Y.
Hinerman, George L.	Nat. G.	Div. S., Philadelphia Co. of West Va.	Weston, W. Va.
Hinman, Charles W.	A.; G. G. M.; N. E.	Ch. E.	10 Fenwick Rd., Winchester, Mass.
*Hinman, Walter Hibbard.	*A.	With Winchester Repeating Arms Co.	New Haven, Conn.
Hintz, Harry M.	*Ill.	A. to Com. Agt., Western United Gas & El. Co.	Aurora, Ill.
Hintze, Thos. H.	G. G. M.; N. E.	S. Mfr., Boston Cons. Gas Co.	Boston, Mass.
Hinz, A. W.	P. C.	Dist. Agt., Contra Costa Gas Co.	Pittsburg, Cal.
Hirsch, H. H.	I. E.	P., Hirsch El. Mine Lamp Co.	Philadelphia, Pa.
Hirst, Homer T.	A.; Ill.	A. S. St. Dept., Peoples Gas Light & Coke Co.	Chicago, Ill.
Hirst, Jesse Bowman	A.	S. of Pressures, Peoples Gas Light & Coke Co.	Chicago, Ill.
Hitchcock, Geo. G.	*I. E.	Prof. Physics, Pomona College.	Claremont, Cal.
Hitchcock, Otto G.	Nat. G.	Sec. and G. M., Hays Mfg. Co.	Erie, Pa.
Hitzker, A. J.	I. E.	323 E. 4th St., Winona, Minn.	Winona, Minn.
Hoadley, George A.	I. E.	Prof. Emeritus	Swarthmore, Pa.
Hoagland, H. C.	Nat. G.; Ark.	M., Ft. Smith Lt. & Trac. Co.	Ft. Smith, Ark.
Hobart Electric Co.	Okla.		Hobart, Okla.
Hobbs, Geo.	Can.	c/o Ruud Mfg. Co.	Toronto, Can.
Hobdell, George D.	*Pa.	M., Phoenix Meter Co.	Camden, N. J.
Hochrein, John	*Mich.	S. works, City Gas Dept.	Ypsilanti, Mich.
Hobbie, Edw. H.	*I. E.	M., Publicity, Mississippi Wire Glass Co.	220 Fifth Ave., New York.
Hoch, Joseph R.	Nat. C.	Canv., Pub. Service Gas Co.	Newark, N. J.
Hochrein, Ferdinand	*Mich.	S. Wks., Washenaw Gas Co.	Ann Arbor, Mich.
Hockenbeamer, A. F.	P. C.; Nat. C.; A.	2d V. P., Pacific Gas & El. Co.	San Francisco, Cal.
Hoddick, V. C.	Nat. C.	Rochester Ry. & Light Co.	Rochester, N. Y.
Hodenpyl, Anton G.	*Mich.	Hodenpyl, Hardy & Co.	New York, N. Y.
Hodge, H. F.	Nat. C.	New Britain Gas Lt. Co.	New Britain, Conn.
Hodge, H. P.	Tex.	Ag't., North Texas Gas Co.	Wichita Falls, Tex.
Hodge, William E.	*I. E.	Deputy S. St. Ltg., Dept. of Streets and Engineering	Springfield, Mass.
Hodge, W. H.	Nat. G.	Publicity M., H. M. Byllesby & Co.	Chicago, Ill.
Hodges, C. H.	A.	G. S., Lehigh Nav. El. Co.	Lewisburg, Pa.
Hodges, George B.	Pa.; Nat. C.; *A.		Williamsport, Pa.
Hodgson, Chas. I.	Nat. C.; I. E.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Hodgson, Harry E.	A.	A. to S., The United Gas Impt. Co.	Philadelphia, Pa.
Hoener, Henry C.	Nat. C.	Bridge & Beach Mfg. Co.	St. Louis, Mo.
Hoeveler, John A.	I. E.	Deputy, Wis. Indus. Com.	Madison, Wis.
Hoev, Thos. A.	Nat. C.		1313 N. 13th St., Philadelphia.
Hoff, John F.	*A.; Nat. C.	S., Public Service Gas Co.	Princeton, N. J.
*Hoffman, Andrew P.	P. C.	Com. Dept., Pacific Gas & Elec. Co.	San Francisco, Cal.
Hoffman, Chas. L.	Pa.; Nat. C.; *A.	Chf. Clk., Consumers' Gas Co.	Reading, Pa.
Hoffman, Frank	Nat. C.	S. Gas Ap. Display Rooms, Consolidated Gas Co.	New York, N. Y.
Hoffman, Harry	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Hoffman, H. R.	Nat. G.	Acting Chf. Clk., Iroquois Natural Gas Co.	Buffalo, N. Y.
Hoffman Heater Co.	Nat. C.		Lorain, Ohio.
Hoffman, Howard	A.; Pa.	S. g. dept., Counties Gas & El. Co.	Ardmore, Pa.
Hoffman, H. W.	Nat. C.		Williamstown, N. J.
Hoffman, Jos. P.	Nat. C.		Philadelphia, Pa.
Hoffman, Jules G.	*Mich.	Jules G. Hoffman Co.	Detroit, Mich.
Hoffman, Paul	Wis.		Milwaukee, Wis.
Hoffman, R. J.	Ace.	Linde Air Products Co.	New York, N. Y.
Hogg, H. B.	Nat. G.	Dist. M., National Supply Co.	Parkersburg, W. Va.
Hogshead, G. W.	Sou.	Com. M., Lynchburg Trac. & Lt. Co.	Lynchburg, Va.
Hohmann, Geo.	Ill.	Transfer Ag't., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Holberton, George C.	P. C.	M., Pacific Gas & El. Co.	Redwood City, Cal.
Holbrook, David O.	Nat. G.; Nat. C.	V. P., Dayton Pipe Coupling Co.	Pittsburg, Pa.
Holbrook, Lynn	Nat. G.	Pur. Ag't., United Natural Gas Co.	Oil City, Pa.
Holbrook, Merill & Stetson.	*P. C.		San Francisco, Cal.
Holdercraft, Charles A.	*I. E.	Pmet., Welsbach Co.	Gloucester, N. J.
Holden, Frank P.	Nat. C.		1094 W. Onondaga St., Syracuse, N. Y.
Holden, Thomas F.	A.	S. of Wks., Georgetown Gas Light Co.	Washington, D. C.
Holdenville Ice & Elec. Co.	Okla.		Holdenville, Okla.
*Holderness, James C.	*Mich.	A. Sec., Eclipse Gas Stove Co.	Rockford, Ill.
Holdrege, H. A.	I. E.	G. M., Omaha El. Lt. & Pr. Co.	Omaha, Nebr.
Hole, R. J.	Sou.	M., North Carolina Public Service Co.	Salisbury, N. C.
Holladay, L. L.	*I. E.		11 No. Brown St., Gloucester, N. J.
Holland, H. T.	Nat. G.	Chf. E., Northwestern Ohio Natural Gas Co.	Sugar Grove, O.



Leather, poppet and mechanically operated valves in your compressor units are everlastingly wasteful. Stop this waste by replacing them with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

833

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
*Holland, Maurice	*I. E.	Edison El. Illum. Co.	Boston, Mass.
Holliday, F. M.	Nat. G.	National Trust Co.	Marwood, Pa.
Hollis, F. E.	Nat. C.; Ind.	Citizens Gas & Fuel Co.	Terre Haute, Ind.
Holloway, A. E.	P. C.	M. N. B. Dept., San Diego Cons. Gas & El. Co.	San Diego, Cal.
Holly, W. M.	Nat. G.	Field S. Potter Gas Co.	Shinglehouse, Pa.
Holman, C. L.	A.; *I. E.	P. & G. M., Laclede Gas Light Co.	St. Louis, Mo.
Holman, Dudley	Nat. C.		Boston, Mass.
Holmes, A. G.	Nat. G.; Sou.		
Holmes, J. Thos.	*I. E.	V. P. and M., Pittsburg Meter Co.	East Pittsburg, Pa.
Holmes, W. M.	*I. E.	S. of Cons., I. P. Frink	New York, N. Y.
Holst, L. Leroy	Sou.	Met. Red. Clk., Charleston Con. Ry. & Ltg. Co.	47 E. Woodruff Ave., Columbus, O.
Holt, C. S.	*Mich.	Care Steere Engineering Co.	Charleston, S. C.
Holt, Jas.	Nat. C.	Public Service Gas Co.	Detroit, Mich.
Holtz, W. H.	Nat. G.	Chf. Clk., East Ohio Gas Co.	Paterson, N. J.
Hom, Garret F.	*I. E.		Cleveland, O.
Home Light & Power Co. (W. W. Austin, Mgr.)	Kan.		5515 Walnut St., Philadelphia.
Home Light & Water Co.	Mo.		Cottonwood Falls, Kan.
Homer & Cortland Gas Light Co.	Emp.		St. Genevieve, Mo.
Honberger, Frank S.	P. C.	Chm. Los Angeles Gas & El. Corp.	Cortland, N. Y.
Hone, Frederic de P.	A.	Con. E.	Los Angeles, Cal.
Hone, Harry N.	Nat. C.	Public Service Gas Co.	1 Liberty St., New York, N. Y.
Honicker, Franklin	Nat. C.	Sec. Girard Alumni.	Newark, N. J.
Honolulu Gas Co.	*P. C.		Philadelphia, Pa.
Hood, Harry J.	Mich.		Honolulu, T. H.
Hooker, J.	Ace.	Detroit City Gas Co.	Detroit, Mich.
Hooper, Matt. E.	Nat. C.	c/o Jenne Acetylene Gas Machine Co.	Indianapolis, Ind.
Hooven, John W.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Hooven, Owens, Rentschler Co.	N. G. S.	S. Ltg. & Mer. Sales., Cons. Gas, El. Lt. & Pr. Co.	Baltimore, Md.
Hoover, H. J.	Nat. G.; N. G. E.	Com. M., g. Dept., Union Gas & El. Co.	Hamilton, O.
Hoover, John W.	Nat. C.	S. Ltg. & Mer. Sals., g. div., Con. Gas, El. Lt. & Pwr. Co.	Cincinnati, O.
Hope Engineering & Supply Co.	N. G. S.		Baltimore, Md.
Hopgood, Fred G.	Sou.	Bkp., Jacksonville Gas Co.	Pittsburg, Pa.
Hopkins Electric Light Co.	Mo.		Jacksonville, Fla.
Hopkins, L. L.	*I. E.	Con. E.	Hopkins, Mo.
Hopp, Henry C.	Nat. G.	M. Malta & McConnellsville Gas Co.	5599 Baum Blvd., Pittsburg.
Hopgood, Fred G.	Sou.	Jacksonville Gas Co.	Malta, O.
Hopner, R. M.	Ace.		Jacksonville, Fla.
Hopper, Charles H.	*I. E.	Sals. Can. Westinghouse Co., Ltd.	Elkhart, Ind.
Hopper, Thomas B.	A.	S. W. Sta., Washington Gas Light Co.	Toronto, Ont., Can.
Hopper, M. M.	Nat. C.		Washington, D. C.
Horie, Lawrence C.	Nat. C.	Pub. Ser. Gas Co.	1500 Parish St., Philadelphia, Pa.
Hornberger, W. C.	Nat. C.		Newark, N. J.
Hornbostel, Louis	Nat. C.	Consolidated Gas Co.	364 N. 4th Ave., Phoenix, Ariz.
Horner, Boyd E.	Nat. G.	S. Eagle District Gas Co.	New York, N. Y.
Horner, Harry Archer	I. E.		Clarksburg, W. Va.
Horner Lynn S.	Nat. G.	S. The Washington Gas Co.	102 Hamilton Court, 39th and Chestnut Sts., Philadelphia, Pa.
Horning, George R.	A.; Ill.; Mich.	g. E., Am. Public Utilities Co.	Clarksburg, W. Va.
Hornsey, John W.	*A.	Con. E.	Grand Rapids, Mich.
Horsley, Geo. H.	Nat. G.	Pur. Agt., East Ohio Gas Co.	Summit, N. J.
Horton, D. L.	Ace.	J. B. Colt Co.	Cleveland, O.
Horton, F. J.	Nat. G.	G. M. Portland Gas & Pipe Line Co.	New York, N. Y.
Hoskins, H. A.	la.; Nat. C.	Sec., Sioux City Gas & Elec. Co.	Iola, Kan.
Hotaling, R. M.	P. C.		Sioux City, Ia.
Hotchkiss, C. C.	Ill.	Chf. g. tester, Dept. of Pub. Service.	1134 Merchants Ex. Bldg., San Francisco, Cal.
Hottle, A. G.	Nat. G.	S. Arco Oil Co.	Chicago, Ill.
Hottinger, R. L.	Nat. G.	Meter Repair, Logan Natural Gas & Fuel Co.	Wooster, O.
Hough, C. W.	Nat. C.		Fremont, Ohio.
Hough, David Leavitt	A.	P. United Engineering & Cont. Co.	9 Cloak Lane, Cannon St., London, E. C., England.
Houghton, Charles P.	A.; P. C.; Nat. C.; I. E.		New York, N. Y.
Houghton, W. E.	P. C.	Los Angeles Gas & Electric Corp.	Los Angeles, Cal.
Housel, James L.	Nat. C.	Aud., Los Angeles Gas & Elec. Co.	645 So. Hill St., Los Angeles, Cal.
Houskeeper, Wm. G.	*I. E.	Public Service Gas Co.	South Amboy, N. J.
Houston, A. W., Jr.	*So. W.	Elec. E., Western Electric Co.	New York, N. Y.
Houston Armature Works.	So. W.		Victoria, Tex.
Houston Car Wheel & Machine Co.	So. W.		Houston, Tex.
Houston Electric Co.	So. W.		Houston, Tex.
Houston Gas & Fuel Co.	So. W.		Houston, Tex.
Houston Light & Pr. Co.	So. W.		Houston, Tex.
Houston, Reagan	\$So. W.		Houston, Tex.
Houston, William H.	*Ind.; *Wis.	Trav. R. Hale Gas Mixer Mfg. Co.	San Antonio, Tex.
Hovey, S. B.	Ia.	Sec., Independence Gas Co.	Kansas City, Mo.
Hovis, Park	Nat. G.		Independence, Ia.
			Wooster, O.

EASY WORKING
DIE STOCKS
1/8 TO 12 INCH

SQUARE END
PIPE CUTTERS
1/8 TO 6 INCH

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Hovis, W. H.	Nat. G.	Fm., United Natural Gas Co.	Clermont, Pa.
Howard, Abram C.	A.; *I. E.	g. E., United Gas & El. Eng. Corp.	New York, N. Y.
Howard, Chas. O. S.	*A.	E., Colon Gas Co.	Colon, Panama, R. P.
Howard, E. E.	*Ind.	R., Art Stove Co.	Indianapolis, Ind.
Howard, G. E.	Nat. G.	M. M., Ohio Fuel Supply Co.	62 W. Gay St., Columbus, O.
Howard, J. Harold.	N. J.; *Pa.	Strause Gas Iron Co.	1425 Vine St., Philadelphia, Pa.
Howard, J. W.	Nat. G.	Field Fm., Medina Gas Co.	Vienna, Ont., Can.
Howard, R. B.	Nat. G.	Agt., Hope Natural Gas Co.	Mannington, W. Va.
Howard, T. H.	*I. E.	Phoenix Glass Co.	Pittsburg, Pa.
Howard, W. E.	Nat. G.	Fm., Brantford Gas Co.	Brantford, Ont., Can.
Howe, E. A.	Ind.; Sou.	Lindsey Light Co.	Chicago, Ill.
Howe, F. G., Jr.	N. E. C.	Citizens Gas Lt. Co.	Quincy, Mass.
Howe, Lucien	*I. E.	Ophthalmologist	520 Delaware Ave., Buffalo, N. Y.
Howell, Burt H.	P. C.	E., Pacific Gas & Elec Co.	Fresno, Cal.
Howell, Edward	Okla.	Shawnee Gas & Electric Co.	Shawnee, Okla.
Howell, Francis K.	*A.	Tidal Gasoline Co.	Tulsa, Okla.
Howell, John W.	I. E.	Chf. E., General Electric Co.	Harrison, N. J.
Hower, Harry S.	I. E.	Prof. of Physics, Carnegie Technical School	Pittsburg, Pa.
Howes, R.	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Howie, Chauncey L. R.	Nat. C.	Solic., Sioux Falls Gas Co.	Sioux Falls, So. Dak.
Howie, John R.	la.	M., Hampton Gas Co.	Hampton, Ia.
Howland, Fred. C.	*I. E.	Treas., Howland Mfg. Co.	Box 25, Malden, Mass.
Howland, Lewis A.	A.; *I. E.	G. S., Queens Borough Gas & Electric Co.	Far Rockaway, N. Y.
Howlett, Wm. T.	Nat. C.	S. Meter Dept., Consolidated Gas Co.	157 Hester St., New York, N. Y.
Howson, G. M.	Sou.	R., Estate Stove Co.	Atlanta, Ga.
Hoy, Charles W.	A.; Nat. C.; N. J.	M., New Jersey Gas Co.	Glassboro, N. J.
Hoy, Ivan A.	Nat. C.; Ill.	Sals. M., People's Gas Light & Coke Co.	6643 University Ave., Chicago.
Hoy, Robt. W.	Nat. C.	Elmira Water, Lt. & R. R. Co.	Elmira, N. Y.
Hoyle, Ed.	Kan.	M., Hiawatha Electric Co.	Hiawatha, Kan.
Hoyt, Harry B.	A.; Nat. C.; Sou.	G. M., Jacksonville Gas Co.	Jacksonville, Fla.
Hoyt, William G.	A.; *I. E.; Nat. C.	P., Standard Gas Light Co.	New York, N. Y.
Hoyle, Walter S.	Nat. G.	1st V. P. & G. M., Wichita Natural Gas Co.	Wichita, Kan.
Hubbard & Co.	So. W.		Pittsburgh, Pa.
Hubbard, G. H.	Mich.	Grand Haven Gas Co.	Grand Haven, Mich.
Hubbard, William C.	*I. E.		111 W. 5th St., Plainfield, N. J.
Hubbert, Edward I.	*I. E.	Insp., Philadelphia Electric Co.	Philadelphia, Pa.
Hubbs, John Henry.	*A.; Nat. C.	A. Pur. Art., United Gas Impt. Co.	Philadelphia, Pa.
Huber, Frank.	A.	A. S., Gas dept., Louisville Gas & El. Co.	Louisville, Ky.
Hubert, Conrad.	*I. E.	Am. Ever Ready Works.	Long Island City, N. Y.
Huddle, W. J.	*I. E.; A.	Con. g. E., Sloan, Huddle, Feustal & Freeman	Chicago, Ill.
Hudson, Darwin S.	*A.	Supv. Field E., Consolidated Gas Co.	New York, N. Y.
Hudson, Ralph G.	*I. E.	Instr. El. E., Mass. Inst. of Tech.	Cambridge, Mass.
Hudson, R. A.	*I. E.	Hunter & Hudson	San Francisco, Cal.
Hudson, R. H.	Ind.	A. S., Citizens Gas Co.	Indianapolis, Ind.
Hudson, W. T.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Huestis, Frank C.	*N. E.	Met. Insp., Cambridge Gas Light Co.	Cambridge, Mass.
Huestis, Leon David.	A.	S. Mfr., Philadelphia Suburban Gas & Electric Co.	Chester, Pa.
Huff, C. F.	Nat. G.	S., The Clarion Gas Co.	Clarion, Pa.
Huffard, P. P.	Ace.	Union Carbide Co.	Niagara Falls, N. Y.
Hughes, Charles	P. C.	Sec. and M., Red Bluff Electric Light & Gas Co.	Red Bluff, Cal.
Hughes, H. D.	Sou.	So. Sals. M., Am. Cast Iron Pipe Co.	Birmingham, Ala.
Hughes, H. J.	Ace.	c/o Monarch Acetylene Co.	Omaha, Neb.
Hughes, Harry T.	Nat. C.	T., Denver Gas & Electric Lt. Co.	Denver, Col.
Hughes, William K.	Nat. G.	G. Sales M., Continental Supply Co.	St. Louis, Mo.
Hugo Ice & Light Co.	Okla.		Hugo, Okla.
Huco Manufacturing Co.	Nat. C.; N. G. S.		310 W. 2d St., Duluth, Minn.
Hulfish, E. E.	*I. E.	Col., Philadelphia Electric Co.	Philadelphia, Pa.
Hull, H. D.	Nat. G.	Field S., Medina Gas & Fuel Co.	Ashland, O.
Hull, R. B.	Nat. C.	Lancaster Gas Lt. & Fuel Co.	Conestoga Bldg., Lancaster, Pa.
Hulley, Edwin	*I. E.	Solic., Philadelphia Electric Co.	4522 Frankford Ave., Philadelphia, Pa.
Hulme, Thomas W.	*I. E.	R. E. A., Penna. R. R. Co.	Philadelphia, Pa.
Hulse, George E.	I. E.	Chf. E., Safety Car Heating & Lt. Co.	New York, N. Y.
Hulse, E. R.	Ark.	M., Arkansas Lt. & Pr. Co.	Malvern, Ark.
Hulse, Tom	*Ind.	Sals., Hale Gas Mixer Mfg. Co.	Peoples Gas Bldg., Chicago.
Hulswit, Frank T.	A.; *I. E.; Nat. C.; Ill.	P., United Lt. & Rys. Co.	Grand Rapids, Mich.
Hulswit, John A.	Mich.; A.	T., Grand Rapids Gas Light Co.	Grand Rapids, Mich.
Human, Michael G.	Ill.	A. S., 22d St. Sta. Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Hume, R. W.	Ace.		Chicago, Ill.
Humphrey, A. H.	*Mich.; Nat. C.	P., General Gas Light Co.	Kalamazoo, Mich.
Humphrey Co.	*P. C.; Nat. C.		Kalamazoo, Mich.
Humphrey, Geo. A.	Nat. C.	General Specialty Co.	New York City.
Humphrey, H. H.	Mo.	P., St. Louis League of Electrical Interests	St. Louis, Mo.
Humphrey, H. S.	*Mich.	Sec. & G. M., Humphrey Co.	Kalamazoo, Mich.
Humphrey, Herbert R.	Nat. C.	General Gas Light Co.	207 Elm St., Kalamazoo, Mich.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent)
can be adapted to any make of gas-compressing cylinders. A few of these adaptations are described in our Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

835

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Humphreys, Alexander C.	A.; Nat. C.; N.P.	Stevens Institute of Technology.	Hoboken, N. J.
	E.; Soc. G.; P.	Buffalo (N. Y.) Gas Co. and P.	
	Nat. G.; I. E.	& g. E., Humphreys & Miller (Inc.)	165 Broadway, New York, N. Y.
Humphreys, C. J. R.	A.; G. G. M.; *I. E.; Nat. C.; N. E.; Soc. G.	V. P. & Agt., Lawrence Gas Co.	Lawrence, Mass.
Humphreys, F. W.	*Pa.	American Stove Co.	New York, N. Y.
*Humphreys, J. J.	N. E.	Capt. Ordnance Dept., U. S. A.	Washington, D. C.
*Humphreys, R. G.	N. E.; *A.; Nat. C.	A. E., Lawrence Gas Co.	Lawrence, Mass.
Humphrys, Henry M.	A.; Wis.	S., West Side Works, Milwaukee Gas Light Co.	Milwaukee, Wis.
Hungerford, B. A.	*Ia.; Nat. C.; *Ill.	Sals. M., Pittsburg Water Heater Co.	Chicago, Ill.
Hunt, Arthur T.	*I. E.	El. E., The Arnold Co.	Chicago, Ill.
Hunt, Harold W.	*Ia.	A. S., Calhoun Gas Co.	Battle Creek, Mich.
Hunt, H. R.	A.; Ill.	S. So. Sta., Peoples Gas Light & Coke Co.	Chicago, Ill.
Hunt, J. H.	P. C.	Pur. Agt., Pacific Gas & Electric Co.	San Francisco, Cal.
Hunt, L. S.	Mo.	Commercial Electric Supply Co.	St. Louis, Mo.
Hunt, Nile	Nat. G.	E., The Mfrs. Light & Heat Co.	Hundred, W. Va.
Hunt, R. G.	Ill.	A. to V. P. for op., H. M. Byllesby & Co.	Chicago, Ill.
Hunt, Robert W.	Ill.	Con. E., Robt. W. Hunt & Co.	Chicago, Ill.
Hunter, Campbell M.	Nat. G.	Oil Mining Expert, Thomas & Hunter	3 Lombard St., London, E. C. Eng.
Hunter, Charles W.	A.; N. E.	g. E., Stone & Webster Engineering Corp.	Boston, Mass.
Hunter, Geo. Leland	*I. E.		122 East 82d St., New York, N. Y.
Hunter, H. W.	Nat. C.; Sou.	P., Baltimore Gas Appl. & Mfg. Co.	Baltimore, Md.
Hunter, James F.	A.; *I. E.; Soc. G.	A. E. of Cons., Consolidated Gas Co.	New York, N. Y.
Hunter, J. W.	Nat. G.	Ag't., The Mfrs. Light & Heat Co.	Rochester, Pa.
Hunter, Morris	*I. E.	El. Engineer	Richmond, Va.
Hunter, W. E.	Nat. G.	V. P., Randall Gas Co.	Morgantown, W. Va.
Hunter, William Q.	Nat. C.		20 Frost Ave., Dorchester, Mass.
Huntley, W. R.	*I. E.; Emp.	V. P., Buffalo General Electric Co.	Buffalo, N. Y.
Huntsville Electric Light & Power Co.	So. W.		Huntsville, Tex.
Hurd, F. L.	Nat. C.		Princeton, N. J.
Hurd, Franklin R.	Nat. G.	East Ohio Gas Co.	Cleveland, O.
Hurlburt, Alfred	A.; Nat. C.		
Hurley, P.	Nat. G.	E., Kansas City Gas Co.	Kansas City, Mo.
	Nat. C.		31 Crescent Ave., New Rochelle, N. Y.
Hurley, Wallace P.	*I. E.	Com. E., Westinghouse Elec. & Mfg. Co.	E. Pittsburgh, Pa.
Huron Light & Power Co.	Nat. C.		Huron, So. Dak.
Huson, H. C.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Hussey, Albert F.	Nat. C.	Boston Consolidated Gas Co.	Boston, Mass.
Hussey, R. B.	*I. E.	E., General Electric Co.	West Lynn, Mass.
Hutcheson, H. F.	Nat. C.	Consumers Gas Co.	Toronto, Ont., Canada.
Hutchings, James T.	A.; Nat. C.; Emp.	G. M., Rochester Ry. & Lt. Co.	Rochester, N. Y.
Hutchins, E. F.	Mich.	S. dis., Flint Gas Co.	Flint, Mich.
Hutchins, F. E.	*Ill.	Adv. M., J. B. Clow & Sons.	Chicago, Ill.
Hutchins, H. C.	Nat. C.	Public Service Gas Co.	418 Federal St., Camden, N. J.
Hutchins, R. J.	Nat. C.; Sou.	The Daytona Mfg. Co.	Dayton, O.
Hutchinson, E. H.	Nat. G.	Producer and Contractor.	Harmony, Pa.
Hutchinson, Frank R.	A.; Nat. G.; Nat. C.; N. G. E.	Sales M., The Gas Appl. Co.	Lakewood, Ohio.
Hutchinson, J. E.	Nat. G.	Aud., Lone Star Gas Co.	Dallas, Tex.
Hutchinson, H. D.	Nat. G.	Cont.	Uniontown, Pa.
Hutchinson, K. D.	Sou.		Albany, N. Y.
Hutchinson, W. P.	*Ill.; *Ia.; *P. C.; Nat. C.; *Wis.; *Ind.; Sou.; *A.	V.P. & Sals. M., The Sprague Meter Co.	Bridgeport, Conn.
Hyatt, O. L.	Ill.	Div. S., Public Service Co. of No. Illinois	Chicago Heights, Ill.
Hyde, E. N.	I. E.	Northern El. & Mfg. Co.	Montreal, Canada.
Hyde, Edward B.	A.; *I.E.; Nat. C.	S. Com. Dept., New Amsterdam Gas Co.	New York, N. Y.
Hyde, Dr. Edw. P.	*A.; I. E.	Dir., Nela Research Laboratory	Cleveland, O.
Hyde, Henry H.	*Mich.	E., Peoples Gas Co.	Deadwood, S. D.
Hyde Park Gas Co.	Pa.	G. M., Ed. M. Stack	Seranton, Pa.
Hyer, Z. M.	*I. E.	United El. Lt. & Power Co.	New York, N. Y.
Hyldahl, Niels	*I. E.	Commonwealth Edison Co.	Chicago, Ill.
Hyodo, M.	*I. E.	Osaka Elec. Lamp Co.	Daini, near Osaka City, Japan.
Ideal Heating Co., The	N. G. S.		Columbus, O.
Icard, L. D.	Nat. G.	Field Fm., Columbus Producing Co.	Miami, W. Va.
Ikena, F. J.	A.	S. of Works, Municipal Gas Co.	Albany, N. Y.
Ignier, Howard F.	*I. E.	E., Bureau of Illum. Service, City Hall	Milwaukee, Wis.
Illinois Northern Utilities Co.	Nat. C.		Dixon, Ill.
Imperial Belting Co.	N. G. S.		Chicago, Ill.
Improved Appliance Co.	Nat. C.		Brooklyn, N. Y.

The GOODMAN STOPPER made its first friend in 1897 and has been gaining friends ever since.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Improved Equipment Co.	G. I.		New York, N. Y.
Independence Waterworks Co.	Mo.		Independence, Mo.
Ingalls, L. O.	*I. E.	Omalite Co., Inc.	Jamestown, N. Y.
Ingalls, Percy	Nat. C.	G. Agt., Public Service Corporation	Newark, N. J.
Ingersoll-Rand Co.	N. G. S.		Pittsburg, Pa.
Ingraham, D. W.	Nat. G.	Field Fm., The Peoples Natural Gas Co.	Burgettstown, Pa.
Ingle, J. P.	Ia.	S., Keokuk Electric Co.	Keokuk, Ia.
Ingle, R. B.	Ia.	Perry Gas Co.	Perry, Iowa.
*Inglesh, Arthur E.	Ill.	N. B. M., Quincy Gas, El. & Htg. Co.	Quincy, Ill.
Ingram, F. C.	P. C.	S., Com. Dept., So. Cal. Gas Co.	Los Angeles, Cal.
Institution of Gas Engineers	Nat. C.		39 Victoria St., Westminster, London, England.
Insull, M. J.	Ind.	P., Commonwealth Ed. Co.	Chicago, Ill.
Insull, Samuel	Ill.; Nat. C.; I. E.	Chmn., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
International Electric Co.	So. W.		Eagle Pass, Tex.
International Register Co., The	So. W.		Chicago, Ill.
Interstate Chem. Co.	So. W.		Galveston, Tex.
Interstate Public Service Co.	Nat. C.		Indianapolis, Ind.
Iowa City Light & Power Co.	Nat. C.		Iowa City, Ia.
Irminger, I.	Can.	E., Wests Gas Impt. Co., Ltd.	Westmount, Que., Can.
Irvin, W. J.	Nat. C.	Northern Liberties Gas Co.	Philadelphia, Pa.
Irvin, Ralph	Mo.	P. & T., Trenton Gas & El. Co.	San Angelo, Texas.
Irwin, Beatrice	I. E.	Writer and Chromatologist	149 W. 57th St., New York, N. Y.
Irwin, Edward V.	Ill.	Dist. M., North Shore Gas Co.	Lake Forest, Ill.
Irwin, O. C.	Wis.	Sec. & T., Berlin Public Service Co.	Berlin, Wis.
Irwin, J. W.	Nat. G.	M., Ohio Pipe & Supply Co.	West Park, O.
Irwin, R. W.	Nat. G.	Agt., The Ohio Fuel Supply Co.	Xenia, O.
Irwin, William B.	Nat. C.	A. S., Cons. Gas Co.	New York, N. Y.
Isbell, Charles W.	*A.	P. Bd. of Dir., Isbell-Porter Co.	New York, N. Y.
Isbell-Porter Co.	G. I.		Newark, N. J.
Isherwood, J. H.	Nat. G.	Gasoline Op., Potter Gas Co.	Shinglehouse, Pa.
Israel, Joseph D.	I. E.	Dist. M., Philadelphia Electric Co.	Philadelphia, Pa.
Ithaca Elec. Lt. & Pwr. Co.	Emp.		Ithaca, N. Y.
Ithaca Gas Light Co.	Emp.		Ithaca, N. Y.
Ito, Nezo	*I. E.	A. to M. Mfg. Dept., Tokio Elec. Co.	Kanagawa-Ken, Japan.
Ivanhoe-Regent Works	So. W.		Cleveland, O.
Ives, G. H.	Emp.	Binghamton Lt., Ht. & Fr. Co.	Binghamton, N. Y.
*Ives, Herbert E.	I. E.; A.		1026 16th St., N. W., Washington, D. C.
Ives, Holmes	Wis.; *A.	M., Wisconsin-Minn. Lt. & Pwr. Co.	Chippewa Falls, Wis.
Ivory, E. D.	N. G. E.; Nat. G.	E., The Peoples Natural Gas Co.	Pittsburgh, Pa.
Ivy, Paul A.	*Ill.	G. Sals. M., Am. Cast Iron Pipe Co.	Chicago, Ill.
Jack, Wallace A.	A.	A. Con. E., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Jackman, C., & Co.	Kan.		Minneapolis, Kan.
Jackman Roller Mills (H. F. Jackman, Owner)	Kan.		Minneapolis, Kan.
Jackson, A. H. R.	*A.; Nat. C.		Bicknell, Ind.
Jackson, A. W.	Sou.	Com. M., Port Arthur Gas Co.	Port Arthur, Tex.
Jackson County Light, Heat & Power Co.	Mo.; Nat. C.		Independence, Mo.
Jackson, C. W.	*Ill.	M., F. G. Hartwell Co.	Chicago, Ill.
Jackson, D. C.	I. E.		248 Boylston St., Boston, Mass.
Jackson, Dugald C.	A.	D. C. & Wm. B. Jackson	248 Boylston St., Boston.
Jackson, Frank G.	Nat. G.	Chf. Sta. E., United Natural Gas Co.	Hallton, Elk Co., Pa.
Jackson, G. H.	Nat. G.	g. Dept., Monongahela Valley Trac-tion Co.	Fairmont, W. Va.
Jackson, H. S.	Emp.	Central Hudson Gas & Elec. Co.	Poughkeepsie, N. Y.
Jackson, H. W.	P. C.	V. P., Jas. Graham Mfg. Co.	San Francisco, Cal.
Jackson, John H.	Nat. C.	Boston Consolidated Gas Co.	Boston, Mass.
Jackson, L. W.	Sou.	M., Alabama Power Co.	Anniston, Ala.
Jackson Lt. & Trac Co.	Nat. C.		Jackson, Miss.
Jackson, Thomas H.	A.; *I. E.; Nat. G.	Agt., Philadelphia Gas Works.	Philadelphia, Pa.
Jackson, T. W.	Mich.	United Gas Improvement Co.	Pontiac, Mich.
Jackson, Wm. B.	A.	T., Pontiac Light Co.	111 W. Monroe St., Chicago,
Jacobs, Edward C.	Nat. C.	Cons. E.	Newark, N. J.
Jacobs, P. C.	Nat. G.	Public Service Gas Co.	Cleveland, O.
Jacobsen, E. J.	Nat. C.	S., Ohio Gas Meter Co.	Jersey City, N. J.
Jacobus, Arthur W.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Jacoby, H. L.	Nat. G.	Col., Public Service Gas Co.	Olean, N. Y.
James, D. K.	Nat. G.	Fm., Producers Gas Co.	Oil City, Pa.
James, F. M.	A.; Ill.	Sales M., Am. Railway Appliance Co.	Aurora, Ill.
James, Robert C.	A.; *I. E.; Nat. C.; Nat. G.	G. Acct., Western United Gas & Elec. Co.	Philadelpha, Pa.
James, W. H.	Nat. C.	G. Aud., United Gas Imp. Co.	35 E. Broad St., Hazelton, Pa.
Jameson, R. H.	Nat. C.		20 Melton Rd., Brighton, Mass.
Jamison, Chas. M.	*I. E.	M. Mer. Sales Dept., Milwaukee El. Ry. & Lt. Co.	Milwaukee, Wis.
Jansen, J. N.	P. C.	M., Sacramento Natural Gas Co.	Sacramento, Cal.
Jardine, B. H.	Nat. C.		Box 494, Pueblo, Colo.
Jarecki Mfg. Co.	N. G. S.		Erie, Pa.
Jarrard, O. O.	*I. E.	Mauch Chunk Ht., Fr. & El. Lt. Co.	Mauch Chunk, Pa.
Jarrett, LeGrand	*I. E.	Westinghouse Lamp Co.	Bloomfield, N. J.
Jarvies, T. B.	Nat. G.	Sec., Jarvies Gas Burner, Heating & Plumbing Co.	Kansas City, Mo.

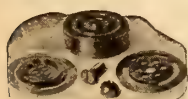


Williams' "Vulcan" Chain Pipe Vise

Portable—Broadly Adjustable—Attachable Anywhere

J. H. WILLIAMS, 74 Richards St., Brooklyn, N. Y.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Jarvis, Harold	Can.	Mfr. Water Heaters	475 Yonge St., Toronto, Ont., Can.
Jasperson, R. O.	Wis.; †A.	Ad. M., Milwaukee Gas Light Co.	Milwaukee, Wis.
Jaudel, Paul F.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Jay, C. H.	Nat. G.	Gen. Aud., Ohio Cities Gas Co.	Columbus, O.
Jay, D. C.	Nat. G.	S., Leasing dept., United Fuel Gas Co.	Charleston, W. Va.
Jefferson City Light, Heat & Power Co.	Mo.		Jefferson City, Mo.
Jefferson County Trac. Co.	So. W.		Beaumont, Tex.
Jefferson Ice & Light Co.	So. W.		Jefferson, Tex.
Jefferies, C. A.	Can.; A.	S., Consumers Gas Co.	Toronto, Ont., Can.
Jellett, S. A.	*I. E.	Con. & Const. E.	R. E. Trust Bldg., Philadelphia, Pa.
Jelliffe, C. N.	A.; Nat. C.; *I. E.	2d V. P., American Light & Traction Co.	120 B'way, New York, N. Y.
Jenkins, A. F.	Ace.	P., Alexander-Milburn Co.	Baltimore, Md.
Jenkins, Arthur W.	Nat. C.	Dist. Cash., Boston Cons. Gas Co.	Brookline, Mass.
Jenkins, David R.	*I. E.	A. Prof. E. Eng., University of Colorado	Boulder, Colo.
Jenkins, Howard	Nat. G.	Chf. E., Hope Natural Gas Co.	Clarksburg, W. Va.
Jenkins, Howard L.	*I. E.	Holophane Wks. of G. E. Co.	Newark, O.
Jenks, Zeuner M.	*G. M.	Woonsocket Gas Co.	Woonsocket, R. I.
Jennings, Frank W.	N. E.; G. G. M.; N. E. C.	S., Framingham Gas, Fuel & Pr. Co.	Framingham, Mass.
Jennings, John	Can.; *Mich.	Welsbach Co.	Chicago, Ill.
Jennings, Robert James	A.; Nat. C.	S., Pelham Works, Westchester Lighting Co.	Mount Vernon, N. Y.
Jensen, Charles H.	Nat. C.	Empire China Works	Brooklyn, N. Y.
Jerome, William E.	*I. E.	Sals., Lighting Studios Corp.	New York, N. Y.
Jett, W. L.	P. C.	Sals., H. Mueller Mfg. Co.	Los Angeles, Cal.
Jewett, W. S.	Nat. G.	Fm., The Mfrs. Light & Heat Co.	McKees Rocks, Pa.
Jiffy Water Heater Co.	Nat. C.; N. G. S.		St. Louis, Mo.
Jimerson, D.	Nat. G.	Chf. E., Columbia Gas & Elect. Co.	R. F. D. No. 1, Kenova, W. Va.
Jobes, H. E.	Nat. C.		Roxbury, Philadelphia, Pa.
Jochum, Henry L.	A.	Field E., Astoria Lt., Ht. & Pr. Co.	Astoria, N. Y.
Jodoin, Wilfred A.	Nat. C.	Brocton Gas Light Co.	Brocton, Mass.
Johns, Wade H.	Nat. C.	Public Service Gas Co.	New Brunswick, N. J.
Johnson, A. C.	Nat. C.; A.	A. S. Consolidated Gas Co.	New York, N. Y.
Johnson, Alfred	*I. E.; Ill.	El. & Mech. E., Mandel Bros.	Chicago, Ill.
Johnson, B.	Nat. C.	E. Queen St., Hampton, Va.	Orange, N. J.
Johnson, B. Kay	Nat. C.; N. J.		San Jose, Cal.
*Johnson, Carl B.	P. C.	Pacific Gas & El. Co.	Pittsburgh, Pa.
Johnson, C. W.	Nat. G.	A. to V. P., Hope Natural Gas Co.	Jersey City, N. J.
Johnson, Chas. W.	Nat. C.	Pub. Service Gas Co.	Box 443, E. Moline, Ill.
Johnson, David O.	Nat. C.	Peoples Power Co.	Marysville, Cal.
Johnson, E. C.	P. C.	S., Pacific Gas & El. Co.	Gambier, O.
Johnson, E. H.	*I. E.	Asst. Prof. Physics, Kenyon College.	Syracuse, N. Y.
Johnson, Ernest	Nat. C.	Syracuse Ltg. Co.	Kansas City, Mo.
Johnson, F. A.	Kan.	Sals., Funston Electric Co.	Lawrence, Kan.
Johnson, F. Ellis	Kan.	A. Prof. El. Eng., University of Kansas	Milwaukee, Wis.
Johnson, F. H.	*Wis.	Rulu Gas Lighter Co.	Detroit, Mich.
Johnson, F. H.	*Pa.	Best Stove Co.	Taunton, Mass.
Johnson, F. S.	*Pa.	Weir Stove Co.	Hamburg, N. Y.
Johnson, Frank	Nat. G.	Fieldman, Iroquois Nat. Gas Co.	
Johnson, Fritz	*Wis.	V. P., Johnson Comb. Press. & Refin. Iron Co.	Racine, Wis.
Johnson Gas Appliance Co.	Nat. C.		Cedar Rapids, Ia.
Johnson, Guy M.	A.; Nat. C.; Ia.	E., Omaha Gas Co.	Omaha, Neb.
Johnson, Herbert Gilmore	A.	S. Mfr., Utica Gas & El. Co.	Utica, N. Y.
Johnson, J. A.	Ace.	c/o Johnson Acetylene Gas Co.	Crawfordsville, Ind.
Johnson, J. A.	Tex.		Dallas, Tex.
Johnson, J. E.	Ill.	G. S., Danville St. Ry. & Lt. Co.	Danville, Ill.
Johnson, J. E.	Sou.	G. M., Americus Lighting Co.	Americus, Ga.
Johnson, J. L.	Nat. C.	Providence Gas Co.	Providence, R. I.
Johnson, J. W.	Nat. C.	El Paso Gas & Electric Co.	El Paso, Tex.
Johnson, L. G.	I. E.		2d Nat'l Bank Bldg., Akron, O.
*Johnson, L. H.	Ill.		Green Bay, Wis.
Johnson, L. P.	N. J.	Perth Amboy Gas Lt. Co.	Perth Amboy, N. J.
Johnson, Mildred	Nat. C.	Librarian, Northwestern University	Chicago, Ill.
Johnson, N. B.	Kan.	Sals., Westinghouse Lamp Co.	Kansas City, Mo.
Johnson, N. E.	*I. E.	V. P., The Linden Co.	Chicago, Ill.
Johnson, N. H.	Ind.; Nat. C.	G. M., Richmond Light, Heat & Power Co.	Richmond, Ind.
Johnson, Ole Seaholm	A.	Main Fm., St. Paul Gas Lt. & Coke Co.	St. Paul, Minn.
Johnson, Otis L.	I. E.	Benjamin Electric Mfg. Co.	Chicago, Ill.
Johnson, Paul R.	Nat. G.	G. M., Gas Pipe Line Corp.	Independence, Kan.
Johnson, R. C.	Nat. C.		Newark, N. J.
Johnson, Raymond B.	Nat. C.	Pensacola Gas Co.	Pensacola, Fla.
Johnson, Raymond F.	*I. E.	General Electric Co.	Chicago, Ill.
Johnson, Theo. E.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Johnson, Roswell H.	Nat. G.	Con. Geol., Johnson & Huntley	Pittsburgh, Pa.
Johnson, Russell A.	Nat. G.	Pur. Agt., Peoples Natural Gas Co.	Pittsburgh, Pa.
Johnson, W. B.	Nat. C.; Can.	Ind. g. Spl., Montreal Light, Heat & Power Co.	Montreal, Can.
Johnson, W. H.	I. E.	2d V. P., Philadelphia Elec. Co.	Philadelphia, Pa.
Johnston, A. A.	Nat. C.		High St., Brentford, England.
Johnston, A. C.	P. C.	Aud. So. Cal. Gas Co.	Los Angeles, Cal.
Johnston, D.	P. C.	Pacific Gas & Elec. Co.	Chico, Cal.
Johnston, E. D.	*A.; *Ill.	P., P. H. & F. M. Roots Co.	Connersville, Ind.



The soundness of replacing your old gas and gasoline compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is attested to by the large number of these valves that are now being sold for this purpose. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Johnston, Mervyn E.	A.; Nat. C.; Ace.	Sec. & T. Linde Air Products Co.	42d St. Bldg., New York, N. Y.
Johnston, Norwood	Nat. G.	S., Carnegie Nat. Gas Co.	Pittsburgh, Pa.
Johonott, H. W.	Wis.; †A.	M., Monroe Light & Fuel Co.	Monroe, Wis.
Jolliffe, R. Dale	Nat. G.	Agt., The Mfrs. Light & Ht. Co.	Bellevue, Pa.
Jones, Arthur O.	A.; Nat. C.	Engineer	4 Gertrude St., Chelsea, London, S. W., England
Jones & Laughlin Steel Co.	N. G. S.		Pittsburgh, Pa.
Jones, Bassett A.	I. E.	El. E.	101 Park Ave., New York
Jones, C. R.	Nat. C.; P. C.		Providence, R. I.
*Jones, Charles C.	†A.	A. S., United Gas Imp't Co.	Philadelphia, Pa.
Jones, Chas. F. F.	Nat. C.		64 Borden St., New Bedford, Mass.
Jones, Clement Ross.	Nat. G.	Con. E., Randall Gas Co.	Morgantown, W. Va.
*Jones, Dwight W.	P. C.; †A.	Cadet E., Pacific Gas & Electric Co.	Battery B, 2d Cal. Field Artillery, Tampa Park, Cal.
Jones, E. G.	Nat. C.; N. J.	Warsaw Gas Light Co.	Warsaw, Ind.
Jones, E. S.	A.; P. C.	E. g. Dept., Pacific Gas & El. Co.	Sacramento, Cal.
Jones, E. T.	Nat. G.	Div. Fm., East Ohio Gas Co.	Cleveland, O.
Jones, Edward C.	A.; †G. G. M.;		
	‡N. E.; P. C.	Ch. E. g. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Jones, Edwin D.	A.	G. Fm., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Jones, Edwin P.	A.; *I. E.	S., United Gas Imp't Co.	Philadelphia, Pa.
Jones, Ernest J.	Ind.	S., Gas Company	Warsaw, Ind.
Jones, F. C.	P. C.	g. Dept., Pacific Gas & Electric Co.	San Francisco, Cal.
Jones, Frank	Nat. C.	Memphis Cons. Gas & Elec. Co.	Memphis, Tenn.
Jones, Frank A.	*Wis.; †A.	Dist. M., Ruud Mfg. Co.	Milwaukee, Wis.
Jones, G. H.	Nat. G.	Comp., The East Ohio Gas Co.	New York, N. Y.
Jones, Geo. R.	Ill.	Pur. Agt., Pub. Serv. Co. of No. Ill.	Chicago, Ill.
Jones, H.	Nat. G.	M. Sals., La Belle Iron Works	R. A. Long Bldg., Kansas City, Mo.
Jones, H. H.	P. C.; A.	M., San Diego Cons. Gas & Elec. Co.	San Diego, Cal.
Jones, Hugh T.	Nat. G.	Jones Gas Co.	Chanute, Kan.
Jones, J. E.	P. C.	A. Dist. Agt., Southern Counties Gas Co.	Pomona, Cal.
Jones, J. E.	Ace.	Night Commander Lighting Co.	Jackson, Mich.
Jones, J. F.	Pa.	M., Annville & Palmyra Gas & Fuel	Palmyra, Pa.
Jones, J. P.	la.	S., Citizens Gas & El. Co.	Waterloo, Iowa
Jones, Jacob B.	A.; N. J.	S., Bridgeton Gas Light Co.	26 Water St., Bridgeton, N.J.
Jones, James, Co.	*P. C.		201 Leroy St., Los Angeles, Cal.
Jones, Jessie E.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Jones, L. B.	P. C.; †A.	A. E., g. Dept., Pacific Gas & Electric Co.	San Francisco, Cal.
Jones, Louis D.	*Ill.	Sec., Life Saving Devices Co.	Chicago, Ill.
Jones, Loyd A.	I. E.	Physicist, Research Lab, Eastman Kodak Co.	Rochester, N. Y.
Jones, P. G.	Sou.	R., Bastian Marbry Co.	Chicago, Ill.
Jones, Philip Chapin	I. E.	Goodyear Tire & Rubber Co.	Akron, O.
Jones, R. C.	*I. E.	Sec & T., San Antonio Gas & El. Co.	San Antonio, Tex.
Jones, Theodore I.	*I. E.	G. Sals. Agt., Edison Illuminating Co. of Brooklyn	Brooklyn, N. Y.
Jones, Thomas Clive	A.; Mich.; Nat.		
	G.; Nat. C.	P., Delaware Gas Co.	Delaware, Ohio.
Jones, Thomas J.	Nat. G.	S., Hope Natural Gas Co.	Mannington, W. Va.
Jones, Thomas J.	A.; Mich.; Nat.		
	G.	M., Columbus Gas & Fuel Co.	Columbus, O.
Jones, T. Norman, Jr.	Nat. C.	City Gas Co. of Norfolk	Norfolk, Va.
Jones, W. D.	Nat. C.	Northern Indiana Gas & El. Co.	Hammond, Ind.
Jones, W. H.	Ark.	P., Atkins Elec. Lt. & Pr. Co.	Atkins, Ark.
Jones, William	Wis.; †A.	S. mfr., Mich. Light Co.	Bay City, Mich.
Jones, William R.	I. E.	E. Cons., University of Penna. Lt. & Ht. Sta.	Philadelphia, Pa.
Joplin Gas Co.	Mo.		Joplin, Mo.
Joplin Waterworks Co.	Mo.		Joplin, Mo.
Jordan, Claude W.	I. E.	United Gas Improvement Co.	Philadelphia, Pa.
Jordan, E. W.	Nat. G.	g. E., Bessemer Gas Engine Co.	Grove City, Pa.
Jordan, G. E.	Nat. G.	E., Louisiana Gas Co.	Mooringsport, La.
Jordan, G. R.	Nat. G.	Civil E., Southwestern Gas & Elect. Co.	116 Texas St., Shreveport, La.
Jordan, Horace W.	I. E.	A. E., Edison Electric Illuminating Co.	Boston, Mass.
Jordan, L. E.	Ace.	Jordan Lighting Co.	Minneapolis, Minn.
Jordan, L. M.	Sou.		Rocky Mount, N. C.
Jorgenson, Geo.	Wis.	Sheboygan Gas Co.	Sheboygan, Wis.
Jourdan, F. B.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Jourdan, James H.	A.; *I. E.; Nat.		
	C.; Soc. G.	P., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Journal of Electricity, Power & Gas	*P. C.		Crossley Bldg., San Francisco.
Joyce, L. J.	Nat. C.; *I. E.	R., Boston Cons. Gas Co.	Boston, Mass.
Judd, H. J.	Ill.	S., Western Division Public Service Co. of No. Ill.	Oak Park, Ill.
Judge, A. E.	§So. W.		Tyler, Tex.
Judge, W. J.	Nat. G.	V. P., National Fuel Gas Co.	26 Broadway, New York, N. Y.
Jumonville, H. J.	Sou.	American Cities Co.	New Orleans, La.
Jundt, Charles	Nat. C.	Public Service Gas Co.	Newark, N. J.
Junkersfeld, Peter	I. E.	A. to 2d V. P., Commonwealth Edison Co.	Chicago, Ill.
Kaeder, F. J.	*I. E.	Sals., Commonwealth Edison Co.	Chicago, Ill.
Kah, C. L. Clarence	*I. E.	Mechanics Institute	Rochester, N. Y.
Kahle, R. L.	Nat. C.	Sals., Ringen Stove Co. Div.	St. Louis, Mo.
Kahn, Bertrand B.	Nat. C.	R., Estate Stove Co.	Hamilton, Ohio.
Kahn, David E.	Nat. C.	Estate Stove Co.	Hamilton, Ohio.

WE BUY SPENT OXIDE FROM COAL GAS WORKS

SEND US A SAMPLE AND WE WILL QUOTE YOU A PRICE

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road PHILADELPHIA, PA.
and 29th Street

ASSOCIATION MEMBERS

839

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Kahn, Glen F.	Nat. C.	Consolidated Gas Co. of N. J.	Red Bank, N. J.
Kahn, Lazard.	*A.; *Ill.; Nat. C.; *Ind.; P.C.	V. P., Estate Stove Co.	Hamilton, Ohio.
Kaiser, Geo. W.	*Wis.	W. S. Edwards Mfg. Co.	Chicago, Ill.
Kallstedt, C. H.	Ill.	Indus. g. Sals., Public Service Co. of No. Ill.	Chicago, Ill.
Kaltwasser, Charles M.	Nat. C.; Emp.	G. M., Harrisburg Lt. & Pr. Co.	Harrisburg, Pa.
Kamphorfnr, Arthur J.	Nat. C.	Burlington Gas Light Co.	Burlington, Ia.
Kapferschmidt, B.	Ace.		Jackson, Mich.
Kane, Joseph P.	A.; Nat. C.	S., Westchester Lighting Co.	Portchester, N. Y.
Kane, Milford L.	Nat. C.; *A.	M., Winnipeg Elec. Ry. Co.	Winnipeg, Man., Can.
Kane, William	Nat. C.	P., William Kane Mfg. Co.	Philadelphia, Pa.
Kanitz, Jacques	Nat. G.	G. M., Hungarian Welsbach Co., Ltd.	Budapest, Hungary.
Kanouse, Orlin, Jr.	Nat. C.	Public Service Gas Co.	East Orange, N. J.
Kansas City, Clay County & St. Joseph Ry. Co.	Mo.		Kansas City, Mo.
Kansas City Gas Co.	Mo.		Kansas City, Mo.
Kansas Elec. Utilities (M. Dunsworth, Mgr.)	Kan.		Emporia, Kan.
Kansas Gas & Elec. Co.	Kan.		Newton, Kan., Wichita and Arkansas City, Kan., and Kansas City, Mo.
Kanwisher, C. W.	Nat. C.		Baltimore, Md.
Kapus, W. M.	Nat. C.		Spaulding Bldg., Portland, Ore.
Karges, John H.	Nat. C.		92 Oak St., Windsor Locks, Conn.
Karrer, Enoch	I. E.	A. in Phys. Research, United Gas Impt. Co.	Philadelphia, Pa.
Karshner, G. M.	Nat. C.	Consolidated Gas Co.	New York City.
Kato, Kenjoro	I. E.	Chf. of E. Section, Tokio Electric Co.	Kanagawa-Ken, Japan.
Katonah Lighting Co.	Emp.		Katonah, N. Y.
*Kaufman, J. B.	Ind.	U. S. N. Navy Yard.	Philadelphia, Pa.
Kaufman, Otto	Nat. C.	G. M., Block Light Co.	Youngstown, Ohio.
Kaufmann, Wm. H.	Nat. C.	Indus. R., No. Ind. Gas & El. Co.	Ft. Wayne, Ind.
Kaulke, Johannes	*I. E.	E., General Electric Co.	Newark, N. J.
Kay, J. M.	Nat. G.	Field S., Glenshaw Natural Gas Co.	Glenshaw, Pa.
Kéal, George I.	Mich.; A.	S. Cons., Detroit City Gas Co.	Detroit, Mich.
Keas, A. F.	Nat. C.	A. Agt., United Gas Imp. Co.	Philadelphia, Pa.
Keating, J. J., Jr.	Nat. C.		Newark, N. J.
Keeble, S. M.	Mo.	M., St. Charles Electric Lt. & Pr. Co.	St. Charles, Mo.
Keebler, C. M.	N. J.	N. J. Gas Co.	Glassboro, N. J.
Keech, George C.	I. E.	Cooper Hewitt Electric Co.	Chicago, Ill.
Keefe, John	Tex.		St. Louis, Mo.
Keegan, Charles F.	A.	S. 21st St. Sta., Consolidated Gas Co.	New York, N. Y.
Keeler, Earl E.	*A.	G. Shop Fm., Kansas City Gas Co.	Kansas City, Mo.
Keeler, F. D.	*Wis.; *Ill.	Sec., Rockford Brass Works	Rockford, Ill.
Keen, W. W.	Sou.	Sals., Welsbach Co.	Chicago, Ill.
Keenan, J. E.	Nat. G.	Dist. Fm., Equitable Gas Co.	Pittsburgh, Pa.
Keenan, John R.	*I. E.	Solic., Philadelphia Elec. Co.	Philadelphia, Pa.
Keene, Alfred M.	*I. E.; Nat. C.		
	A.	Comp., Westchester Lighting Co.	Mount Vernon, N. Y.
Keene, E. W.	Nat. C.	Agt., United Gas Imp. Co.	Philadelphia, Pa.
Keeth, Grover	Ill.	A. to E., Public Service Co. of No. Ill.	Chicago, Ill.
Kegerreis, Roy	I. E.		565 W. 139 St., New York.
Kehoe, S. J.	N. E.	S., Gas & El. Dept., City of Norwich Municipal Plant	Norwich, Conn.
Keit, Louis A.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Keillor, John	Can.	S., Vancouver Gas Co.	Vancouver, B. C., Can.
Kelsler, Harry	Nat. C.	Col., Public Service Gas Co.	Montclair, N. J.
Kellams, W. W.	Kan.	Sals., Westinghouse El. Mfg. Co.	Kansas City, Mo.
Kelleher, J. J.	Ace.		613 Columbus Ave., Boston Mass.
Keller, C. M.	A.	Columbus Gas Light Co.	Columbus, Ind.
Keller, Ralph C.	Nat. C.	Sals. Clk., Peoples Gas Light Co.	Manchester, N. H.
Kelley, J. B.	I. E.	Sals., Frank H. Stewart El. Co.	Philadelphia, Pa.
Kelley, James E.	P. C.	S., g. wks., Western States G. & Elect. Co.	Stockton, Cal.
Kelley, James W.	Ind.	S., Richmond Light, Heat & Power Co.	Richmond, Ind.
Kelley, Wm. D.	Nat. C.; A.	G. S. of Met., Consolidated Gas Co.	New York, N. Y.
Kellogg, Alfred St. C.	I. E.	Con. & Designing E.	53 State St., Boston, Mass.
Kellogg, E. B.	Nat. G.	S., Alden-Batavia Nat. Gas Co.	Batavia, N. Y.
Kellogg, Franklin L.	Nat. G.	Field M., Ontario Gas Co.	Honeoye Falls, N. Y.
Kellogg, Harrison B.	*A.	E., Westchester Lighting Co.	Yonkers, N. Y.
Kellogg, Leonard L.	A.; Ia.; Nat. C.	P. & M. Sioux City Gas & Electric Co.	Sioux City, Ia.
Kellogg, R. C.	A.; I. E.; Ill.	E., with Edward W. Bemis.	Chicago, Ill.
Kellogg, R. M.	A.; *G. G. M.; N. E.; Emp.	E., with Westchester Lighting Co.	Mount Vernon, N. Y.
Kellum, Benjamin J.	*A.; Can.; *I. E.; *Ill.; *Ind.; *Mich.; Nat. C.; Nat. G.; Sou.; *Wis.	M., Western Dept., Welsbach Co.	Chicago, Ill.
Kelly, E. F.	N. E. C.	Com. M., Twin State Gas & Elec. Co.	Brattleboro, Vt.
Kelly, F. J.	Nat. C.		New York City.
Kelly, T. J.	Ind.	S., Northern Indiana Gas & El. Co.	Ft. Wayne, Ind.
Kelly, George J.	Nat. C.	The Safety Gas Lighter Co.	Haverhill, Mass.
Kelly, J. W.	Nat. G.	Sals., Jarocki Mfg. Co.	Pittsburg, Pa.
Kelséy, F. P.	*Ill.	Advertising	Westminster Bldg., Chicago.



Replace the leaky and worn valves on your gas compressors with
MESTA AUTOMATIC PLATE VALVES (Iversen Patent).
 Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Kemon, Wm. E.	Wis.; †A.	Asst. Indus. E.	Milwaukee, Wis.
Kendall, Albert W.	A.; Ill.; Nat. C.	A. M., Rockford Gas Lt. & Coke Co.	Rockford, Ill.
Kennedy, Geo. M.	I. E.		Lansford, Pa.
Kennedy, J. J.	Nat. G.	M. of Sals., National Tube Co.	Pittsburg, Pa.
Kennedy, Jeremiah J.	A.; *I. E.	E.	52 Broadway, New York, N. Y.
Kennedy, James S.	A.; I. E.	S., Standard Gas Light Co.'s 115th St. Works.	New York, N. Y.
Kennedy, James T.	Nat. C.	Public Service Gas Co.	Jersey City, N. J.
Kennedy, John Pendleton, A.	*I. E.; G. G. M.; N. E.		
Kennedy, M. G.	Nat. C.	S., Cambridge Gas Light Co.	East Cambridge, Mass.
Kennedy, S. M.	I. E.	The United Gas Imp't Co.	Philadelphia, Pa.
Kennedy, T. P.	P. C.	G. Agt., Southern Calif. Edison Co.	Los Angeles, Cal.
Kennedy, W. C.	Nat. C.		2069 Fulton St., B'klyn, N. Y.
Kennelly, Dr. A. E.	Can.	M. Dir., Windsor Gas Co.	Windsor, Ont., Can.
Kennett Gas Co.	I. E.	Prof. in El. E., Harvard University	Cambridge, Mass.
Kennett Ice & Electric Co.	Pa.	S. & M., Jas. Austin	Kennett Square, Pa.
Kenney, A. E.	Mo.		Kennett, Mo.
Kenney, A. J.	Nat. G.	P., Kenney Land & Oil Co.	Parkersburg, W. Va.
Kenney, Charles M.	Nat. C.	East River Gas Co.	Long Island City, N. Y.
Kennedy, H. G.	Nat. C.	Col., Public Service Gas Co.	West Orange, N. J.
Kenny, Thos. G.	Nat. C.	Boston Cons. Gas Co.	Boston, Mass.
Kenny, F. M.	Nat. C.	Pub. Service Gas Co.	Trenton, N. J.
Kent, A. E.	Tex.	L. M., North Texas Gas Co.	Sherman, Texas.
Kent, C. J.	*Ind.	Dist. M., Peninsular Stove Co.	Detroit, Mich.
Kent, E. G.	Nat. C.		P.O. box 985, Orange, N. J.
Kent, J. F.	Nat. G.	Public Service Gas Co.	Newark, N. J.
Kenyon, A. L.	Nat. G.	P., Pelham Oil & Gas Co.	Huntington, W. Va.
Keppelman, John H.	Sou.	G. M., Columbia Ry. Gas & El. Co.	Columbia, S. C.
Keppelmann, D. Ellwood.	A.; Nat. C.; Pa.	S., Consumers Gas Co.	Reading, Pa.
Kerckhoff, Wm. G.	A.; P. C.	G. S., g. dis., Pacific Gas & Elec. Co.	San Francisco, Cal.
Kerr, A. N.	P. C.	P., San Joaquin Lt. & Pr. Corp.	Los Angeles, Cal.
Kerr, Russell W.	Nat. G.	G. S., Riverside & Western Oil Co.	Pittsburgh, Pa.
Kerr, T. H.	Nat. G.	United Gas Imp. Co.	Philadelphia, Pa.
Kerr, Thomas F.	Nat. G.	E., Ohio Fuel Supply Co.	52 W. Gay St., Columbus, O.
Kerrigan, John	Ill.	Fitter, Public Service Co. of No. Ill.	Morris, Ill.
Kersting, Albert F.	Nat. C.	Public Service Gas Co.	Riverton, N. J.
Kessler, H. G.	A.; Sou.; Nat. C.	E., Mobile Gas Co.	Mobile, Ala.
Ketchum, D. A.	Mich.	Hodenpyl, Hardy & Co.	New York, N. Y.
	Nat. G.	Chf. E., United Fuel Gas Co.	Quarrier St., Charleston, W. Va.
Ketler, W. G.	Nat. G.	Agt., The Peoples Natural Gas Co.	Wilkinsburg, Pa.
Keuffel, Carl W.	*I. E.	Supervisor Optical Dept., Keuffel & Esser Co.	Hoboken, N. J.
Keve, Arthur J.	Nat. C.	Sals., Public Service Gas Co.	Newark, N. J.
Keyes Electric Co.	Emp.		Gowanda, N. Y.
Keyes, H. C.	P. C.; Nat. C.	Sec., Sacramento Natural Gas Co.	Sacramento, Cal.
Keyes, T. D.	Nat. C.		528 First Ave., Denver, Colo.
Keyser, Charles E.	Nat. C.	Sals., N. B. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Kidd, J. F.	Mo.	General Electric Co.	St. Louis, Mo.
Kidd, J. H. Y.	Nat. C.		126 Dubois St., Newburgh, N.Y.
Kidd, J. W.	Nat. G.	Chf. Clerk, Hope Natural Gas Co.	Wilkinsburg, Pa.
Kidde, Regnar	Nat. C.	Scientific Heater Co.	New York, N. Y.
Kidder, F. A.	Ia.	S., Red Oak Gas Light Co.	Red Oak, Ia.
Kidner, R. L.	Nat. G.	M., Century Stove & Mfg. Co.	Kansas City, Mo.
Kiefer, Lewis J.	I. E.	McCreery & Co.	Pittsburg, Pa.
Kiel, Walter J.	Nat. C.	Public Service Gas Co.	175 Main St., Passaic, N. J.
Kiesel, Chas.	Nat. G.	Fm., East Ohio Gas Co.	Niles, O.
Kifer, Edwin H.	Wis.	M., Binghamton Gas Works.	Binghamton, N. Y.
Kightlinger, A. D.	Nat. G.	Field Fm., The Mfrs. Light & Ht. Co.	Washington, Pa.
Kiley, F. S.	*Ill.	M., Chapman Valve Mfg. Co.	Chicago, Ill.
Kilfoyl, J. B.	P. C.	S., Contra Costa Gas Co.	Pittsburg, Cal.
Killbuck & Millersburg Oil & Gas Co.	O.		Millersburg, O.
Killgore, Frank T.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Killgore, James N.	A.; Nat. C.	A. S. of dis., Public Service Gas Co.	Hackensack, N. J.
Killinger, W. R.	*Ill.	Thermophore Mfg. Co.	Kalamazoo, Mich.
Kilpatrick, R. B.	Nat. G.	S., Windsor Gas Co.	Windsor, Ontario, Canada.
Kimball, C. W. Jr.	Ace.	J. B. Colt Co.	New York, N. Y.
Kimbrough, Hal C.	Mo.	American District Steam Co.	Chicago, Ill.
Kimmell, C. F.	Nat. G.	Div. S., Mfrs. Gas Co.	Brookville, Pa.
Kincheloe, L. G.	Nat. G.	Fm., Hope Natural Gas Co.	Clarksburg, W. Va.
*Kindig, T. P.	Nat. C.	United Gas & Elec. Eng. Corp.	61 Broadway, New York, N. Y.
Kindley, Geo. F.	Nat. C.; Sou.	S., Suffolk Gas & El. Co.	Suffolk, Va.
King, Albert H.	Nat. C.		Philadelphia, Pa.
King, Arthur Gordon.	A.; Nat. C.	Dept. of Util., Consolidated Gas Co.	New York, N. Y.
King, A. P.	*Wis.	W. M., Cleveland & Western Coal Co.	Milwaukee, Wis.
King, C. A.	Ace.		Norwich, N. Y.
King, E. J.	Nat. G.	Asst. P., Huntington Development & Gas Co.	Huntington, W. Va.
King, F. J.	Ace.	The Linde Air Products Co.	New York, N. Y.
King, Eugene R.	Ill.	S., Paxton Gas Co.	Paxton, Ill.
King, H. F.	Mich.	S., Traverse City Gas Co.	Traverse City, Mich.
King, James P.	Nat. G.	S., Allegheny Heating Co.	Pittsburgh, Pa.
King, James P.	Can.	Stratford Gas Co.	Stratford, Ont., Can.
King, R. W.	N. J.; Nat. C.	New Jersey Gas Co.	Drexel Bldg., Phila., Pa.
King, Thomson	Nat. C.	Consolidated Gas, El. Lt. & Pr. Co.	Baltimore, Md.
*King, William L.	Nat. C.; Soc. G.	Cambridge Gas Light Co.	Cambridge, Mass.
King, W. S.	Nat. G.	Field Fm., The Peoples Natural Gas Co.	Murraysville, Pa.
Kingfisher Lt. & Water Plant	Okl.		Kingfisher, Okla.

THERMOMETERS

American Meter Company
561 W. 47th St., New York, N. Y.

We carry in stock calorimeter, prover and condenser thermometers of the highest grade.

ASSOCIATION MEMBERS

841

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Kingsbury, Edwin F.	I. E.	Physical Lab., United Gas Impt. Co.	Philadelphia, Pa.
Kingsbury, E. L.	*Emp.		Hamilton, N. Y.
Kingsbury, I. Clayton	†A.	A. S. Dis. Dept., Consolidated Gas Co. of New York	New York, N. Y.
Kings Co. Ltg. Co.	Emp.		Brooklyn, N. Y.
Kingsley, T. C.	Nat. G.	Oil Prod., Kingsley & Burgess	Middlebourne, W. Va.
Kingston Gas & Elec. Co.	Emp.; Nat. C.		Kingston, N. Y.
Kinley, Geo. A.	Nat. G.	Sten., Hope Natural Gas Co.	Wilkesburg, Pa.
Kinney, C. J.	Nat. C.		Paterson, N. J.
Kinney, Clarence W.	*I. E.	Con. E., Coghlin Electric Co.	Worcester, Mass.
Kinney, G. I.	P. C.	c/o Fort Wayne Electric Co.	San Francisco, Cal.
Kinney, M.	P. C.		Sherman, Tex.
Kinsey, W. I.	Sou.	Sals., Bluefield Gas & Pr. Co.	Bluefield, W. Va.
Kirchberger, Moritz	*A.; *I.E.; Ace.; Nat. C.	P., M. Kirchberger, Inc.	New York, N. Y.
Kirchberger, Rudolf	Ace.	M. Kirchberger, Inc.	New York, N. Y.
Kirchmer, Geo. M.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Kirk, F. W.	Nat. G.	S. Pipe Line, Lone Star Gas Co.	Fort Worth, Tex.
Kirk, Jas. J.	*I. E.	Illum. E., Commonwealth Edison Co.	Chicago, Ill.
Kirk, George	P. C.	c/o Pacific Gas & El. Co.	Oakland, Cal.
Kirk, Whitney	Nat. C.	Welsbach Co.	Gloucester, N. J.
Kirk, William	Can.	M., Fort Wayne Machine Co.	Toronto, Ont., Can.
*Kirkpatrick, Frank E.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Kirkpatrick, Harry M.	Wis.	Manitowoc Gas Co.	Manitowoc, Wis.
Kirkpatrick, John J.	Nat. C.; N. E.	Gas & Electric Dept., City Hall	Holyoke, Mass.
Kirkville Light, Power & Ice Co.	Mo.		Kirkville, Mo.
Kirkville Gas, Heat & Elec. Co.	Mo.		Kirkville, Mo.
Kirschberg, Harold	I. E.	Con. Illum. Engr.	Pittsburg, Pa.
Kinsell, H. V.	P. C.	Pacific Gas & Elec. Co.	San Jose, Cal.
Kister, H. J.	P. C.; Nat. C.	M. N. B., Los Angeles Gas & Elec. Corp.	Los Angeles, Cal.
Kitchen, Geo. W.	P. C.	P., Madera Gas Co.	Los Angeles, Cal.
Kitchen, J. W.	Nat. G.	A. Sec. & A. T., Penna. Gas Co.	Warren, Pa.
Kitson Co.	Nat. C.		Philadelphia, Pa.
Klamroth, Henry	Nat. C.	Philadelphia Sub. Gas & El. Co.	Pottstown, Pa.
Klar, Robert L.	†A.	S. Works, No. Ind. Gas & El. Lt. Co.	Fort Wayne, Ind.
Klees, P. S.	*I. E.	A. M., Franklin Electric Mfg. Co.	Hartford, Conn.
Klein, Alfred H.	Nat. C.	Flatbush Gas Co.	Brooklyn, N. Y.
Klein, August C.	A.	E., United Gas Impt. Co.	Philadelphia, Pa.
Klein, Bernard J.	P. C.	M., The Bristol Co.	San Francisco, Cal.
Klein, Henry J.	Ace.	Jenne Acetylene Gas Machine Co.	Milwaukee, Wis.
Klein, L. C.	Nat. G.	M. W. P. Office, Continental Supply Co.	West Park, O.
Kleinhaus, H.	Ace.		Oliver Bldg., Pittsburg, Pa.
Klemm, George F.	*Ace.	Klemm & Co.	132 No. 5th St., Philadelphia
Kline, Harry C.	*Ind.; *Ill.; *Wis.; Nat. C.	Sals., Eclipse Gas Stove Co.	Rockford, Ill.
Kline, Virgil P., Jr.	Nat. G.	A. to S., Peoples Natural Gas Co.	Pittsburg, Pa.
Kline, W. H.	P. C.	Tax Agt., Pacific Gas & Elec. Co.	San Francisco, Cal.
Kling, Albert A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Klingensmith, J. M.	Nat. G.	Shop Fm., The Peoples Nat. Gas Co.	Greensburg, Pa.
Klise, C. A.	*I. E.		306 N. Mayfield Ave., Chicago.
Klise, John J.	Nat. G.		
Klug, N. J.	Nat. G.	The Klise, Eckstein, McCann Co.	Lancaster, O.
Klump, Henry	Nat. C.	Field Clk., The Mfrs. Light & Ht. Co.	Proctor, W. Va.
Klumpp, John Bartleman	A.; *I. E.; Nat. G.; Nat. C.; Wis.; *Emp.; Soc. G.; Ind.	Pub. Service Gas Co.	Newark, N. J.
Knabe, Albert	A.	Insp. E., United Gas Imp. Co.	Philadelphia, Pa.
Knapp, Amos M.	A.	Laclede Gas Light Co.	St. Louis, Mo.
Knapp, F. H.	Nat. C.; *Wis.; *Ind.; Nat. G. M.	Fm. Meter Shop, Westchester Ltg. Co.	Yonkers, N. Y.
Knapp, Isaac N.	A.; Nat. G.	G. M., Pittsburg Water Heater Co.	P.O. box 1109, Pittsburg, Pa.
Knapp, K. R.	*I. E.; Nat. C.	Spec. Insp., United Gas Impt. Co.	Ardmore, Pa.
Knapp, William J.	A.; Ace.	The Linde Air Products Co.	Philadelphia, Pa.
Knechtel, D. C.	*Mich.	P. Parrott Heater Co.	New York, N. Y.
Knechtel, G. Edgar	Ace.	The Knechtel Co.	Detroit, Mich.
Kneppshield, Charles	Nat. G.	Field S., Am. Natural Gas Co.	Brandon, Manitoba, Canada.
Knies, A. T.	Sou.; Tex.	M., Austin Gas Light Co.	Leechburg, Pa.
Knight, J. J.	*I. E.; Mich.; Nat. C.; Wis.		Austin, Tex.
Knight, J. Harmer	I. E.	V. P., General Gas Light Co.	Kalamazoo, Mich.
Knight, O. T.	Nat. C.; Ill.; Wis.	Dfmm., Philadelphia Elec. Co.	Philadelphia, Pa.
Knight, William H.	*A.; Nat. G.	M. Com. Dept., Peoples Gas Light & Coke Co.	Chicago, Ill.
Kniskern, W. J.	Nat. C.	G. M., Cleveland Gas Meter Co.	Cleveland, O.
Knoedler, E. L.	Nat. C.; *I. E.	M. H. H. Gas Co.	Stenectady, N. Y.
Knoepfler, A. J.	Sou.	A. to G. M., Welsbach Co.	Gloucester, N. J.
Knothe, W. J.	†A.	Sals., Pittsburg Water Heater Co.	New Orleans, La.
Knowles, William P.	A.	Russell Engineering Co.	St. Louis, Mo.
Knowles, W. R.	Nat. G.	S., Richmond City Gas Works	Richmond, Va.
Knowlson, A. T.	*Mich.	S. Press Dept., The East Ohio Gas Co.	Cleveland, O.
Knox, Charles E.	*I. E.	Mich. M., Welsbach Co.	Detroit, Mich.
Knox, George C.	P. C.	E.	101 Park Ave., New York, N.Y.
Koehler, Robert F.	Nat. C.	So. Cal. Gas Co.	Los Angeles, Cal.
Koenig Gas Iron Mfg. Co.	Nat. C.	Clk., Public Service Gas Co.	Newark, N. J.
Koerts, Henry	Wis.; †A.	S. Met. Dept., Milwaukee Gas Lt. Co.	Philadelphia, Pa.
			Milwaukee, Wis.



To replace your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is not difficult and is inexpensive. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Kohl, W. G.	Nat. G.	Agt., Logan Nat. Gas & Fuel Co.	Norwalk, O.
Kohn, H. M.	Nat. C.; Sou.	Com. M., Birmingham Ry., Lt. & Pr. Co.	Birmingham, Ala.
Kolner, C. W.	A.	G. M. & E., Munic. Lighting Plant.	Pasadena, Cal.
Kollar, Stephen J.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Kollmorgen, Fred'k L. G.	*I. E.	Optical expert, Kollmorgen Opt'l Co.	New York, N. Y.
Kollock, E. C.	Sou.; tA.	S. g., Charleston Cons. Ry. & Lt. Co.	Charleston, S. C.
Kolshorn, Wm.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Komitch, H. E.	Ace.	The Prest-O-Lite Co.	Indianapolis, Ind.
Koockogey, H. A.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Kopferschmidt, B.	Ace.		312 Mitchell St., Jackson, Mich.
Koppers, Heinrich.	*A.	P., H. Koppers Co.	1st Nat'l Bank Bldg., Pittsburg, Pa.
Kortepeter, R. E.	*I. E.		140 Henry St., Brooklyn, N. Y.
Korthaus, Emil.	Nat. C.; I. E.	Sals., N. B. Dept., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Kasse Light & Power Co.	So. W.		Kosse, Tex.
Kough, Fred W.	Nat. C.		242 Clifton Ave., Newark, N. J.
Kaubaupt, F. L.	Nat. C.		Astoria, L. I., N. Y.
Kovac, Michael L.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Kowalke, Otto L.	A.	Instructor Ch. Eng., University of Wisconsin	Madison, Wis.
Kraft, R. P.	A.; Wis.	A. E., Milwaukee Gas Light Co.	Milwaukee, Wis.
Kramer, C. W.	Nat. G.	Chf. E., Arkansas Natural Gas Co.	Little Rock, Ark.
Krantz, H.	I. E.	P., H. Krantz Mfg. Co.	Brooklyn, N. Y.
Kratzer, William H.	Mich.	Sals., Detroit City Gas Co.	Detroit, Mich.
Krause, Charles.	Nat. G.; N. G. E.	Insp., The Union Gas & El. Co.	Cincinnati, O.
Krebs, Dr. A.	Ace.	General Welding & Equipment Co.	Boston, Mass.
Krebs, O.	Nat. G.	Main L. fm., Ohio Fuel Supply Co.	52 W. Gay St., Columbus, O.
Kreer, Geo.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Kressler, C. G.	Mich.	Dist. M., Michigan Light Co.	Manistee, Mich.
Kretlow, A.	Wis.; tA.	S. Main. of Appl., Milwaukee Gas Lt. Co.	Milwaukee, Wis.
Krick, Albert L.	Ill.	Sals., Public Service Co. of No. Ill.	Oak Park, Ill.
Krick, Kay C.	Nat. G.; Nat. C.; N. G. E.	G. Cont. Agt., Logan Natural Gas & Fuel Co.	Columbus, O.
Kruesi, P. J.	I. E.; Ace.	T. & G. M., American Lava Co.	Chattanooga, Tenn.
Krug, John	P. C.	Agt., Pac. Gas & Elec. Co.	Alameda, Cal.
Kruger, Paul	tA.	Prepay, bookkeeper, Westchester Lt. Co.	New York, N. Y.
Krumrey, Robert G.	A.; Wis.	G. S., Beloit Water, Gas & El. Co.	Beloit, Wis.
Kruse, O. J.	*I. E.	Dist. Sales Agt., Milwaukee El. Ry. & Lt. Co.	Milwaukee, Wis.
Kubo, Shosuke	Nat. C.; A.	Kobe Gas Co.	Kobe, Japan.
Kuehne, Philip	Nat. C.	Madison Gas & Elec. Co.	Madison, Wis.
Kuerst, Albert H.	*Ill.	Sals., Detroit Graphite Co.	Chicago, Ill.
Kuhlmann, C. C.	Ace.		1 Wall St., New York, N. Y.
Kuhn, Geo. G.	*Ia.	Pur. Agt., Peoples Light Co.	Davenport, Ia.
Kull, Guy J.	Mich.	M., Monroe Gas Lt. & Fuel Co.	Monroe, Mich.
Kune, F. G.	Nat. C.; Tex.	Pittsburg Water Heater Co.	Dallas, Tex.
Kunerth, Wm.	*I. E.	Prof. Illum E., Iowa State College.	Ames, Ia.
Kunze, Walter W.	A.	E. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Kurtz, Adam	Wis.; tA.	And., Milwaukee Gas Lt. Co.	Milwaukee, Wis.
Kusch, B. E.	Nat. C.	Public Service Gas Co.	Hoboken, N. J.
Kuster, John D.	P. C.; A.	M., San Jose Dist., Pacific Gas & Electric Co.	San Jose, Cal.
La Belle Iron Works.	N. G. S.		Steubenville, O.
Lacampo, Michael A.	Nat. C.		1931 Cayuga St., Philadelphia.
Lacey, Philip J.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Lackerseen, F. C.	Nat. C.	Newtown Gas Co.	Elmhurst, L. I., N. Y.
Lackey, F.	Nat. G.	S., Crescent Oil & Gas Co.	Glenwillard, Pa.
*Lacombe, Charles F.	I. E.	Care, F. H. Lacombe	49 Wall St., New York City.
Ladd, Geo. T.	Nat. G.	Chm. Ex. Bd., Tri-County Gas Co.	Pittsburg, Pa.
LaFever, E. A.	Emp.	Buffalo Gen. Elec. Co.	Buffalo, N. Y.
Laite Electric Light & Power Co.	Mo.		Liberty, Mo.
Lafore, Paul Jules.	tA.	Merion Paper Co.	Philadelphia, Pa.
La Grange El. Light & Water Works Co.	So. W.		La Grange, Tex.
Laird, Claude A.	Nat. C.	Consumers Gas Co.	Reading, Pa.
Lakamp, J. H.	Nat. G.	G. S., Op. Dept., Union Gas & El. Co.	Cincinnati, O.
Lake Charles Ry., Light & Water Works Co.	So. W.		Lake Charles, La.
Lake, Morton.	*A.	Fm. g. meter shop, St. Paul Gas Lt. Co.	St. Paul, Minn.
Lally, A. M.	*Mich.	M. Sals., National Tube Co.	Pittsburg, Pa.
Lamar, J. F.	Mo.	Westinghouse Electric Mfg. Co.	St. Louis, Mo.
Lamb, F. Karl.	*A.	M., Lamb Construction Co.	Marion, Ill.
Lambe, A. B.	Can.	Chf. Insp. E. Div. Dept., Inland Revenue	Ottawa, Ont., Canada.
Lambe, W. E.	Ark.	M., Lambe & Demarke Lt. & Water	Arkansas City, Ark.
Lambert, Edward L.	A.		21 East 5th St., St. Paul.
Lambert, F. A.	Nat. C.		134 N. 13th St., Phila., Pa.
Lambertson, Wm. H.	Nat. C.	Public Service Gas Co.	So. Amboy, N. J.
Lambing, J. A.	Nat. G.		1023 Franklin Ave., Wilkinsburg, Pa.
Lamson, William O., Jr.	Nat. C.; A.	M., Chester County Gas Co.	West Chester, Pa.
Lancaster G. L. & Fuel Co.	Pa.	H. J. Van Needa, Supt. Comm. Dept.	Lancaster, Pa.
Landa Light & Power Co.	So. W.		Braunfels, Tex.
Landau, Geo.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.

MacDONALD-MANN COKE QUENCHING CHUTES quench the coke in water-sealed bins using a minimum of water, and producing hard silver gray coke with very little breeze. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Landers, John C.	Sou.	Sals., Augusta Gas Lt. Co.	Augusta, Ga.
Landers, R. E.	Sou.	M. N. B., Bristol Gas & El. Co.	Bristol, Va.
Landes, G. B.	Ill.	Fm. So. Sta., Peo. g. Lgt. & Coke Co.	Chicago, Ill.
Landis, H. K.	Nat. G.	M. Ed., The Gas Age	New York, N. Y.
Landreth, J. H.	N. J.	M., Long-Landreth-Schneider Co.	New Brunswick, N. J.
Landry, Joseph F.	Sou.	P., Lake Charles Gas Co.	Lake Charles, La.
Lane, Frank A.	Mich.	M., Lenawee Co. Gas & El. Co.	Adrian, Mich.
Lane, Frederick K.	A.	G. M. & T., Seattle Lighting Co.	Seattle, Wash.
Lane, Geo. A.	Ill.	Meter Shop Fm., Peoples Gas Lgt. & Coke Co.	Chicago, Ill.
Lane, James M.	A.; Ind.; Ill.	Insp. of Mfr., Public Serv. Gas Co.	Newark, N. J.
Lane, William P.	A.	S. Point Breeze Works, United Gas Improvement Co.	Philadelphia, Pa.
Lang, J. Gustaf.	I. E.	El. & M. E.	8 W. 40th St., New York, N.Y.
Langford, Cecil	Nat. C.	J. G. White & Co.	London, E. C., England.
Langdell, J. C.	Emp.	Adirondack Elec. Power Corp.	Glens Falls, N. Y.
Langdon, E. W.	P. C.	Br. M., The Sprague Meter Co.	Los Angeles, Cal.
Lange, Geo.	Nat. C.; A.	New Amsterdam Gas Co.	130 E. 15th St., New York.
Laugeller, Joseph A.	Nat. C.; N. E. C.	Com. M., Nashua Gas Lt. Co.	Nashua, N. H.
Langenheim, W. J.	Nat. C.	Sals. M., Troop Mfg. Co.	Pittsburgh, Pa.
Langley, William J.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Langworthy, E. L.	*I. E.	E. & M., Adams & Westlake Co.	Philadelphia, Pa.
Lamphier, Chas. H.	*A.	Gas & Meter Insp.	Springfield, Ill.
Lansing Fuel & Gas Co.	Nat. C.		Lansing, Mich.
Lansley, John W.	Sou.; Nat. G.; Nat. C.; Ill.	Pub. M., Dawes Bros., and Sec. Southwestern Gas & El. Co.	Harris Trust Bldg., Chicago, Ill.
Lanz, George E.	*I. E.	Packard Lamp Div. of Gen. El. Co.	Pittsburg, Pa.
La Plata Light, Heat & Ice Co.	Mo.		La Plata, Mo.
La Porte Gas & El. Co.	Nat. C.	G. M. Cook, G. M.	La Porte, Ind.
La Portes, William	Nat. C.	Fulton County Gas & El. Co.	Gloversville, N. Y.
Laphorn, James	Sou.	S., West Palm Beach Gas Co.	West Palm Beach, Fla.
Larabee, E. E.	Emp.	M., Twin State Gas & El. Co.	Hoosick Falls, N. Y.
Laraway, Burton R.	A.; Mich.; Nat. C.	Dir., Michigan Light Co.	Jackson, Mich.
Laredo Electric & Ry. Co.	So. W.		Laredo, Tex.
Larkham, W. E.	Nat. G.	Fm., Calgary Gas Co.	N. Calgary, Alberta, Can.
Larkin, J. J.	Nat. G.	Larkin Bros.	Bartlesville, Okla.
Larkin, W. H.	Nat. G.	M., Larkin & Co.	Butler, Pa.
Larney, A.	*I. E.	Westinghouse Lamp Co.	165 Broadway, New York, N.Y.
Larsen, A. C.	*Ill.	Fm., Public Service Co. of No. Ill.	Blue Island, Ill.
La Salle, Gus.	Nat. C.	Col., Public Service Gas Co.	Orange, N. J.
Lasher, Chas. A.	Nat. C.	Central Hudson Gas & El. Co.	Poughkeepsie, N. Y.
Lasher, Clarence E.	Nat. C.; *N. E.; N. E. C.	Blackstone Valley Gas & El. Co.	Pawtucket, R. I.
Latarte, A. J.	Nat. C.		346 McClellan St., Schenectady, N. Y.
Latch, W. Reese.	Nat. C.	Public Service Gas Co.	Burlington, N. J.
Latham, Frank W.	*A.; Sou.	S., Alexandria Gas Works.	Alexandria, Va.
Lathrop, Alanson P.	A.; *I. E.; Mich.; Nat. C.; Nat. G.	P., Am. Lt. & Traction Co.	New York, N. Y.
Lathrop, F. A.	*Ill.; *A.	Sals. M., Youngstown Sheet & Tube	Chicago, Ill.
Lathrop, L. H.	Wis.	S., Menominee & Marinette Lt. & Trac. Co.	Marinette, Wis.
Lathrop Light, Heat & Power Co.	Mo.		Lathrop, Mo.
Lattimer-Stevens Co.	Nat. C.; N. G. S.		Columbus, Ohio.
Lauber, Albert.	*A.; *I. E.	Prop. Standard Meter & Mfg. Co.	New York, N. Y.
Laudlaw, Samuel A.	*A.	G. Fm., Laclede Gas Lt. Co.	St. Louis, Mo.
Laufer, E. P.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Laughlin, Joseph H.	Nat. C.	The U. G. I. Co.	Philadelphia, Pa.
Laughlin, Jas. P.	Nat. G.	G. Fm. E., Ohio Gas Co.	Akron, O.
Laurencena, M. J.	Nat. C.	Calle Peru S2.	Parana, Argentina, S. A.
Lavell, Lon.	Nat. G.	Fm., Hope Natural Gas Co.	Fairview, W. Va.
Lavelle, William J.	A. *N. E.	M., Coke Sales, New England Coal & Coke Co.	Boston, Mass.
Lavelly, Dan J.	Ind.	Chambers Mfg. Co.	Shelbyville, Ind.
Lavery, Charles A.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Law, C. H.	Nat. G.	G. S., Ridgway Light & Heat Co.	Ridgway, Pa.
Law, Clarence L.	I. E.	M. Bur. of Illum. Eng., N. Y. Edison Co.	New York, N. Y.
Law, F. G.	Ark.	M., Ark. Light & Pr. Co.	Russellville, Ark.
Law, J. R.	Nat. C.	Pacific Power & Lt. Co.	Lewiston, Idaho.
Law, Robert, Jr.	Nat. G.	P., The Quapaw Gas Co.	Pittsburg, Pa.
Lawler, Edw. A.	Nat. C.	Public Service Gas Co.	W. Hoboken, N. J.
Lawler, Matthew M.	Ace.	U. S. Gauge Co.	67 Wall St., New York, N. Y.
Lawler, Wm.	Tex.		Austin, Tex.
Lawlor, James W.	A.; Ill.	S., North Sta., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Lawlor, R. H.	A.; Ind.	A. E., Dayton Gas Co.	Dayton, O.
Lawrence, Charles A.	Nat. G.	Sec. & T., Tri County Natural Gas Co.	Pittsburg, Pa.
Lawrence County Water, Light & Cold Storage Co.	Mo.		Aurora, Mo.
Lawrence, F. R.	*Mich.	Sals., Toledo Stove & Range Co.	Lansing, Mich.
Lawrence, F. S.	Ace.		116 Fifth St., Fairbury, Nea
Lawrence, James.	A.; Wis.	And., Am. Light & Traction Co.	New York, N. Y.
Lawrence, Prof. Ralph R.	*I. E.	Asso. Prof. El. E., Mass. Inst. of Technology	Boston, Mass.
Lawrence, W. F.	A.; N.E.; Soc. G. S. of Mfr.	Astoria Lt., Ht. & Pr. Co.	Astoria, N. Y.
Lawson, D. E.	*Ace.		Chattanooga, Tenn.
Lawson, L. S.	Nat. C.	Lawson Mfg. Co.	Homestead, Pa.
Lawson Mfg. Co.	Nat. C.		Pittsburgh, Pa.

Make your compressors deliver more gas by replacing your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Lawson, W. H.	Nat. C.; N. E.	S. g. Dept., Rutland Ry. Light & Power Co.	Rutland, Vt.
Lawton, W. H.	N. J.	T., Pottsville Gas Co.	Real Estate Trust Bldg., Philadelphia.
Layton, Miles B.	Nat. G.	A. M. Mfrs. Light & Heat Co.	Pittsburg, Pa.
Lazear, J. W.	*Ill.	The Brown Instrument Co.	Chicago, Ill.
Lea, Henry I.	A.; Ill.; Nat. C.; Ia.; *Wis.	g. E	Peoples Gas Bldg., Chicago, Ill.
Leach, Edward M.	N. J.	Atlantic City Gas Co.	Atlantic City, N. J.
Leach, F. A., Jr.	*I. E.; Nat. C.; P. C.; A.	M., Pacific Gas & Electric Co.	Oakland, Cal.
Leake, Geo. F.	Kan.	Dist. M., Westinghouse El. Mfg. Co.	St. Louis, Mo.
Leakey, Nathan G.	*A.; Can.; *Ia.; *Ill.; *Mich.; *Wis.	A. Sec., Michigan Ammonia Wks.	Detroit, Mich.
Leamon, Wm. G.	Nat. G.	Ch., Medina Gas & Fuel Co.	Wooster, O.
Leamy, Alan.	Nat. C.; Nat. G.	M., Middle West Dept., Welsbach Co.	Columbus, O.
Leard, R. C.	Nat. G.	S., United Fuel Gas Co.	Kermit, W. Va.
Learned, Charles A.	A.; *G.G.M.; *I. E.; Nat. C.; N. E.	S. & M. Meriden Gas Light Co.	Meriden, Conn.
Learned, John G.	Nat. C.; Ill.	Asst. to V. P., Public Service Co. of No. Illinois	Chicago, Ill.
Learned, Waldo A.	A.; G. G. M.; Nat. C.; N. E.	P., Newton & Watertown Gas Lt. Co. Light Co.	Newton, Mass.
Leary, D. J.	Nat. C.	Col., Public Service Gas Co.	Orange, N. J.
Leask, John P.	A.	S. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Leathers, J. H.	Nat. G.	Fm., Equitable Gas Co.	Donora, Pa.
Leavenworth Lt., Ht. & Pr. Co. (Chester S. Emmert, G. M.)	Kan.		Leavenworth, Kan.
Lebanon Gas & Fuel Co.	Pa.	G. S. Speaker, S.	Lebanon, Pa.
LeBaron, L. W.	P. C.	Alta District Gas Co.	Dinuba, Cal.
Leck, S. M.	Ind.	Chf. Clk., No. Ind. Gas & El. Co.	So. Bend, Ind.
LeClair, Charles.	Nat. C.	Peckskill Lighting & R. R. Co.	1020 Main St., Peekskill, N. Y.
Le Clear, Gifford.	*I. E.	Con. E., Densmore & Le Clear.	Boston, Mass.
Ledbetter, E. E.	*Pa.	M., Humphrey Co.	Philadelphia, Pa.
Ledford, N. H.	Mo.	P., Pike County Electric Light & Power Co.	Bowling Green, Mo.
Lee, Alfred, 3d.	Nat. C.	United Gas Imp't Co.	Philadelphia, Pa.
Lee, Chas. N.	Ind.	Fm., Citizens Gas Co.	Indianapolis, Ind.
Lee, Claudius.	*I. E.	A. Prof. El. E., Virginia Polytechnic Institute	Blacksburg, Va.
Lee, James D., Jr.	*I. E.; Nat. C.	United Gas Imp't Co.	Philadelphia, Pa.
Lee, J. W., Jr.	Nat. C.		61 B'way, Room 3129, New York, N. Y.
Lee, Ralph H.	N. J.	Cumberland County Gas Co.	Millville, N. J.
Lee, Raymond W.	N. J.	Cumberland County Gas Co.	Millville, N. J.
Lee, T. H.	Nat. C.		5111 Catharine St., W. Philadelphia, Pa.
Leeds & Northrup Co., The	I. E.		Philadelphia, Pa.
Lees, B. B.	P. C.	Sals., Coast Counties Gas & El. Co.	Watsonville, Cal.
Lee's Summit Elec. Light & Power Co.	Mo.		Lee's Summit, Mo.
Leeson, S. R.	Tex.		Dallas, Tex.
Leet, William G.	Nat. G.	S. g. dept., So. W. Gas & El. Co.	Shreveport, La.
Le Fevre, Harry E.	Nat. G.	Contractor	Aspinwall, Pa.
Lehman, Henry J.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Lehman, I. L.	Nat. C.; N. G. E.		Dayton, Ohio.
Lehman, Julius.	Nat. G.	Com. M., Dayton Gas Co.	Brooklyn, N. Y.
Leidicker, F. H.	Nat. G.	Leidicker Tool Co.	Marietta, O.
Leight, Anthony	Nat. G.	Field S., Am. Natural Gas Co.	Glenshaw, Pa.
Leight, Harry G.	Nat. G.	Fm., met. repair dept., Logan Natural Gas & Fuel Co.	Mansfield, O.
Leitch, Angus G.	Sou.	M., Washington County Gas Co.	Johnson City, Tenn.
Leist, S. E.	Nat. G.	Clk., Columbia Gas & El. Co.	Branchland, W. Va.
Leland, Edward D.	A.; Nat. G.	S. of Compressing Sta., Philadelphia Co.	Pittsburg, Pa.
Leland, G. B.	N. E.	G. S., Stamford Gas & Elec. Co.	Stamford, Conn.
Leland, R. M.	Nat. G.	S. Phila. Co.	Pittsburgh, Pa.
Lemke, Frank Alex.	Nat. C.; *Ill.; *Ind.; *A.; *Wis.	G. M., Humphrey Co. div., Ruud Mfg. Co.	Kalamazoo, Mich.
Lemoine, Louis R.	*A.	P., United Cast Iron Pipe & Fdy. Co.	Philadelphia, Pa.
Lennig, Frederick.	*I. E.	Prop., Lennig Bros. Co.	Philadelphia, Pa.
Leonard, A. W.	Nat. G.	Oklahoma Fuel Supply Co.	Tulsa, Okla.
Leonard, Charles F.	A.; N. E.; Nat. C.; Nat. G.	g. E. P. S. Com., 2d Dist.	New York City.
Leonard, John	Nat. G.	Field S., Mfrs. Gas Co.	Kane, Pa.
Leonard, J. W.	Nat. G.	Oil Producer, J. W. Leonard Oil Co.	Washington, Pa.
Leonard, Louis A.	Mich.	Belding Gas Works.	Belding, Mich.
Le Page, Clifford B.	I. E.	A. Prof. Physics, Stevens Inst. of Technology	Hoboken, N. J.
Lepper, E. L.	Nat. G.	Act., Logan Natural Gas & Fuel Co.	Fostoria, O.
Le Roy, Frank O.	Nat. G.	Chf. clk., Hope Nat. Gas Co.	Pittsburgh, Pa.
Le Roy Hy. El. Gas Co.	Emp.		LeRoy, N. Y.
Leschen & Sons Rope Co.	N. G. S.		St. Louis, Mo.
Leslie, Fred C.	Nat. G.	Aud., Manuf. Light & Heat Co.	Pittsburgh, Pa.
Lesperance, W. S.	Can.	A. M., Canadian Ammonia Co., Ltd.	Toronto, Ont., Can.
Letang, B. E.	A.	Prop., Jackson Gas Light Co.	Jackson, Cal.

PHOTOMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

Among the standard bar photometers which we manufacture are the Sugg-Letheby, the Improved Type B and the Portable Type.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Leuenberger, Walter A....	†A.; Nat. C....	G. M. Tacoma Gas Co.....	Tacoma, Wash.
Levan, Dan. H.....	†A.	Engineers A. Sioux City Gas & Elec. Co.	Sioux City, Ia.
Levan, Milton B.....	*I. E.	Chf. clk., Spring Garden Dist. United Gas Imp. Co.	Philadelphia, Pa.
Lever, Thomas J., Jr.....	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Leverett, E. V.....	Ark.	S., Conway Elec. Lt. Plant.....	Conway, Ark.
Levene, Harry.....	Nat. C. ....	.....	Newark, N. J.
Levey, C. J.....	*Ill.	Indus. E., National Machine Works..	Chicago, Ill.
Lewis, Wm.....	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Le Vier, C. P.....	Nat. G.	The Mfrs. Light & Heat Co.	Waynesburg, Pa.
Levines, T. W.....	Nat. C.	A. to N. B. M., Westchester Ltg. Co.	Mt. Vernon, N. Y.
Levings, W. H.....	Nat. C.	Minneapolis Gas Light Co.....	Minneapolis, Minn.
Levy, F. A.....	Nat. G.	V. P., Gulf Pipe Line	Schenley Hotel, Pittsburg, Pa.
Levy, Max J.....	*I. E.	P., Edwards Electric Construction Co.	New York, N. Y.
Levylier, Henri M.....	*I. E.	El. Con. E.	Mejico, 1714, Buenos Aires,
Lewars, Chas. E.....	*A.	S., Semet-Solvay Co.	Detroit, Mich.
Lewin, A. Wyndham.....	I. E. ....	.....	Audubon Bldg., New Orleans, La.
Lewinson, Leonard J.....	I. E.	El. Testing Laboratories.....	New York, N. Y.
Lewis, A. H.....	Nat. G.	Agt., Fremont Gas, El. Lt. & Pr. Co.	Fremont, O.
Lewis, E. R.....	Nat. C.	Ideal Gas Light Co.	Kalamazoo, Mich.
Lewis, Dr. F. Park.....	I. E. ....	.....	454 Franklin St., Buffalo, N. Y.
Lewis, Harry.....	Nat. C.	Meriden Gas Light Co.	Meriden, Conn.
Lewis, H. L.....	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Lewis, Herbert F.....	Nat. C.	Gas Appl. Sales Co. of America....	Philadelphia, Pa.
*Lewis, Howard O.....	Sou.	New Orleans Ry. & Ltg. Co.....	New Orleans, La.
Lewis, Phill.....	Nat. G.	Agt., The East Ohio Gas Co.	Cuyahoga Falls, N. Y.
Lewis, P. Lloyd.....	Kan.	Dist. M., Wagner Elec. Mfg. Co....	Kansas City, Mo.
Lewis, Raymond C.....	A.	A. S. Shop, Brooklyn Union Gas Co.	176 Remsen St., Br'klyn, N.Y.
Lewis, T. L.....	Nat. G.	A. M. of Sales, A. M. Byers Co....	Pittsburg, Pa.
Lewis, William E.....	A.	V. P., Utica Gas & El. Co.	Utica, N. Y.
Libbey, J. H.....	*I. E.	A. El. E., Bay State Lt. & Ry. Co..	Boston, Mass.
Libby, William.....	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Liberal Ice, Lt. & Pr. Co. (H. W. Magruder, Mgr.)	Kan. ....	.....	Liberal, Kan.
Liberty Light, Ice & Power Co.	Kan. ....	.....	McPherson, Kan.
Liberty Light & Power Co.....	Emp. ....	.....	Liberty, N. Y.
Lieb, John W., Jr.....	I. E.	3d V. P. & Asso. G. M., The N. Y. Edison Co.	New York, N. Y.
Lienesch, Walter H.....	*I. E.	E. Synstone Corp.	Peoria, Ill.
Light, Edward H.....	A.	S. of Dis., Dayton Gas Lt. & Coke Co.	Dayton, O.
Light, George.....	*P. C.; Nat. G.; A.	S., dis., Dayton Gas Co.	Dayton, O.
Light & Development Co., The	Mo. ....	.....	St. Louis, Mo.
Lightfoot, J. C., Jr.....	Pa.; Nat. C.; †A. N. J.	T., Eastern Light & Fuel Co.....	Philadelphia, Pa.
Lillie, Lewis.....	A.; *I. E.; Nat. C.; Nat. G.	3d V. P. & T., United Gas Imp. Co..	Philadelphia, Pa.
Lima Gas Light Co.....	O. ....	.....	Lima, O.
Lima Natural Gas Co.....	O. ....	.....	Lima, O.
Limbach, John.....	Nat. C.	Pub. Serv. Gas Co.	Newark, N. J.
Limbart, Geo. B.....	*Ill.	Geo. B. Limbart Co.	Chicago, Ill.
Linde, F. C.....	Nat. C.	Com. Agt., Northern Indiana Gas & Electric Co.	Michigan City, Ind.
Lindemann, A. J.....	*Wis.	P. A. J. Lindemann & Hoverson Co.	Milwaukee, Wis.
Linden, J. F.....	Nat. C.	Public Service Gas Co.	19th & Chesnut Sts., Phila., Pa.
Linder, Edward, Jr.....	*I. E.	Optician	S. Amboy, N. J.
Lindquist, Harry.....	Nat. C.	Pub. Serv. Gas Co.	Paterson, N. J.
Lindsay, Carl C.....	*I. E.	P. O. Box 1510 Washington, D. C.	Chicago, Ill.
Lindsay, Charles R.....	Nat. C.	Lindsay Light Co.	Chicago, Ill.
Lindsay, Robert.....	A.; N. E.; Nat. C.	S. g. Dept., New Bedford Gas & Edi- son Light Co.	New Bedford, Mass.
Lindsay, Robert J.....	Nat. G.; Tex.	S., Hope Engineering & Supply Co..	Tulsa, Okla.
Lindsay, Roy.....	Nat. G.	Fm., Dominion Nat. Gas Co.....	Dunnville, Ont., Can.
Lindsay, W. R.....	Nat. G.	Sales Agt., Byers Pipe Co.	Tulsa, Okla.
Linskog, Chas. J.....	Ill.	G. Fm., Calumet div. Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Ling, J. E.....	Ace.	American Lava Co.	Chattanooga, Tenn.
Link, Henry.....	†Ill.	Blacksmith, Pub. Serv. Co. of No. Ill.	Evanston, Ill.
Linn, L. A.....	Ace. ....	.....	Bluffton, Ind.
Linton, Samuel E., Jr.....	A.; *I. E.; Nat. C.; Sou.	G. M., Nashville Gas & Heating Co..	Nashville, Tenn.
Lippman, Samuel.....	Nat. C.	Northern Liberties Gas Co.....	Philadelphia, Pa.
Lipscomb, B. D.....	Kan.	Sals., General Electric Co.	Kansas City, Mo.
Lisberger, S. J.....	P. C.	E. Elec. Dist., Pacific Gas & Elec. Co.	San Francisco, Cal.
Lisbon Oil & Gas Co.....	O. ....	.....	Pittsburg, Pa.
Lisle, Arthur B.....	*I. E. ....	.....	Providence, R. I.
Lissfelt, H. L.....	*I. E.	M. Macbeth-Evans Glass Co.	Philadelphia, Pa.
Little, Archibald S. B.....	A.; Ill.	Gas E., Public Utilities Com. of Ill.	Springfield, Ill.
Little, Arlington P.....	*I. E.	A. Physicist, Bureau of Standards.	Washington, D. C.
Little, Arthur Dehon.....	A.	P., Arthur D. Little, Inc.....	30 Charles River Rd., Cam- bridge, Mass.
Little, John M.....	Sou. ....	.....	Detroit, Mich.
Little, Perry A.....	Nat. G.	Producer, Natural Gas & Oil.....	Buffalo, N. Y.
Littlejohn, Geo. H.....	P. C.	S. g. dept., Gas & El. Appliance Co.	San Francisco, Cal.
Little, S. E.....	Nat. C.; N. J.	National Stove Co.	Lorain, Ohio.



You can increase the efficiency of your compressors by replacing your old valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Little, Wm. F.....	I. E.	Electrical Testing Laboratories.....	New York, N. Y.
Littlefield, Harry J.....	*I. E.	Com. Agt., Queens Boro Gas & El. Co.....	Far Rockaway, N. Y.
Litzenberg, Charles.....	*I. E.	Col., Philadelphia Electric Co.....	Philadelphia, Pa.
Liversidge, Horace P.....	*I. E.	Supt. of Op., Philadelphia Elec. Co.....	Philadelphia, Pa.
Livingston, Herman.....	A.; *I. E.	E., Aetna Chemical Co.....	P. O. Box 543, Carnegie, Pa.
Livingston, J. M.....	*I. E.		2335 N. 18th St., Phila., Pa.
Livingston-Niagara Fr. Co	Emp.		Avon, N. Y.
Livingston, Robert E.....	A.; *I. E.; Nat. C.	Ad. M., Consolidated Gas Co., of New York	1 Madison Ave., New York.
Llewellyn, A. J.....	*A.; Nat. C.	Luzerne County Gas & El. Co.....	Plymouth, Pa.
Lloyd, A. J.....	P. C.	c/o Citrus Belt Gas Co.....	Redlands, Cal.
Lloyd, Dr. M. G.....	I. E.	Bureau of Standards.....	Washington, D. C.
Lloyd, R. Louis.....	*I. E.	Spec. R., Philadelphia Electric Co.....	Philadelphia, Pa.
Lloyd, Wm. F.....	*I. E.	Sals., Philadelphia Elec. Co.....	Philadelphia, Pa.
Lobaugh, W. H.....	Nat. G.	Field M., Pavilion Nat. Gas Co.....	Pavilion, N. Y.
Locke, Geo. D.....	Ark.	P., Rogers Lt. & Water Co.....	Rogers, Ark.
Locke, Harry.....	Nat. C.		166 B'wy, So. Boston, Mass.
Lockhart, R. J.....	Can.	Gurney-Massey Co.....	Montreal, Que., Can.
Lockhart, Wm. J.....	*I. E.	Dist. M., Philadelphia Electric Co.....	Germantown, Philadelphia, Pa.
Lockport Light, Heat & Power Co.....	Emp.		Lockport, N. Y.
*Lockwood, A. E.....	Nat. C.; *A.; So. M.	Bluefield Gas & Fr. Co.....	Bluefield, W. Va.
Lockwood, W. A.....	*A.; Nat. C.	G. Sals., Ringen Stove Co.....	St. Louis, Mo.
Lockwood, W. H.....	Nat. G.	A. Fm., Mfrs. Light & Heat Co.....	Belhairs, O.
Loebell, Henry O.....	Nat. C.; N. G. E.		
Loehr, Miles E.....	Nat. G.	Indus. Fuel E., H. L. Doherty & Co.....	60 Wall St., New York, N. Y.
Loewe, P. M.....	Mo.	c/o Claypool Lumber & Coal Co.....	Claypool, Ind.
Lofquist, Harry S.....	*I. E.	M., Obelin Gas & El. Co.....	Obelin, O.
		E. dept., Nat'l Lamp Works, General Electric Co.	Cleveland, Ohio.
Logan Natural Gas & Fuel Co.....	O.		Columbus, O.
Logan, W. H., Jr.....	Nat. C.	Sals., United Gas Imp. Co.....	New York, N. Y.
Logue, James J.....	Nat. G.	S., Reserve Gas Co.....	Weston, W. Va.
Logue, R. G.....	P. C.	Supt., Indus. Dept.....	Los Angeles, Cal.
Lohmann, Robt. E.....	Nat. C.	Public Service Gas Co.....	Hoboken, N. J.
Lohmeyer, Harry B.....	A.	Chf. Ef. Dept., Cons. Gas, El. Lt. & Pr. Co.	Baltimore, Md.
Lohr, G. C.....	Nat. G.	Agt., East Ohio Gas Co.....	Warren, O.
Lone Star Gas Co.....	So. W.		Ft. Worth, Tex.
Long, David S.....	A.	S., Consumers Gas & Coke Co.....	Waycross, Ga.
Long, E. A.....	Ace.	Acetylene Jour. Pub. Co.....	Chicago, Ill.
Long, Harry E.....	Nat. C.	Sals., Public Service Gas Co.....	Newark, N. J.
Long - Landreth - Schneider Co.....	Nat. C.		New Brunswick, N. J.
Long, T. W.....	Mich.	Boonville Light, Heat & Power Co.....	Boonville, Ky.
Long, Walter E.....	*I. E.	Philadelphia Electric Co.....	Philadelphia, Pa.
Long, W. A.....	Nat. G.	Fm., Ark. Nat. Gas Co.....	Vivian, La.
Longenecker, W. C.....	Nat. G.	T., Toledo Pipe Threading Machine Co.	Toledo, O.
Longfellow, M. W.....	Nat. C.	Balt. Gas Appl. & Mfg. Co.....	Baltimore, Md.
Longview Ice & Light Co.....	So. W.		Longview, Texas
Longyard, John.....	Nat. C.	United Gas Imp. Co.....	Philadelphia, Pa.
Loomis, C. T.....	Ill.	Fm., Public Serv. Co. of No. Ill.....	Evanston, Ill.
Loomis, F. M.....	Ind.	Chf. Clk., Indianapolis Gas Co.....	Indianapolis, Ind.
Looney, W. C.....	Kan.	Sals., Westinghouse El. & Mfg. Co.....	Kansas City, Mo.
Lorain Steel Co.....	So. W.		Atlanta, Ga.
*Lord, A. C.....	Nat. C.	Pur. Agt., Northern Union Gas Co.....	New York, N. Y.
Lord, R. S.....	Nat. G.	V. P. & T., Hope Eng. & Supply Co.....	Mount Vernon, O.
Lorenz, J. M.....	*I. E.	Sals., Central Electric Co.....	Chicago, Ill.
Louer, W. B.....	Ace.	Alex. Milburn Co.....	Baltimore, Md.
Louis, Frank I.....	Nat. G.	Dist. M., National Supply Co.....	Tulsa, Okla.
Louisiana Light, Power & Traction Co.....	Mo.		Louisiana, Mo.
Lounsberry, W. C.....	Wis.	G. S., Superior Water Light & Pr. Co.....	Superior, Wis.
Love, Dr. E. G.....	*I. E.; Soc. G.; A.	Chf. Ch., Consolidated Gas Co.....	130 E. 15th St., New York
Lovekin Co., The.....	Nat. C.		Philadelphia, Pa.
Loveland, Elmer.....	Nat. G.	S., Logan Natural Gas & Fuel Co.....	Fremont, O.
Lovelle, W. J.....	*N. E.	Sals. M., N. E. Coke & Coal Co.....	Boston, Mass.
Loveridge, Guy H.....	Nat. G.	Chf. clk., Iroquois Nat. Gas Co.....	Buffalo, N. Y.
Lovett, George.....	*I. E.	Solic., Philadelphia Electric Co.....	Philadelphia, Pa.
Lowe, Leon P.....	*I. E.; Nat. C.; P. C.	P., California Lt. & Fuel Co.....	San Francisco, Cal.
Lowe, S. C.....	P. C.		314 W. 3d St., Los Angeles,
Lowe, Thaddeus.....	P. C.		Pasadena, Cal.
Lowell Gas Light Co.....	Nat. C.		Lowell, Mass.
Lowell, Geo. C.....	Ill.	E. cons., Peoples Gas Lt. & Coke Co.....	Chicago, Ill.
Lown, Frank B.....	Nat. C.	Central Hudson Gas & Elec. Co.....	Poughkeepsie, N. Y.
Lowry, F. M.....	Nat. G.	V.-P., Dominion Natural Gas Co.....	542 Moine Bk. Bldg., Buffalo.
Luby, Clyde V.....	Ill.	S., Central Ill. Pub. Serv. Co.....	Taylorville, Ill.
Lucas, H. C.....	Nat. C.	Clk., Public Service Gas Co.....	East Orange, N. J.
Lucas, Thomas J.....	A.; Wis.	Con. E., with W. A. Baehr.....	Chicago, Ill.
Lucena, Joseph.....	A.; Ia.; Nat. C	S. of Dis., Omaha Gas Co.....	Omaha, Neb.
Lucey, D. J.....	P. C.	Gas. Dept., Pacific Gas & El. Co.....	San Francisco, Cal.
Lucey Mfg. Corp.....	N. G. S.		Pittsburgh, Pa.
Luck, Charles.....	Sou.		Macon, Ga.
Lucke, Chas. E.....	A.	Prof. M. E., Columbia University.....	New York, N. Y.
Luckenbach, C. A.....	P. C.; A.	3d V. P., Los Angeles Gas & Elec. Corp.	Los Angeles, Cal.
Luckens, Geo. N.....	*I. E.	M., Macbeth Evans Glass Co.....	New York, N. Y.

HUNT INDUSTRIAL RAILWAYS for handling coal are built in a variety of special forms, for side or bottom dumping, or for emptying with minimum labor with shovels. Standard designs of cars, track, curves, switches, etc., can be shipped from stock. Write for Catalogue N16-2.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ASSOCIATION MEMBERS

8.7

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Luckiesh, Matt.....	I. E.	Physicist, Nela Lamp Wks. of G. E. Co.	Cleveland, O.
Ludlow Valve Mfg. Co.....	N. G. S.		Troy, N. Y.
Ludlum, Mrs. L. M.....	Nat. C.	United Gas Improvement Co.	Broad & Columbia Ave., Philadelphia, Pa.
Luebecker, Paul.....	Nat. G.	M. Light & Heat Co.	Wheeling, W. Va.
Luethe, Julius K.....	*Wis.	Rulu Gas Lighter Co.	Milwaukee, Wis.
Luebscher, H. E.....	Nat. C.	Beloit Wt., Gas & Elec. Co.	Beloit, Wis.
Luhne, F.....	Nat. C.	Hd. Solic., Public Service Gas Co.	Jersey City, N. J.
Luick, Adolph J.....	A.	Con. E., with W. A. Baehr.	Peoples Gas Bldg., Chicago, Ill.
Lukes, Geo. H.....	Ill.; *I. E.	G. S., Public Serv. Co. of No. Ill.	Chicago, Ill.
Lundblad, Oscar J. A.....	A.	Zander Refrigeration Co.	Chicago, Ill.
Lundgaard, I.....	A.; Nat. C.	Indus. E., Rochester Ry. & Lt. Co.	Rochester, N. Y.
Lundgren, Gus.....	la.	S., Clear Lake Electric Light & Pr. Co.	Clear Lake, la.
Lundquist, Edw. W.....	Nat. C.	Sioux Falls Gas Co.	Sioux, S. Dak.
*Lungron, Edgar E.....	Ill.	Cadet E., Western United Gas & El. Co.	Aurora, Ill.
Lunn, William R.....	Nat. C.	Wm. Kane Mfg. Co.	Philadelphia, Pa.
Lupher, Preston W.....	Nat. G.	V. P. and G. M., Logan Natural Gas & Fuel Co.	Columbus, O.
Luqueer, Robert Orr.....	A.; *I. E.	Sec., Humphreys & Miller, Inc.	New York, N. Y.
Lush, Joseph.....	Nat. C.	Improved Meter Co.	New York, N. Y.
Lusinger, Fred.....	Nat. C.	Public Service Gas Co.	Newark, N. J.
Luther, Chas. A.....	I.E.; Nat.C.; Ill.	Ill. E., Peoples Gas Light & Coke Co.	Chicago, Ill.
Luther, F. E.....	A.; Ill.; Nat. C.	A. Chf. E., Peoples Gas Light & Coke Co.	Chicago, Ill.
Luther, George.....	Nat. G.	Fm., The Mfrs. Light & Heat Co.	Moundsville, W. Va.
Luther, William J.....	A.; N.E.; Nat.C.	M., Attleboro Gas Light Co.	Attleboro, Mass.
Lutz, Carl H.....	Nat. G.	Civil E., Dom. Nat. Gas Co.	Buffalo, N. Y.
Luzerne Co. Gas & Elec. Co.	Nat. C.; Pa.		Kingston, and Hazelton, Pa.
Lydecker, Fred'k. A.....	A.; Nat. C.	S. of dis., Public Service Gas Co.	Newark, N. J.
Lyman, James.....	*I. E.	Targent & Lundy	Chicago, Ill.
Lyman, John N.....	Nat. C.; N. E.	T., Easthampton Gas Co.	Easthampton, Mass.
Lynch, B. C.....	*I. E.	E., Gimbel Bros.	Philadelphia, Pa.
Lynch, E. P.....	A.	Chf. Clk., Clearing House Div. Acct. Dept., Laclede Gas Lt. Co.	St. Louis, Mo.
Lynch, E. F.....	Ace.	Davis Acetylene Co.	Elkhart, Ind.
Lynch, G. D.....	Nat. G.	Stock M., Dom. Nat. Gas Co.	Batavia, N. Y.
Lynch, J. J.....	*Ill.	Sals., Chicago Flexible Shaft Co.	Chicago, Ill.
Lynch, James D.....	*I. E.	Chf. E., Lit Brothers.	Philadelphia, Pa.
Lynch, John B.....	Nat. C.	Public Service Gas Co.	New Brunswick, N. J.
Lynchburg Trac. & Lt. Co.	Nat. C.		Lynchburg, Va.
Lynn, James T.....	A.; Mich.; Nat. G.; Nat. C.		Ford Bldg., Detroit, Mich.
Lynn, R. W.....	*Ind.	Sals., Ruud Mfg. Co.	Indianapolis, Ind.
Lyon, Charles Lumsden.....	A.; Sou.; Nat. C.	S., St. Augustine Gas & El. Lt. Co.	St. Augustine, Fla.
Lyon, Howard.....	Nat. C.; *I. E.	E., Welsbach Co.	Gloucester, N. J.
Lyon, J. F.....	Nat. G.	Meter Insp., T. W. Phillips Gas & Oil Co.	Butler, Pa.
Lyon, M. P.....	Nat. G.	Oil & g. Broker.	Hotel Tulsa, Tulsa, Okla.
Lyons, B. F.....	A.; Nat. C.; Wis. Ill.	V. P. & G. M., Beloit Water Gas & Elec. Co.	Beloit, Wis.
Lyons, H. J.....	Tex.		Ft. Worth, Tex.
Lyons, J. J.....	N. J.	Coast Gas Co.	Belmar, N. J.
Lytle, M. E.....	Nat. G.	S., The Ohio Fuel Supply Co.	Columbus, O.
Lytle, V. H.....	Nat. G.	Trav. Sals., Am. Mfg. Co. of Brooklyn, N. Y.	Marietta, O.
MacAlear, Wm. C.....	*I. E.	Philadelphia Elec. Co.	Philadelphia, Pa.
MacArthur, Donald.....	A.	M., Seaboard By-Products Coke Co.	Jersey City, N. J.
MacArthur, J. S.....	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Macbeth, A. B.....	A.; I. E.; Nat. C.		
Macbeth-Evans Glass Co.	I. E.	V. P. & G. M., So. California Gas Co.	Los Angeles, Cal.
Macbeth, George T.....	A.; *I. E.; Nat. C.; Soc. G.	E. g. Dept., Westchester Lighting Co.	Columbus, O.
Macbeth, Norman.....	*A.; I. E.; Nat. C.; *Ace	Con. Ill. E., Lighting Engineering Service	New York, N. Y.
MacBride, G. T.....	Ace.	Davis Acetylene Co.	Elkhart, Ind.
MacCreery, R. B.....	*I. E.	Meter Dept., Philadelphia Elec. Co.	Philadelphia, Pa.
MacDaniels, W. J.....	Nat. C.	Northern Union Gas Co.	New York, N. Y.
MacDonald, George.....	A.; *I. E.; Nat. C.	P. & G. M., Nassau & Suffolk Lighting Co.	149 Broadway, New York City
MacDonald, Norman D.....	I. E.	A. to G. M., Electric Testing Lab.	New York, N. Y.
MacDonald, R. B.....	la.; A.	G. M., Peoples Power Co.	Moline, Ill.
MacDonald, W. B.....	P. C.	R., Geo. M. Clark & Co.	Los Angeles, Cal.
Mace, F. W.....	N. E.	A. S., Lynn Gas & Electric Co.	Lynn, Mass.
Mace, Shirley A.....	*N. E.	A. S. of dis., Lynn Gas & Elec. Co.	Lynn, Mass.
MacFarlane, C. W.....	Ace.		Honolulu, Hawaii.
MacIntosh, John.....	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
MacIntosh, W. L.....	A.	Eng. Asst., Consolidated Gas Co.	New York, N. Y.
Mackay, G. M. Johnstone.....	I. E.	General Electric Co.	Schenectady, N. Y.
Mackenzie, Kenneth G.....	*A.	Con. Ch., The Texas Co.	Bayonne, N. J.
Mackenzie, L. B.....	Ace.	The Welding Journal.	608 S. Dearborn St., Chicago, Ill.
Mackie, A. D.....	Nat. C.; Ill.	V. P. & G. M., Springfield Gas & Elec.	Springfield, Ill.
Mackie, G. W.....	A.	A. S., Milwaukee Coke & Gas Co.	Milwaukee, Wis.
Mackie, J. M. L.....	Nat. C.	Monterey Ry. Lt. & Pr. Co.	Monterey, N. L., Mex.
Mackie, J. W.....	*I. E.	S. Meters, Municipal Gas Co.	Albany, N. Y.
Macklin, A. Fred.....	A.	V. P., Elkhorn Piney Coal Mining Co.	Milwaukee, Wis.
MacLean, A. W.....	Kan.	Sals. M., Detroit Fuse & Mfg. Co.	Detroit, Mich.

An installation of MESTA AUTOMATIC PLATE VALVES (Iversen) in your compressor guarantees higher efficiency. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.



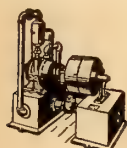
ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
MacLean, W. H.	P. C.	Sals., Pacific Gas & Elec. Co.	San Jose, Cal.
MacLeod, Daniel T.	A.	E., Otto Coking Co.	New York, N. Y.
MacMillen, R. D.	Acc.	Oxweld Acetylene Co.	Newark, N. J.
MacMullen, Chas. W.	*I. E.	Clark, MacMullen & Riley	101 Park Ave. New York.
MacMunn, Geo. F.	*G. G. M.		Norwood, Mass.
MacNab, Alexander	*Ind.; Nat. C.	M., Welsbach Co.	Indianapolis, Ind.
Macomber & Whyte Rope Co.	N. G. S.		Kenosha, Wis.
MacPherson, Leigh G.	Nat. C.	Public Service Gas Co.	Newark, N. J.
*MacPherson, W. J.	Ill.; †A.	g. S., Public Serv. Co. of No. Ill.	Blue Island, Ill.
MacSaveny, Robert, Jr.	†A.	Fm., Brooklyn Union Gas Co.	Brooklyn, N. Y.
MacSweeney, Joseph P.	A.	Rochester Ry. & Lt. Co.	Rochester, N. Y.
MacVeigh, J. H.	Nat. C.	United Gas & Elec. Co.	New York City.
Macy, Carlton	A.; *I. E.	P. and G. M., Queensborough Gas & Electric Co.	Far Rockaway, New York.
Madden, F. S.	Nat. C.	Rockford Gas Light & Coke Co.	Rockford, Ill.
Madden, J. F.	*Ill.	Sals., Welsbach Co.	Chicago, Ill.
Madison Gas & Elec. Co.	Nat. C.		Madison, Wis.
Madsen, R. K.	P. C.	Riverbend Gas & Water Co.	Parlier, Cal.
Magalhaes, G. W.	I. E.	G. S., N. Y. & Queens El. Lt. & Pr. Co.	Long Island City, N. Y.
Magdsick, H. H.	I. E.	E. Dept., National Lamp Wks., Neia Park	Cleveland, O.
Magee, James F.	Nat. C.	Syracuse Lighting Co.	Syracuse, N. Y.
Magee, S. J.	Nat. C.; Emp.	Beaver County Light Co.	Beaver Falls, Pa.
Magelhaes, F. V.	Emp.	N. Y. Edison Co.	New York, N. Y.
Magnolia Petroleum Co.	So. W.; Okla.		Dallas, Tex., and Oklahoma City, Okla.
Maguire, W. C.	Ark.	M., Ark. Light & Pr. Co.	Newport, Ark.
Magraw, L. A.	Sou.	G. M., Macon Gas Co.	Macon, Ga.
Magrew, B. A.	Nat. G.	E. Logan Natural Gas & Fuel Co.	Columbus, O.
Mahan, G. F.	Nat. G.	M., National Supply Co.	Independence, Kan.
*Mahan, Harwood E.	*I. E.	A., General Electric Co.	Schenectady, N. Y.
Mahn, Robert B.	Nat. C.	Consolidated Gas Co.	29 E. 21st St., New York, N.Y.
Maier, C. W.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Mailloux, C. O.	I. E.	Con. E.	20 Nassau St., New York.
Mainland, Sinclair	A.; *I. E.; Wis.	T., Continental Public Utilities Co.	Oshkosh, Wis.
Mainland, William	A.; Wis.	P., Continental Public Utilities Co. & Stevens Point Lighting Co.	Oshkosh, Wis.
Maith, R. A.	Nat. C.	Phila. Sub. Gas & Elec. Co.	Wyncote, Pa.
Major, Arthur	Kan.	Funcken Electric Co.	Kansas City, Mo.
Malcher, L. M.	Acc.	Oxweld Acetylene Co.	Chicago, Ill.
Malcolm, R. O.	Sou.	Daytona Public Service Co.	Daytona, Fla.
Malcor, A. C.	†Ill.	St. Fm., Public Service Co. of No. Ill.	Ottawa, Ill.
Mallin, J. H.	†A.	Fm. g. dept., Winnipeg El. Ry. Co.	Winnipeg, Man., Can.
Mallalieu, W. F.	Nat. C.	National Bd. of Fire Underwriters	New York, N. Y.
Mallat, O. R.	†A.	Sec., Lincoln Gas & Elec. Co.	Lincoln, Nebr.
Mallory, L. E.	Nat. G.	Oil & Gas Business	Bradford, Pa.
Malloy, J. H.	Nat. C.	Public Service Gas Co.	Trenton, N. J.
Malone Light & Ice Co.	So. W.		Plainview, Texas.
Malone, M. E.	A.; Nat. C.	M. Coke Dept., Denver Gas & Elec. Co.	Denver, Col.
Malone, Richard C.	P. C.	Gas. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Maloney, Geo. J.	†A.	S., Kennett Gas Co.	Kennett Square, Pa.
Maloney, J.	Mo.	Maloney Electric Co.	St. Louis, Mo.
Maloney, J. L.	Nat. G.	Dist. S., Central Ohio Gas & El. Co.	Wooster, O.
Maloney, Martin, 2d.	A.		1335 N. Franklin Ave., Philadelphia, Pa.
Malta & McConnellsville Gas Co.	O.		Malta, O.
Malton, Chas. C.	Nat. C.	Sals., Boston Cons. Gas Co.	Boston, Mass.
Mammoth Springs Electric Light & Power Co.	Mo.		Mammoth Springs, Ark.
Manchester, Chas. R.	*N. E.	T., Providence Gas Co.	Providence, R. I.
Mancourt, Edward M.	*Mich.	W. M., The Consolidated Coal Co.	Detroit, Mich.
Mandel, August	*Ace.	c/o John Y. Parke & Co.	Philadelphia, Pa.
Mander, Geo. E.	Nat. C.	No. Indiana Gas & Elec. Co.	South Bend, Ind.
Mange, J. I.	*I. E.; Nat. C.; *Emp.; A.	G. M., Associated Gas & El. Co.	New York, N. Y.
Manhattan Gas Co.	Nat. C.		Manhattan, Kan.
Manhattan Ice, Light & Power Co. (E. A. Wright, Mgr.)	Kan.		Manhattan, Kan.
Manhattan Rubber Mfg. Co.	N. G. S.		Passaic, N. J.
Manitowoc Gas Co.	Nat. C.		Manitowoc, Wis.
Manley, A. R.	Nat. C.; Wis.; †A.	M., Wisconsin-Minn. Lt. & Pwr. Co.	Eau Claire, Wis.
Manley, H. E.	Nat. G.	Clk., Magnolia Petroleum Co.	Dallas, Tex.
Manly, Fred G.	Ill.; A.	S., 22d St. Sta., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Mann, Francis C.	Nat. C.	Cash., Newton & Watertown Gas Light Co.	Waltham, Mass.
Mann, Howard E.	A.; Can.	E., Montreal Light, Ht. & Pwr. Co.	Montreal, Can.
Manning, Harry S.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Manning, Wm. E.	Nat. G.; *A.	Sec., Youngstown Sheet & Tube Co.	Youngstown, O.
Mansfield, J. H.	A.	S., Dept. of Mains, Consolidated Gas Co.	New York, N. Y.
Mansfield, J. P.	Nat. G.	S., United Natural Gas Co.	Van, Pa.
Mansfield, John S., Jr.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Manson, D. Edgar	A.; *N. E.; *Emp.	V. P., Chas. H. Tenney & Co.	Roston, Mass.
Mantle, G. D.	P. C.	Sals. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Manwaring, A. H.	I. E.	E. of Arc Lighting, Philadelphia Electric Co.	Philadelphia, Pa.
March, F. C.	*I. E.	M., Nat'l Lamp Works	Warren, Ohio



The initial cost of changing from leather, poppet or mechanically operated valves to MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is insignificant compared to the saving effected in fuel consumption, reduced repairs, attendance, etc. Write for Bulletin "D." MESTA MACHINE COMPANY PITTSBURGH, PA.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Marekworth, W. C.	Nat. G.	P. & G. M., Mountain State Gas Co.	Charleston, W. Va.
Marcus, J.	Nat. C.	Boston Cons. Gas Co.	Boston, Mass.
Marin Dist., Pacific Gas & Electric Co.	*P. C.		San Rafael, Cal.
Mark, Clarence	*Ill.	Mark Mfg. Co.	Chicago, Ill.
Mark Mfg. Co.	N. G. S.		Chicago, Ill.
Markham, Herbert I.	*I. E.	G. M., Federal Sign System (Electric)	Chicago, Ill.
Markham, W. H. & Co.	Mo.		1225 Pierce Bldg., St. Louis.
Markley, Joseph C.	A.; Ind.; Ill.	T. Southwestern Gas & El. Co. and Nat. G.	Harris Trust Bldg., Chicago.
Marks, L. B.	I. E.	Chf. E., Metropolitan Gas & El. Co.	103 Park Ave., New York City.
Marks, R. J.	A.	S., City Gas Co.	Norfolk, Va.
Markwith, Theo. P.	Nat. C.	Col., Public Service Gas Co.	Orange, N. J.
Marlborough Hudson Gas Co.	Nat. C.		Boston, Mass.
Marlin Ice & El. Lt. Co.	So. W.		Marlin, Tex.
*Marlow, S. L.	*I. E.		Spring Ave., Elkins Park, Pa.
Marpie, M. R.	Nat. G.	Stkpr., Equitable Gas Co.	Pittsburgh, Pa.
Marques, R. L.	Sou.	Sals., Humphrey Co.	Kalamazoo, Mich.
Marquis, H. H.	Nat. G.	M., Kane Supply Co.	Kane, Pa.
Marriott, W. J.	Nat. G.	Fm., Dominion Nat. Gas Co.	Galt, Ont., Can.
Marrow, George Peek	A.	E. g. E. Dept., Cons. Gas El. Lt. & Pr. Co.	Baltimore, Md.
*Marsh, Edward H.	*A.		326 Clermont Ave., Brooklyn, N. Y.
Marsh, L. W.	I. E.	American Luxfer Prism Co.	Boston, Mass.
Marsh, Wm. H.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Marshall, Albert J.	*Ace.	Sec., Elec. Vehicle Assn.	New York, N. Y.
Marshall Elec. Co.	So. W.		Marshall, Texas
Marshall, F. L.	A.; Sou.	M., Gas Light Co. of Augusta.	Augusta, Ga.
Marshall, James Rush	*I. E.	Architect, Hornblower & Marshall.	Washington, D. C.
Marshall, J. G.	Ace.	Union Carbide Co.	Niagara Falls, N. Y.
Marshall Traction Co.	So. W.		Marshall, Tex.
Marshall, William H.	A.; *I.E.; Nat. C.	A. to 3d V. P., United Gas Imp. Co.	Philadelphia, Pa.
Marshfield Electric Co.	Mo.		Marshfield, Mo.
Marston, Edgar J.	Nat. G.	T. Texas & Pacific Coal Co.	Thurber, Tex.
Martell, H. B.	P. C.	Sals., Pacific Gas & Elec. Co.	Chico, Cal.
Martig, Gustav	Nat. C.	Omaha Gas Co.	Omaha, Neb.
Martin, A. W.	Kan.	Sals., Manhattan El. Supply Co.	Wichita, Kan.
Martin, D. H.	Ace.		McAlisterville, Pa.
Martin, D. S.	Ind.	A. S. of Serv., Citizens Gas Co.	Indianapolis, Ind.
Martin, E. B.	*Wis.	Sals., Geo. M. Clark Co.	Chicago, Ill.
Martin, Edmund H.	A.; Ia.; Nat. C.	Com. Agt., Des Moines Gas Co.	Des Moines, Ia.
Martin, Edward P.	Nat. G.	Agt., The East Ohio Gas Co.	Ravenna, O.
Martin, Edw. H.	P. C.	Construction Fm., Pacific Gas & Elec. Co.	San Jose, Cal.
Martin, Eugene S.	A.; Nat. C.	S., Westchester Lighting Co.	White Plains, N. Y.
Martin, F. W.	Nat. G.	Axt., Hope Natural Gas Co.	Sistersville, W. Va.
Martin, Henry	Nat. G.	Oil Producer, J. W. Leonard Oil Co.	Washington, Pa.
Martin, J. F.	Wis.		Kenosha, Wis.
Martin, J. O.	Nat. G.	Cont. Agt., Peoples Natural Gas Co.	Pittsburg, Pa.
Martin, John	A.; P. C.; Nat. G.		332 Pine St., San Francisco.
Martin, John Gordon	A.; Ind.	M., Rochester Gas & Fuel Co.	Rochester, Ind.
Martin, John S.	P. C.		Oakland, Cal.
Martin, T. C.	*I. E.	Sec., National Electric Light Assn.	New York, N. Y.
Martin, Warfield	Sou.	Care A. W. Martin Co.	Baltimore, Md.
Martin, William A.	I. E.	Jefferson Glass Co., Ltd.	Toronto, Ont., Can.
Martin, W. P.	Ace.	c/o Union Carbide Co.	Chicago, Ill.
Martindell, Walter B.	Nat. C.	Public Service Gas Co.	Princeton, N. J.
*Martineau, Fred'k C.	*A.	A. S. Street Dept., Consolidated Gas Co. of N. Y.	New York, N. Y.
Maryland Meter Works.	Nat. C.	S. S. Dickey, Mgr.	Baltimore, Md.
Maryville Electric Light & Power Co.	Mo.		Maryville, Mo.
Mascho, Chas. W.	Nat. G.	V. P., National Supply Co.	Toledo, O.
Mason, Alphonso	*Ia.; *Mich.; Nat. C.; Nat. G.; *Pa.; P. C.; Sou.; Can.; *Ind.; N. J.; *A.	R., Welsbach Co.	1008 Filbert St., Phila., Pa. and Gloucester, N. J.
Mason, C. F.	Ace.		22 Main St., Cortland, N. Y.
Mason, C. F.	Nat. G.	S., Western Distributing Co.	Sedgwick, Kans.
Mason, C. T.	*Mich.; Can.	Sals., Geo. M. Clark Stove Co.	Grand Rapids, Mich.
*Mason, Frank E.	Ill.	Sals., M., North Shore Gas Co.	Waukegan, Ill.
Mason, H. M.	Mich.	G. M., Thornapple Gas & Elec. Co.	Hastings, Mich.
Mason, John Ambler	*A.; *Ill.	S., for Bartlett Hayward Co.	Baltimore, Md.
Mason, J. F.	Nat. G.	S. of dis., United Natural Gas Co.	Oil City, Pa.
Mason, John T.	A.; Wis.	S., Third Ward Works, Milwaukee Gas Light Co.	Milwaukee, Wis.
Mason, Sidney	*A.; *I. E.; Nat. C.; Nat. G.	P., Welsbach Co.	Gloucester, N. J.
Mason, Vinton	*N. E.		Cambridge, Mass.
Mason, William M.	Nat. C.	Secretary, the British Commercial Gas Association	Westminster, London, S. W., England
Massena El. Lt. & Pr. Co.	Emp.		Massena, N. Y.
Massey, Geo. W.	N. J.	Lambertville Gas Light Co.	Lambertville, N. J.
Massino, M. J.	*Wis.	P., J. Massino Mfg. Co.	Milwaukee, Wis.
Mason, C. M.	I. E.	So. California Edison Co.	Los Angeles, Cal.
Mather, E. H.	*I. E.	Hayden, Stone & Co.	Boston, Mass.

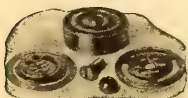


ELIMINATE GAS WASTE by inefficient combustion. Insist on your consumers getting the maximum of heat units they pay for. THE NEEDHAM HIGH PRESSURE GAS SYSTEM will produce the desired results.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Mather, John L.	A.; Pa.	Nat. C. G. M., Counties Gas & Electric Co.	Wayne, Pa.
Mathes, F. A.	P. C.; Tex.		Abilene, Tex.
Mathieu, Louis	Nat. G.	Agt., The Mfrs. Light & Heat Co.	Toronto, Ont., Can.
Mathews, Eugene H.	A.	S., Citizens Works, Brooklyn Union Gas Co.	Brooklyn, N. Y.
Mathews, W. N.	Kan.	P., W. N. Mathews & Bros.	St. Louis, Mo.
Matlack, Wm. H., Jr.	A.	Cons. Gas, El. Lt. & Pr. Co.	Baltimore, Md.
Matson, J. R.	Nat. G.	Agt., East Ohio Gas Co.	Dennison, O.
Matthes, F. A.	Tex.		Abilene, Texas.
Matthews, H. T.	Mo.	W. N. Matthews & Bros.	St. Louis, Mo.
Matthews, W. N., & Bro.	Mo.; So. W.; Okla.		St. Louis, Mo.
Mauch Chunk Gas Co.	Pa.	Eugene Causbrook, S.	Mauch Chunk, Pa.
Mauran, Max	Ace.	c/o Castner Electrolytic Alkali Co.	Niagara Falls, N. Y.
Maurer, R. H.	*I. E.	E. A., Consolidated Gas Co.	New York, N. Y.
Maxon, H. R.	Ind.; Nat. G.; N. G. E.	A. M., Central Indiana Gas Co.	Muncie, Ind.
Maxon, J. H.	A.; Ind.; Nat. G.; Sou.; N. G. E.	G. M., Central Indiana Gas Co.	Muncie, Ind.
Maxon Premix Burner Co.	N. G. S.; Nat. C.		Muncie, Ind.
*Maxwell, F. R.	Sou.	G. S. & Com. M., Tuscaloosa Ry & Utilities Co.	Tuscaloosa, Ala.
Maxwell, James T.	I. E.	G. Agt., Philadelphia Electric Co.	Philadelphia, Pa.
Maxwell, Jos. P.	*Wis.	Sals., Mead-Morrison So.	Boston, Mass.
May, A. G.	Nat. G.		217 Burris St., Hamilton, Ont., Can.
May, George S.	Nat. C.	Public Service Gas Co.	Newark, N. J.
May, M. M.	Sou.; Nat. C.	Gas Light Co. of Augusta.	Augusta, Ga.
Mayer, E. G.	Nat. C.		259 Bedford Ave., Mt. Vernon, N. Y.
Mayer, Ed. R.	P. C.; Tex.		Amarillo, Tex.
Mayer, James	N. J.	Coast Gas Co.	Belmar, N. J.
Mayer, John L.	N. J.	Lakewood Gas Co.	Lakewood, N. J.
Mayer, Joseph	I. E.; A.	P., The Coast Gas Co.	Belmar, N. J.
Mayers, A. F.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Mayes, G. W.	Ace.	Night Commander Ltg. Co.	Jackson, Mich.
Mayfield, Paul C.	Ia.	Coke Oven Dept., Bethlehem Steel Co.	Sparrows Point, Md.
Mayland, G. Alfred	P. C.	Chf. Dftmn., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Maynard, H. B.	Ia.	Sec., Citizens Gas & Electric Co.	Waterloo, Ia.
Mayne, H. B.	Nat. G.	A. Fm., The Mfrs. Light & Heat Co.	Hundred, W. Va.
McAdam, H. S.	Can.; Nat. C.	M., Standard Meter Co.	Toronto, Ont., Canada.
McAlester Gas & Coke Co.	Okla.		McAlester, Okla.
McAllister, Dr. A. S.	I. E.	Con. E.	261 W. 23d St., New York.
McAllister, L. P.	Nat. G.	E., Columbia Gas & Elect. Co.	Branchland, W. Va.
McArthur, J. A.	*N. E.; A.	Sec., Hartford City Gas Co.	Hartford, Conn.
McBride, J. L.	Ace.	Davis Acetylene Co.	Elkhart, Ind.
McBride, R. S.	Nat. C.; *A.		
McCabe, J. B.	Tex.	Asso. Ch., Bureau of Standards.	Washington, D. C.
McCabe, John G.	Nat. G.	Sec. & T., North Texas Gas Co.	Denison, Texas.
McCabe, James	Sou.	Shop Fm., The Peoples Nat. Gas Co.	Pittsburgh, Pa.
McCall, Edward P.	Nat. G.	M. So., Public Utilities Co.	Greenville, S. C.
McCall, Joseph B.	Nat. G.	Drilling Cont., C. W. McCall & Co.	Weston, W. Va.
McCalley, R. M.	I. E.	P., Philadelphia Electric Co.	Philadelphia, Pa.
McCallum, J. N.	P. C.	E. Dept., Portland Gas & Coke Co.	Portland, Ore.
McCallmont, C. P.	A.; Nat. C.	Elston Clifford & Co.	Chicago, Ill.
McCandless, C. H.	Nat. G.	S., Pennsylvania Gas Co.	Warren, Pa.
McCandless, Geo. E.	*Ia.	Dist. M., U. & G. Rubber Mfg. Co.	Trenton, N. J.
McCandless, Harry M.	Nat. G.	Sals., Humphrey Co.	Indianapolis, Ind.
McCandless, H. E.	Nat. G.	Agt., Clarion Gas Co.	Clarion, Pa.
McCandlish, R. W.	Nat. G.	Clinton Pipe Pulling Co.	Cleveland, O.
McCaan, G. E.	Ill.	E., Maxon Premix Burner	Muncie, Ind.
McCann, Thomas	Nat. C.	Shop & Garage Fm., Iroquois Nat. Gas Co.	Buffalo, N. Y.
McCarte, Thomas N.	A.; Nat. C.	P., Public Service Gas Co.	408 E. 111th St., New York.
McCarthy, Albert P.	*A.; Nat. C.	M., Gas Dept., Phila. Suburban Gas & El. Co.	Newark, N. J.
McCarthy, C. A.	Nat. C.	Lawrence Gas Co.	Pottstown, Pa.
McCarthy, C. F.	Nat. C.	Boston Cons. Gas Co.	Lawrence, Mass.
McCarthy, Edward A.	Nat. C.; Ia.	Savannah Gas Co.	Boston, Mass.
McCarthy, Jos. B.	Nat. C.		Savannah, Ga.
McCartney, John	Nat. C.	Public Service Gas Co.	89 Hale Av., White Plains, N.Y.
McCarthy, J. P.	P. C.		Newark, N. J.
McCarthy, L. R.	Nat. G.	S., Oklahoma Nat. Gas Co.	Dallas, Tex.
McCaughan, F. C.	Ind.	Coke Sals., Citizens Gas Co.	Tulsa, Okla.
McClary, H. A.	Can.		Indianapolis, Ind.
McClary, H. A.	N. J.	Ocean County Gas Co.	London, Ont., Can.
McCleary, N. A.	N. J.	Ocean County Gas Co.	Toms River, N. J.
McCleary, William	Nat. C.; A.		Toms River, N. J.
McClellan, Arthur	Emp.	S., N. Y. & Richmond Gas Co.	Stapleton, S. I., N. Y.
McClellan, Joseph	Nat. G.	S. of Cons., Peoples Natural Gas Co.	Woodlawn, Pa.
McClellan, W. C.	Nat. G.	Meter dept., Peoples Natural Gas Co.	Pittsburgh, Pa.
McClellan, William	A.	Shop Fm., The Peoples Natural Gas Co.	Manor, Pa.
McClelland, John W.	Nat. C.; N. J.	Con. g. E.	25 Church St., New York, N.Y.
McClelland, J. Y.	Nat. G.	V. P. & G. M., Manhattan Gas Heating Co.	New York, N. Y.
McClellon, J. M.	A.	A. Fm., The Mfrs. Light & Heat Co.	Waynesburg, Pa.
McClintock, C. A.	Nat. G.	Everett Wks., Boston Con. Gas Co.	Everett, Mass.
		Div. Fm., East Ohio Gas Co.	St. Clairsville, O.



Leather, poppet and mechanically operated valves in your compressor units are everlastingly wasteful. Stop this waste by replacing them with MESTA AUTOMATIC PLATE VALVES (Iversen Patent).

Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

851

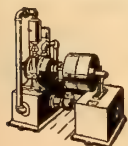
MEMBER.

ASSOCIATION.

COMPANY.

CITY OR TOWN.

McClintock, H. H.	P. C.	S., Midway Gas Co.	Taft, Cal.
McClintock, J. T.	Nat. G.	P., Huntington Development & Gas Co.	928 Third Ave., Huntington, W. Va.
McCloskey, C. C.	Nat. C.	Laclede Gas Light Co.	St. Louis, Mo.
McCloskey, James P.	Nat. G.	S., Columbia Gas & Electric Co.	Huntington, W. Va.
McCloy, S. D.	Nat. G.	Contractor	323 Ridge Ave., Canonsburg, Pa.
McCloy, Walter L.	A.; Nat. G.; Nat. C.	G. S., Philadelphia Co.	Pittsburg, Pa.
McCluney, S. F.	Nat. G.	Chf., Production Dept. Okla. Nat. Gas Co.	Tulsa, Okla.
McClure, Forrest W.	Nat. C.	Clk., Philadelphia Suburban Gas & Electric Co.	Chester, Pa.
McColl, R. H.	Ill.	Div. Acct., Public Service Co. of No. Ill.	Evanston, Ill.
McCollie, Edward L.	Ace.	c/o Hercules Mfg. Co.	Chattanooga, Tenn.
McCombs, Albert	Nat. C.	Counties Gas & Electric Co.	Norristown, Pa.
McConnell, H. H.	Nat. G.	Pennsylvania Gas Co.	Warren, Pa.
McConnell, H. N.	Nat. C.	United Gas & Electric Co.	40 Wall St., New York, N. Y.
McConnell, Robert W.	Nat. C.; I. E.	Agt., United Gas Imp Co.	Frankford, Philadelphia, Pa.
McCord, J. W.	Nat. G.	Sec. & G. M., Clintonian Fuel & Oil Co.	Columbus, O.
McCorkindale, William J. A.	Nat. C.	G. M., Wilmington Gas Co.	Wilmington, Del.
McCorkle, D. H.	P. C.	Hall Furnace Co., Inc.	Oakland, Cal.
McCormack, A. M.	*N. E.	Sals., A. M. Byers Co.	Boston, Mass.
McCormack, Charles	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
McCormack, Geo. H.	*I. E.	G. H. McCormack & Co.	New York, N. Y.
McCormack, Edward P.	Nat. G.	Fm., Iroquois Natural Gas Co.	Buffalo, N. Y.
McCormick, Frank	P. C.	g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
McCormick, John F.	Nat. C.		3838 N. 15th St., Phila., Pa.
McCormick, J. H.	Nat. G.	R., H. H. Mueller Mfg. Co.	Decatour, Ill.
McCormick, L. M.	Nat. G.	Fm., East Ohio Gas Co.	Warren, O.
McCoy, W. E.	*I. E.	El. E., United Electric Lt., Heat & Power Co.	New York, N. Y.
McCoy, W. P.	*A.; Nat. C.	Com. Dept., Welsbach Co.	Gloucester, N. J.
McCracken, Wm. P.	Nat. C.	Wilmington Gas Co.	Wilmington, Del.
McCrea, R. A.	Nat. G.	Pittsburg Valve Fdry. & Con. Co.	Pittsburg, Pa.
McCrea, Thomas P.	P. C.; A.	Sec., Los Angeles Gas & Electric Corporation	Los Angeles, Cal.
McCrea, W. A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
McCrimmon, J. E.	Nat. G.	Leaser, Dominion Nat. Gas Co.	St. Thomas, Ont., Can.
McCulloch, Fred H.	*I. E.	T., Electric Supply & Fixture Co.	Ft. Wayne, Ind.
McCulloch, Robt.	Mo.	M., United Railway Co.	St. Louis, Mo.
McCullough, Chas.	*Wis.	Ad. M., The Fuller-Warren Co.	Milwaukee, Wis.
McCune, C. A.	Ace.	Commercial Acetylene Welding Co.	New York, N. Y.
McCune, D. B.	Nat. G.	Agt., The Natural Gas Co. of W. Va.	Salem, O.
McCune, S. A.	Nat. G.	Field S., Arkansas Natural Gas Co.	Shreveport, La.
McCusker, Joseph A.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
McCutcheon, Sam	Nat. G.	Field S., Am. Natural Gas Co.	Apollo, Pa.
McDerrott, J. H.	Nat. G.	V. P., Pentress Natural Gas Co.	Morgantown, W. Va.
McDevett, James L.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
McDonald, Donald	A.; Nat. G.	V. P. & G. M., Louisville Gas & El. Co.	Louisville, Ky.
McDonald, Donald	A.; *I. E.; Soc. G.; Nat. C.	Of D. McDonald & Co.	Albany, N. Y.
McDonald, Frederick	*A.; Nat. C.	g. Met. Mfr., D. McDonald & Co.	Albany, N. Y.
McDonald, Hugh F.	*Ill.	Fm., Public Service Co. of No. Ill.	Evanston, Ill.
McDonald, William	A.; *I. E.; Nat. C.; Soc. G.	Of D. McDonald & Co.	Albany, N. Y.
McDonald, Wm. F.	Nat. C.	Newtown Gas Co.	Brooklyn, N. Y.
McDonnell, Chas. E.	A.	Wks. S., Quincy Gas & Electric Co.	Quincy, Ill.
McDonnold, H. B.	Nat. C.; Sou.	N. B. M., Southern Public Utilities	Greenville, S. C.
McDougall, Geo. K.	*I. E.	Con. El. E.	83 Craig St., W. Montreal
McDowell, C. O.	Nat. G.	S. Kanawha Mfr. Gas Co.	Charleston, W. Va.
McDowell, J. C.	A.; Nat. G.	G. M., Kansas Natural Gas Co.	Pittsburg, Pa.
McDowall, W.	Nat. C.	Gas Light & Coke Co.	Horseferry Road, Westminster, London, S. W., England.
McElevey, James	*A.	G. Fitter Fm., Laclede Gas Lt. Co.	St. Louis, Mo.
McElroy, G. A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
McEwen, W. A.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
McFadden, John	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
McFarland, Walter S.	P. C.	Sec., Southern Counties Gas Co.	Los Angeles, Cal.
McGee, W. F.	Nat. G.	Field Fm., The Mfrs. Lt. & Heat Co.	Canonsburg, Pa.
McGill, Andrew	P. C.	Gas Station B, Pacific Gas & Elec. Co.	Oakland, Cal.
McGill, S. S.	Ark.	M., Ark. Lt. & Pr. Co.	Marianna, Ark.
McGilliard, C. O.	Ind.	Cambridge Natural Gas Co.	Cambridge City, Ind.
McGilvary, H. J.	Nat. G.	Fm., Pittsburg & W. Va. Gas Co.	Weston, W. Va.
McGlinch, F. W.	*I. E.	A. E.	174 E. 6th St., St. Paul, Minn.
McGloin, J. R.	Nat. C.	N. B. R., Public Service Gas Co.	Jersey City, N. J.
McGowan, H. E.	A.; Nat. C.	Sec., Brooklyn Union Gas Co.	Brooklyn, N. Y.
McGowan, Small, Morgan, Grantees	Mo.		Kansas City, Mo.
McGrath, E. P.	Mo.	Western Electric Co.	St. Louis, Mo.
McGrath, J. J.	Tex.		Ft. Worth, Tex.
McGraw, Isaac	A.	S., N. Y. Mutual Gas Lt. Co.	New York, N. Y.
McGraw, Jos. E.	Ill.	S. of Dist., Granite City Gas Co.	Granite City, Ill.
McGreevy, John R.	Nat. C.	Utica Gas & El. Co.	Ithaca, N. Y.
McGregor, William	A.; G. G. M.; *I. E.; Nat. C.		
*McGuinness, John	Sou.	Sec. & G. M., Pawtucket Gas Co.	Pawtucket, R. I.
McGuire, James	Nat. C.	M., Suffolk Gas-Electric Co.	Suffolk, Va.
		Fulton County Gas & Electric Co.	Gloversville, N. Y.

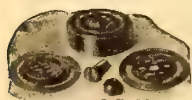


YOU CAN CONVINCE THE MOST SKEPTICAL that gas is not an expensive fuel. It is only expensive when inefficiently used. THE NEEDHAM HIGH PRESSURE GAS SYSTEM enables your customers to utilize every heat unit.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
McGuire, John F.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
McGurty, Wm. J.	A.	The Bartlett Hayward Co.	Baltimore, Md.
McHenry, M. A.	Nat. G.	Lease S., Medina Gas & Fuel Co.	Wooster, O.
McIlhenny, James S.	A.	E., Washington Gas Light Co.	Washington, D. C.
McIlhenny, John D.	A.; Nat. G.; Pa.		
	*I. E.	Of Helme & McIlhenny.	Philadelphia, Pa.
McIlravy, W. N.	*A.; *Mich.	V. P., Barrett Mfg. Co.	New York, N. Y.
McIlvain, E. A.	Nat. C.		334 Dorrance St., Bristol, Pa.
McIntyre, Andrew.	A.; Ill.	E. prod., Public Service Co. of No.	
		Ill.	Evanston, Ill.
McIntyre, K. A.	*I. E.	El. Contractor	903 Excelsior Life Bldg., Toronto, Ont., Can.
McIntyre, M.	Nat. G.	P. and G. M., Gowanda Nat. Gas Co.	Gowanda, N. Y.
McIntyre, V. S.	Can.	Kitchener Light Commissioners.	Kitchener, Ont., Can.
McIntyre, W. H.	Nat. C.	The Ottawa Gas Co.	Ottawa, Ont., Can.
McJunkin Adv. Agency.	Nat. C.		Chicago, Ill.
McKaig, W. Wallace.	*I. E.	Mech. E.	Cumberland, Md.
McKay, C. R.	Nat. G.	M., El. dept., Union Gas & El. Co.	4th and Plum Sts, Cincinnati, Natl.
McKay, William A.	I. E.	A. to Com. E., Westinghouse Lamp Co.	New York, N. Y.
McKay, William E.	A.; G. G. M.; N. E.; Soc. G.; Nat. C.	P., New England Gas & Coke Co.	Boston, Mass.
*McKean, Norton	Nat. C.; *N. E.	S., Nat'l L. Tufts Meter Works.	Boston, Mass.
McKee, Geo. R.	Nat. G.	Fm., Consolidated Gas Co.	Pittsburgh, Pa.
McKee, J. Edgar.	Ace.	Union Carbide Sales Co.	New York, N. Y.
McKee, G. R.	N. J.	New Jersey Gas Co.	Vineland, N. J.
McKee, Garnet W.	A.; *Ill.; *Mich.		
	Nat. C.	P. & G. M., Eclipse Fuel Eng. Co.	Rockford, Ill.
McKee, Norman R.	P. C.	Dist. Agt., Southern Counties Gas Co.	Santa Monica, Cal.
McKee, William	Nat. G.; *A.	Sec., Chaplin-Fulton Mfg. Co.	Pittsburg, Pa.
McKeever, John L.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
McKeever, William	*I. E.	Cons., United Gas Impt. Co.	Philadelphia, Pa.
McKellar, D.	Nat. C.	Boston. Cons. Gas Co.	Boston, Mass.
McKimmie, J. E.	Nat. G.	Pur. Agt., Dominion Nat. Gas Co.	Kansas City, Kan.
McKenna, Frank B.	Nat. C.	New York & Queens Gas Co.	Flushing, N. Y.
McKenney, W. A.	*N. E.	McKenney & Waterbury Co.	Boston, Mass.
McKennon, B. C.	Ark.	M., Ark. Lt. & Pr. Co.	El Dorado, Ark.
McKenzie, W. H.	A.; Nat. G.; Nat. C.	G. M., Wyandotte Co. Gas Co.	Kansas City, Kan.
McKillip, Charles W.	P. C.	M., Pacific Gas & El. Co.	Sacramento, Cal.
McKinlock, George A.	*I. E.	P., Central Electric Co.	Chicago, Ill.
McKinney, C. B.	Nat. C.; Tex.		
	Nat. G.	V. P. & M., North Texas Gas Co.	Denison, Texas
McKinney, Wm. A.	*G. G. M.		181 Franklin St., Boston.
McKirahen, C. C.	Kan.	Sals., Central Electric Co.	Chicago, Ill.
McKnight, J. J.	*A.; Nat. C.	G. M., Pottsville Gas Co.	Pottsville, Pa.
McKnight, S. C.	Nat. G.	Agt., East Ohio Gas Co.	Barberton, O.
McLaughlin, John C.	*I. E.	Chf. Clk., Potomac Electric Power Co.	Washington, D. C.
McLea, John B.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
McLean, George	A.; Ia.; *I. E.		
	Nat. C.	P. & M., Key City Gas Co.	Dubuque, Ia.
McLean, H. B.	A.; *I. E.; Nat. C.	S. Gas Appl. Dept., Consolidated Gas Co.	New York, N. Y.
McLean, Wilbur	Nat. C.	Col., Public Service Gas Co.	Montclair, N. J.
McLeod, J. E.	Nat. C.; A.	Aud. Dept., Laclede Gas Lt. Co.	St. Louis, Mo.
McLinden, J. R.	Can.	S., Owen Sound Gas Dept.	Owen Sound, Ont., Can.
McLorie, E. J.	Nat. C.; Nat. G.	Phila. Sub. Gas & Elec. Co.	Landsdale, Pa.
McMahon, D. P.	Nat. G.	Agt., Iroquois Natural Gas Co.	Buffalo, N. Y.
McMahon, J. B.	Nat. G.	Attorney, Northwestern Ohio Gas Co.	Spitzer Bldg., Toledo, O.
McMahon, J. F.	Nat. G.	M., Valley Nat. Gas Co.	Bakersfield, Cal.
McMahon, J. J.	Nat. G.	Main Line S., East Ohio Gas Co.	Canton, O.
McMahon, J. L.	*Wis.	W. M., Youghiogheny & Ohio Coal Co.	Milwaukee, Wis.
McMahon, J. W.	Nat. G.	G. M., Northwestern Ohio Natural Gas Co.	Toledo, O.
McMahon, John	Nat. G.	Col. Iroquois Natural Gas Co.	Buffalo, N. Y.
McMasters, W. C.	Nat. G.	Clk., Pittsburgh & West. Va. Gas Co.	Clarksburg, W. Va.
McMillen, John	Nat. G.	M., Joplin Gas Co.	Joplin, Mo.
McMillen, Walter J.	Mich.	Care, Michigan Light Co.	Bay City, Mich.
McMillin, Emerson	A.; Nat. C.; Nat. G.; *N. E.	Chm. Bd. Am. Light & Trac. Co.	New York, N. Y.
McMillin, Marion	A.	A. Sec., American Light & Trac. Co.	New York, N. Y.
McMullen, J. F.	P. C.	James Jones Co.	Los Angeles, Cal.
McMunn, J. S.	Nat. G.	Dist. Fm., Equitable Gas Co.	Oakmont, Pa.
McMurtrie, H. C.	Nat. C.	N. D. Dept., United Gas Imp. Co.	Philadelphia, Pa.
McNab, Walter R.	Nat. C.	Clk., Public Service Gas Co.	Passaic, N. J.
McNally, J. I.	Nat. G.	Electrolysis, Peoples Natural Gas Co.	424 Sixth Ave., Pittsburgh.
McNamee, Edward	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
McNary, J. F.	Nat. G.	Div. S., Philadelphia Co.	Clarksburg, W. Va.
McNary, John B.	*A.; Can.; Nat. G.		
	G.	M. & Sec., Canadian Meter Co., Ltd.	Hamilton, Ont., Can.
McNary, L. J.	Nat. G.	Fm., Reserve Gas Co.	Weston, W. Va.
McNary, W. J.	Nat. C.	Canadian Meter Co.	Hamilton, Ont., Can.
McNichol, V. Paul.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
McPeake, A. G.	Nat. G.	Fm., Mfrs. Light & Heat Co.	Canonsburg, Pa.
McPherson, Edwin Allan.	Nat. G.		Buffalo, N. Y.
McQueston, Wm. M.	N. E.; A.	S., Lawrence Gas Co.	Lawrence, Mass.
McQuiston, J. C.	*I. E.; Nat. C.	Adv. M., Westinghouse El. & Mfg. Co.	E. Pittsburgh, Pa.
McRoy, C. D.	P. C.	Sals., Pacific Gas & Elec. Co.	San Rafael, Cal.
McSpadden, W. B.	Sou.	Sals., Bristol Gas & El. Co.	Bristol, Tenn.
McSweeney, J. F.	Ia.	M., Diamond Grinder Co.	Cedar Falls, Iowa.
McSweeney, Joseph E.	Nat. C.	Central N. Y. Gas & El. Co.	Lyons, N. Y.



The soundness of replacing your old gas and gasoline compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is attested to by the large number of these valves that are now being sold for this purpose. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

853

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
McWane, Jno. R.	*Wis.	Lynchburg Fdy. Co.	Lynchburg, Va.
McWilliams, E. J.	Nat. C.	Public Service Gas Co.	Somerville, N. J.
Mead, Carl D.	Nat. G.	Sec. & T., Cadiz Gas Co.	Cadiz, Ohio
Mead, Chas. A.	Ace.		656 Pacific El. Bldg., Los Angeles, Cal.
Mead Gas Heater Co.	Nat. C.		Delawanna, N. J.
Mead, Giles W.	Nat. C.; A.; Ace.	P. Linde Air Products Co.	42d St. Bldg., New York, N. Y.
Mead, Guy K.	Nat. C.	Sec. T. & G. M., Blair Gas Co.	Blair, Neb.
Mead, John J.	*Ia.	Shop Fm., Cedar Rapids Gas Lt. Co.	Cedar Rapids, Ia.
Mead, W. J.	Mo.	Detroit Stove Works.	Chicago, Ill.
Meadows, B. M.	Sou.	R. Marks Mfg. Co.	Birmingham, Ala.
Meals, S. W.	Nat. G.	Div. S., Carnegie Natural Gas Co.	Moundsville, W. Va.
Meany, Walter S.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Meara, Wm. J.	*I. E.	M. Harlem Office, N. Y. Edison Co.	New York, N. Y.
Mears, E. G.	Nat. C.		Cambridge, Mass.
Mechesney, C. A.	Nat. G.	E. Equitable Gas Co.	Pittsburgh, Pa.
Mechlenburg, R. C.	Nat. C.	Burlington Gas Lt. Co.	Burlington, Iowa.
Mechlenburg, Rudolph C.	Nat. C.		Burlington, Ia.
Medbery, Neil G.	N. E.	Con. S., Stone & Webster Eng. Corp.	Boston, Mass.
Meek Oven Mfg. Co.	Nat. C.; N. G. S.		Newburyport, Mass.
Meeker, A. D.	Ace.		503 S. Center St., Marshall town, Ia.
Meeker, Lewis N.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Meeker, William B.	Sou.	Sals., Dayton Mfg. Co.	Dayton, Ohio
Megonigal, Wm.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Mehrman, Jno.	Nat. C.	American Gas Furnace Co.	New York, N. Y.
Meissner, E. C.	*Ace.	Southwestern Blaugas Co.	Kansas City, Mo.
Meister, George.	Nat. C.	Chf. Clk., Public Service Gas Co.	Orange, N. J.
Melcher, Charles W.	*A.	G. M., Ingersoll-Rand Co.	Chicago, Ill.
Mellick, Thomas L.	A.; N. J.	E. g. Dept., Central Div. Public Service Gas Co.	Plainfield, N. J.
Mellon, Porter D.	Nat. G.	Civil E., Canadian Western Natural Gas Lt., Ht. & Pr. Co., Ltd.	Calgary, Alberta, Can.
Melson, C. S.	Tex.		Palestine, Texas
Mendell, A. Y.	P. C.	S. g. dept., San Joaquin Lt. & Pr. Co.	Bakersfield, Cal.
Mengel, Fred.	Nat. C.		Hempstead, L. I.
Merchant, A. E.	Nat. C.	New Orleans G. L. Co.	New Orleans, La.
Merchants Assn. of N. Y.	Nat. C.		New York, N. Y.
Merchant, O. A., Jr.	A.; Nat. C.	G. M., Chuctanunda Gas Lt. Co.	Amsterdam, N. Y.
Meredith, Geo. B.	Nat. G.	Fm., Hope Natural Gas Co.	Smithfield, W. Va.
Meriam, M.	Nat. C.	Librarian, Dept. Interior.	Washington, D. C.
Meridian Lt. & Ry. Co.	Nat. C.		Meridian, Miss.
Merke, Robt. F.	*Wis.	Sals., Trenkamp Stove & Mfg. Co.	Milwaukee, Wis.
Merket, Joseph.	Nat. G.	S., Texas Co., Natural Gas Dept.	Box 298, Moran, Texas.
Merkle, W. S.	Mo.		St. Louis, Mo.
Merrill, Edwin C.	Nat. G.	Mfr.	2915 Smallman St., Pittsburg,
Merrill, G. S.	*I. E.	Natl. Lamp Wks. of G. E. Co.	Cleveland, O.
Merritt, Albert H.	A.	M. Niagara Falls Gas & Elec. Lt. Co.	Niagara Falls, N. Y.
Merritt, Wm. H.	A.; Ia.	G. M., Bartlesville Interurban Ry. Co.	Bartlesville, Okla.
Merry, E. D.	Mich.	S., Pontiac Light Co.	Pontiac, Mich.
Mervish, Joseph I.	*I. E.	Solic., Philadelphia Elec. Co.	Philadelphia, Pa.
Metric Metal Works.	N. G. S.; So. W.; Nat. C.		Erie, Pa.
Metropolitan Street Ry. Co.	So. W.		Dallas, Tex.
Metropolitan Street Ry. Co. of K. C.	Mo.		Kansas City, Mo.
Mettler, Lee B.	*Ia.; Nat. G.; *Ind.; *Mich.; Nat. C.		St. Louis, Mo.
Metz, Eugene, Jr.	Nat. G.	R., Am. Water Heater Co.	Kansas City, Mo.
Metzger, Dr. F. J.	Ace.	Air Reduction Co.	New York, N. Y.
Mexico Power Co.	Mo.		Mexico, Mo.
Meyer, A. J.	Nat. C.	Westchester Light Co.	Yonkers, N. Y.
Meyer, August H.	*I. E.	M. City Sales, Bryan-Marsh Div.	Chicago, Ill.
Meyer, Frank J.	Nat. G.	S. g. dept., Okla Gas & El. Co.	Oklahoma City, Okla.
Meyer, Franklin J.	*I. E.	Bureau of Standards.	Washington, D. C.
Meyer, F. B.	Nat. C.		3151 N. 26th St., Phila., Pa.
Meyer, Gordon.	Nat. C.		Seneca Falls, N. Y.
Meyer, John.	I. E.	A. M. Sales, Phila. Electric Co.	Philadelphia, Pa.
Meyer, Leslie L.	Ill.	Sals., Public Service Co. of No. Ill.	Oak Park, Ill.
Meyers, Ed B.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Meyercord Co.	Nat. C.		Chicago, Ill.
Meyers, F. C.	Ill.	A. S., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Meyers, J. A.	Ia.	V. P., Belle Plaine Gas Co.	Belle Plaine, Ia.
Michaels, L. B.	Nat. C.	Welsbach Co.	Columbus, Ohio.
Michel, F. M.	Nat. G.	Fm., United Natural Gas Co.	DuBois, Pa.
Michigan Gas Appl. Co.	Nat. C.		Detroit, Mich.
Michigan Stove Co.	*P. C.; Nat. C.		Chicago, Ill.
Mickley, M. A.	Nat. G.	Marion Gas Co.	Marion, O.
Middlekauff, Geo. W.	I. E.		1002 Oak Hill Ave., Hagerstown, Md.
Middleport Gas & Elec. Light Co.	Emp.		Middleport, N. Y.
Middletown Gas & Electric Co.	O.		Middletown, O.
Mielenz, F. W.	P. C.	M., Napa Valley Elec. Co.	Napa, Cal.
Mihien, J. T.	Sou.		Milwaukee, Wis.
Miles, Eugene C.	*A.; Nat. C.; *I. E.	Ed., Am. Gas Engineering Journal.	New York, N. Y.
Mill, Milton.	So. W.; Mo.		St. Louis, Mo.
Millar, Harold H.	*I. E.	Electrical Testing Laboratories.	Oakland, Cal.
Millar, Preston S.	*A.; I. E.; Nat. C.	G. M., N. Y. Electrical Testing Lab.	New York, N. Y.



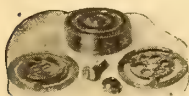
Replace the leaky and worn valves on your gas compressors with
MESTA AUTOMATIC PLATE VALVES (Iversen Patent)
 Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Millard, Frederick Chas.	A.; P. C.	Con. g. E.	426-428 Marsh-Strong bldg., Los Angeles, Cal.
Miller, Alten S.	A.; I. E.; Soc. G.; Nat. G.	Bartlett-Hayward Co.	Baltimore, Md.
Miller, B. L.	Nat. G.	United Natural Gas Co.	Tideoute, Pa.
Miller, C. O. G.	A.; P. C.	P. Pacific Lighting Co.	519 Calif. St., San Francisco.
Miller, Carroll	A.; G. G. M.; *I. E.; N. E.; Soc. G.; Nat. C.		
Miller, D.	Nat. G.; Ill.	G. M. Philadelphia Co.	Pittsburgh, Pa.
Miller, D. F.	Nat. G.	Ch., Barber Asphalt Co.	Maurer, N. J.
Miller, Edwin F.	*A.	S., Edgar M. Moore & Co.	Pittsburgh, Pa.
Miller, Ed. S.	Nat. G.	E., Camden Iron Works.	Camden, N. J.
Miller, E. M.	Wis.	S. g. dept., Kansas Gas & El. Co.	Wichita, Kan.
Miller, Fred A.	*A.; Nat. C.	Wis. Public Service Co.	Green Bay, Wis.
*Miller, Fred J.	Nat. G.; *Ill.	P. & G. M., S. R. Dresser Mfg. Co.	Bradford, Pa.
Miller, Frederick R.	*I. E.	Remington Typewriter Co., Inc.	New York, N. Y.
Miller, H. C.	Nat. C.; A.; Ind.	Chem. Lab., Clark University	Worcester, Mass.
Miller, Henry M.	Nat. C.	Sec. & T., No. Indiana Gas & El. Co.	Hammond, Ind.
Miller, H. P.	Nat. C.	Weir Stove Co.	Philadelphia, Pa.
Miller, J. A. W.	Nat. G.	Counties Gas & Elec. Co.	Norristown, Pa.
Miller, J. B.	P. C.	A. S., Pittsburgh Plate Glass Co.	Ford City, Pa.
Miller, John S.	Nat. C.	P., Southern California Edison Co.	Los Angeles, Cal.
Miller, L. L.	Nat. G.	United Gas Imp Co.	Glenside, Pa.
*Miller, M. K., Jr.	P. C.	Fm., Fayette County Gas Co.	Uniontown, Pa.
Miller, R. R.	Nat. G.	Sals., Pacific Meter Co.	Los Angeles, Cal.
Miller, Robert C.	A.	Chf. Clk., Allegheny Heating Co.	Pittsburgh, Pa.
*Miller, Robert S.	A.; Nat. C.	A. S., Coke Dept., Cons. Gas Co.	New York, N. Y.
Miller, S. W.	Ace.	Independence, Mo.	
Miller, Thomas David	A.; \$So.; *Mich. *Ia.; Mo.; *Ind.; Ill.	Rochester Welding Works.	Rochester, N. Y.
Miller, Thomas G.	Nat. C.	Spec. R. of Western Mgr., Consoli- dation Coal Co.	Detroit, Mich.
Miller, V. A.	A.; Nat. C.	No. N. Y. Utilities, Inc.	Watertown, N. Y.
Miller, Walter E.	*A.	S., Rochester Ry. & Lt. Co.	Rochester, N. Y.
Miller, William A.	A.; Nat. G.; Nat. C.	Div. E., R. R. Com. of Wis.	Madison, Wis.
Miller, William B.	Sou.	Chf. E., Stacey Bros. Cons. Co.	Cincinnati, Ohio.
Miller, William W.	Ace.	Sals. Agt., Century Store Mfg. Co.	Johnstown, Pa.
Millerton Electric Light Co.	Sou.	Jenne Acetylene Gas Machine Co.	Xpsilanti, Mich.
Milliken, E.	Emp.	Vesta Gas Range & Mfg. Co.	Chattanooga, Tenn.
Milliker, Earle L.	Nat. C.; *N. E.	T., Springfield Gas Light Co.	Canaan, N. Y.
Millis, John	*I. E.	Cape Breton Elec. Co., Ltd.	Springfield, Mass.
Mills Electric Co.	Mo.		Ferry Wharf, Sydney, N. S., Canada.
Mills, Louis E.	Nat. C.	Col. Corps of Engineers, U. S. A.	Savannah, Ga.
Mills, Samuel A.	A.	Public Service Gas Co.	Peoria, Ill.
Millsap, L. W., Jr.	Ace.	2d A. S., Williamsburg Wks., Brook- lyn Union Gas Co.	Newark, N. J.
Millville Gas, Water & Electric Light Co.	Nat. C.		Brooklyn, N. Y.
Milwaukee Gas Lt. Co.	Nat. C.		Yolo, Cal.
Milne, David S.	Ind.; Nat. G.	Div. M., Central Indiana Gas Co.	Millville, N. J.
Milne, W. E.	Nat. G.; Tex.	M., Gainesville Gas & El. Co.	Milwaukee, Wis.
Millspaugh, George M.	*Pa.; N. J.; Nat. C.	Sals., Rathbone Sard & Co.	Marion, Ind.
*Milton, Marshall M.	Nat. C.; A.; Sou. M.		12 S. Rusk St., Gainesville, Texas.
Milwaukee Gas Specialty Co.	Nat. C.		Albany, N. Y., and Philadel- phia, Pa.
Minard, Emory D.	*A.; Nat. C.		Roanoke, Va.
Minchin, William	Nat. C.	G. Fm., Public Service Gas Co.	Roanoke, Va.
Mineola Ice, Light & Water Co.	Sou. W.		Milwaukee, Wis.
Miner, Fred W.	Nat. G.		Hackensack, N. J.
Miner, Thomas T. W.	Ace.		Paterson, N. J.
Mineral Wells Electric Co.	Sou. W.		
Miners, Joseph	Nat. C.		Mineola, Texas
Mingus, James B.	*A.		Pittsburg, Pa.
Minneapolis Gas Lt. Co.	Nat. C.	Sals., Agt., Penn Gas Coal Co.	821 Eagle Ave., New York,
Minneapolis Heat Regula- tor Co.	N. G. S.		Mineral Wells, Tex.
Minnick, Harry H.	Nat. C.		Newark, N. J.
Minor, W. F.	*I. E.		Philadelphia, Pa.
Miser, J. F.	Nat. C.		Minneapolis, Minn.
Misham, Charles	Nat. C.		Minneapolis, Minn.
Misner, Ira C.	Nat. C.; *Ind.		Minneapolis, Minn.
Missouri Fire Brick Co.	Sou.		Minneapolis, Minn.
Missouri Gas & Electric Service Co.	G. I.		Minneapolis, Minn.
Missouri Public Utilities Co.	Mo.		Minneapolis, Minn.
Mistersky, Frank R.	*I. E.		Minneapolis, Minn.
*Mitchell, A. H.	Sou.; Nat. C.		Minneapolis, Minn.
Mitchell, C. S.	Nat. G.; A.		Minneapolis, Minn.
Mitchell, Charles W.	*Ill.		Minneapolis, Minn.



To replace your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is not difficult and is inexpensive. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

855

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Mitchel, Guy K.....	*I. E.	Prop., Standard El. & Elev. Co.....	Baltimore, Md.
Mitchell, H. K.....	Ill.	A. S. Dist "O," Public Serv. Co. of No. Ill.	Ottawa, Ill.
Mitchell, Herman W.....	*A.	Cash. & Of. M., Rome Gas, Electric Light & Power Co.....	Rome, N. Y.
Mitchell, J. W.....	Nat. G.	S. of Dist., St. Joseph Gas Co.....	802 Francis St., St. Joseph, Mo.
Mitchell, R. L.....	Nat. C.		Bellevue, Pa.
Mitchell, S. S.....	Nat. C.		Bogota, N. J.
Mitchell, Wylie.....	*A.	S. dis., St. Joseph Gas Co.....	St. Joseph, Mo.
Mix, Martin I.....	Ill.	A. El. E., Peoples g. Lgt. & Coke Co.....	Chicago, Ill.
Mixer, Charles A.....	I. E.	E., Rumford Falls Lt. & Water Co.....	Rumford Falls, Me.
Moberly Light & Power Co.	Mo.		Moberly, Mo.
Mockett, W. E.....	A.; Nat. C.	Chf. E. g. dept., Havana Electric Railway, Light & Power Co.....	Havana, Cuba.
Modern Iron Works.....	N. G. S.		Quincy, Ill.
Modern Safety Gas Iron Co.	N. G. S.		Philadelphia, Pa.
Modesto Gas Co.....	*P. C.		Modesto, Cal.
Moeller, William, Jr.....	Nat. G.; P. C.	Chf. E., So. Cal. Gas Co. & Midway Gas Co.	Taft, Cal.
Moesbrugger, Edward.....	Nat. C.	Westchester Ltg. Co.....	New Rochelle, N. Y.
Moffitt, A. R.....	Sou.	M., Fayetteville Lt. & Pr. Co.....	Fayetteville, N. C.
Moffett, Joseph G.....	la.	G. M., Fort Madison Gas Light Co.....	Fort Madison, Ia.
Mohawk Gas Co.....	Emp.		Schenectady, N. Y.
Mohican Oil & Gas Co.....	O.		Akron, O.
Mohr, Carl H.....	*I. E.	Standard Elec. & Elevator Co.....	Baltimore, Md.
Mohr, H. K.....	*I. E.	A. to V. P., Philadelphia Elec. Co.....	Philadelphia, Pa.
Molinar, W. R.....	Nat. C.	Oklahoma Gas & Electric Co.....	Oklahoma City, Okla.
Molinari, Nicholas J.....	Nat. C.	Brooklyn Union Gas Co.....	Brooklyn, N. Y.
Moloney Electric Co.....	Mo.		St. Louis, Mo.
Monarch Electric Co.....	Mo.	Con. Ch.	Kansas City, Mo.
Monfort, W. F.....	Mo.	Sales Dept., Milwaukee El. Ry. & Lt. Co.	506 N. Vandeventer, St. Louis
Monger, H. G.....	*I. E.		Milwaukee, Wis.
Monness, H. M.....	Nat. C.	G. Fuel Appl. Dept., Consolidated Gas Co.	New York, N. Y.
Monroe, James.....	Ill.	Clk., Peoples Gas Lt. & Coke Co.....	Chicago, Ill.
Montgomery Elec. Light & Power Co.....	Emp.		Canajoharie, N. Y.
Montgomery, G. A.....	Ia.; A.		Springfield, Mo.
Montgomery Ice & Electric Co.....	Mo.		Montgomery, Mo.
Montgomery, J. H.....	Nat. G.	Natural Gas Co. of W. Va.....	96 Garfield Ave., Salem, O.
Montgomery, John E.....	A.; Sou.; Nat. C.	S. g. dept., Birmingham Ry., Light & Power Co.....	Birmingham, Ala.
Montgomery Lt. & Water Pr. Co.....	Nat. C.		Montgomery, Ala.
Montgomery, M. D.....	Nat. G.	Fm., Ingersoll Gas Light Co.....	Ingersoll, Ont., Can.
*Montgomery, Robert.....	N. G. E.	U. S. Army.....	Fort Benj. Harrison, Indianapolis, Ind.
Montreal Lt., Ht. & Pr. Co.	Nat. C.		Montreal, Canada.
Monville, Francis X.....	*I. E.	Philadelphia Electric Co.....	Philadelphia, Pa.
Monynchan, John C.....	Ind.	M., No. Ind. Gas & El. Co.....	Bluffton, Ind.
Moody, W. A.....	P. C.	Sals., Pacific Gas & Elec. Co.....	San Mateo, Cal.
Moon, C. P.....	Nat. C.		Newton, Pa.
Moon Mfg. Co.....	N. G. S.		Chicago, Ill.
*Moon, T. Elmer.....	I. E.	Con. E.	Philadelphia, Pa.
Mooney, E. B.....	N. E.	Brockton Gas Light Co.....	Brockton, Mass.
Mooney, Jos. W., Jr.....	Nat. C.		Philadelphia, Pa.
Moore, A. D.....	Nat. C.	Pub. Service Gas Co.....	Trenton, N. J.
Moore, Calvin T.....	Nat. G.	Geologist, Henry L. Doherty & Co.....	Winchester, Ky.
Moore, Carey A.....	Nat. C.	Sales M., Rathbone-Sard Co.....	Baltimore, Md.
Moore, Chas. C.....	P. C.	P. C. C. Moore & Co., Engineers.....	San Francisco, Cal.
Moore, D. McFarlan.....	I. E.	General Electric Co.....	Harrison, N. J.
Moore, Edwin A.....	A.	P. American Coke & Gas Cons. Co.....	2216 No. 52d St., Phila., Pa.
Moore, E. M.....	Nat. G.	E. M. Moore & Co.....	809-10 Farmers Bk, Bldg., Pittsburgh, Pa.
*Moore, G. E.....	Nat. C.		603 6th St., N. E., Washington, D. C.
Moore, G. H.....	Mich.	R., Mich. Stove Co.....	Grand Rapids, Mich.
Moore, Harry.....	Nat. G.	A. Fm., The Mfrs. Lt. & Heat Co.....	Wallace, W. Va.
Moore, J. E.....	P. C.	A. B. Stove Co.....	San Francisco, Cal.
Moore, John.....	Ill.; Nat. C.	Chf. Clk. St. Dept., Peoples Gas Lt. & Coke Co.....	Chicago, Ill.
Moore, John S.....	Can.	Dominion Gas Meter Co.....	London, Ont., Can.
Moore, Lee C.....	Nat. G.	P., Lee C. Moore & Co.....	Pittsburg, Pa.
Moore, Lee C., & Co., Inc.	N. G. S.		Pittsburg, Pa.
Moore, Lewis.....	Nat. C.	P., Moore Bros. Co.....	Joliet, Ill.
Moore, Louis D.....	*I. E.		211 E. Jefferson Ave., Kirkwood, Mo.
Moore, Nathan L.....	Nat. G.	Pur. Agt., Southern California Gas Co.	Los Angeles, Cal.
Moore, Samuel H.....	Ill.	S. Welfare Dept., Peoples Gas Lt. & Coke Co.....	Chicago, Ill.
Moore, W. D.....	Nat. C.	Decatur Ry. & Lt. Co.....	Decatur, Ill.
Moore, William.....	*Pa.	Sals., Isaac Sheppard & Co.....	Philadelphia, Pa.
Moore, Wm. Cabler.....	*I. E.	Research Ch., National Carbon Co.....	Cleveland, O.
Moorhouse, Louis B.....	A.	Indus. Heating Dept., H. Doherty & Co.	Toledo, Ohio.
Moorman, E. L.....	Nat. C.; Wis.	Beloit Water Gas & Electric Co.....	Beloit, Wis.
Moran, Alfred B.....	*Ind.; *Mich.; Nat. C.; *Ill.	M. g. dept., Peninsular Stove Co.....	Detroit, Mich.



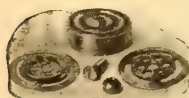
Make your compressors deliver more gas by replacing your old compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Moran, G. M.	Tex.		Brenhem, Texas
Moran, J. A.	Nat. C.	Pub. Service Gas Co.	Newark, N. J.
Moran, P. A.	Nat. G.	Dist. Fm., Equitable Gas Co.	Pittsburgh, Pa.
Moran, T. J.	*Ind.; Nat. C.; *Mich.; *Ill.; Sou.	Sals, A. B. Stove Co.	Battle Creek, Mich.
Moran, W. M.	Nat. C.	Delphos Gas Co.	Delphos, O.
Moran, W. P.	Nat. C.	M., Empire Gas & Electric Co.	Auburn, N. Y.
Mordue, Thomas N.	*A.	Coal Merchant	817 Peoples Gas Bldg., Chi- cago, Ill.
More, Jas., Sr.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Morehead, I. H.	Nat. C.	Atlanta Gas Lt. Co.	Atlanta, Ga.
*Morehead, John M.	A.; Ace.; Ill.	Cons. E., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Morely, Herbert C.	Nat. C.	Consumers Gas Co.	Toronto, Ont., Can.
Morgan, Arthur M.	Nat. C.	E. A., Consolidated Gas Co.	New York, N. Y.
Morgan, Charles S.	Nat. C.; Ill.; *A.	G. M., Logan County Gas Co.	Lincoln, Ill.
Morgan, James	Nat. C.	A. S., Standard Gas Light Co.	New York, N. Y.
Morgan, John Eyre	A.; Pa.		317 Penna. St., Buffalo, N. Y.
Morgan, Randall	Nat. C.	United Gas Impt. Co.	Philadelphia, Pa.
Morgan, S. R.	Ark.	P., Fordyce Lt. & Water Co.	Fordyce, Ark.
Morgan, W. G.	Nat. C.	San Antonio Gas & Electric Co.	San Antonio, Tex.
Morgan, W. J.	Nat. G.	Agt., East Ohio Gas Co.	Canton, O.
Moroney, W. L.	Ill.	A. S.; W. Div. Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Morrell, E.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Morrell, Edward E.	A.	T., National Gas & Water Co.	108 So. La Salle St., Chicago.
Morris, Albert	*A.; Pa.	A. M., Peoples Light Co.	Pittston, Pa.
Morris, Edgar	Sou.; Nat. C.	Sals., Pittsburg Water Heater Co.	Washington, D. C.
Morris, H. C.	Nat. C.; Nat. G.; A.	V. P. & G. M., Dallas Gas Co.	Dallas, Tex.
Morris, I. W.	Nat. C.	United Gas Impt. Co.	Philadelphia, Pa.
Morris, Robert C., Jr.	A.		200 So. High St., Bethlehem, Pa.
Morris, S. A. G.	Nat. C.	East River Gas Co.	Long Island City, N. Y.
Morris, W. A.	Nat. C.; *A.	Com. M., Wilmington Gas Co.	Wilmington, Del.
Morris, W. B.	P. C.	Treas., Pacific Coast Specialties Co.	Oakland, Cal.
Morris, W. B.	Ind.	Clifford Oil Co.	Geneva, Ind.
Morris, W. Cullen	A.; I. E.; Nat. C.; Soc. G.	E. of Cons., Consolidated Gas Co.	New York, N. Y.
Morris, W. T.	P. C.	Gas & Electric Appliance Co.	San Francisco, Cal.
*Morris, William Giles	A.	Chf. Clk., Consolidated Gas Co.	New York, N. Y.
Morrissey, James J.	*A.	Ch., Phila. Suburban Gas & Elec. Co.	Chester, Pa.
Morrison, A. Cressy	Ace.	Union Carbide Sales Co.	42d St. Bldg., New York, N. Y.
Morrison, G. F.	I. E.	M. Lamp Works, General Electric Co.	30 Church St., New York, N. Y.
Morrison, Henry K.	A.; G. G. M.; Nat. C.; N. E.; I. E.	G. M., Lynn Gas & Elec. Co.	Lynn, Mass.
Morrison, J. L.	Ace.	American Lava Co.	Chattanooga, Tenn.
Morrison, Martin	*A.	Cadet E., N. Y. & Queens Gas Co.	Flushing, N. Y.
Morse, C. S.	Nat. C.	Attleboro Gas Lt. Co.	Attleboro, Mass.
*Morse, Chas. F., Jr.	*Ill.	Portsmouth Gas Co.	Portsmouth, Va.
Morse, Nathan L.	P. C.; Nat. G.	Pur. Agt., Southern California Gas Co.	740 S. B'way, Los Angeles.
Mortimer, James D.	I. E.	P., The North American Co.	New York, N. Y.
Mortimer, J. J.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Morton, A. A.	I. E.	Detail & Supply Dept., Westinghouse El. & Mfg. Co.	Union Bank Bldg., Pittsburg.
Morton, Albert B.	A.; Emp.	S., Rome Gas, El. Lt. & Pr. Co.	Rome, N. Y.
Morton, C. S.	Nat. C.		Bronx, New York, N. Y.
Morton, J. W.	P. C.	c/o Crane Co.	San Francisco, Cal.
Morton, Walter	Nat. C.	University of Oregon	Eugene, Ore.
Moser Mfg. Co.	N. G. S.		Kane, Pa.
Moses, Frank D.	Sou.	Engineer, Gas Engineering Co.	7 No. Stockton St., Trenton.
Mosher, Frank A.	Sou.	Gen'l Fire Extinguisher Co.	N. Charlotte, N. C.
Moskowitz, M.	Ace.	c/o The Prest-O-Lite Co.	Indianapolis, Ind.
Moss, R. Lockwood	Nat. C.; Sou.	Roberts & Mander Stove Co.	Atlanta, Ga.
Moss, W. E.	Mich.; Nat. C.	W. E. Moss & Co.	Union Trust Bldg., Detroit, Mich.
Motley, George S.	*N. E.	P. & G. M., Lowell Gas Light Co.	Lowell, Mass.
Mott, William Roy	I. E.	Ch. E., National Carbon Co.	Lakewood, Cleveland, O.
Mouet, David	Nat. C.		Philadelphia, Pa.
Moulton, Walter R.	I. E.	Robertson Cataract Elec. Co.	Buffalo, N. Y.
Mound City Electric & Ice Co.	Mo.		Mound City, Mo.
Mount, G. E.	Ind.	Local M., No. Ind. Gas & El. Co.	Decatur, Ind.
Mountain Grove Ice & Electric Co.	Mo.		Mountain Grove, Mo.
Mouser, Otis	Sou.; *A.	Stonega Coke & Coal Co.	Stonega, Va.
Mt. Carmel Gas Lt. Co.	Pa.		Mt. Carmel, Pa.
Mt. Clemens Gas Light Co.	Nat. C.		Mt. Clemens, Mich.
Mowrey, John	Nat. G.	Fm., Hope Natural Gas Co.	Clarksburg, W. Va.
Moyer, L. M.	Ace.	Linde Air Products Co.	New York, N. Y.
Moyer, Wayne R.	*A.; I. E.	A. S., Spg. Garden Dist. United Gas Imp. Co.	1615 N. 9th St., Philadelphia, Pa.
Moynihan, J. C.	Ind.	M. No. Ind. Gas & El. Co.	Bluffton, Ind.
Mueller, Adolph F.	*A.	Head Bookkeeper, Seattle Lighting Co.	Seattle, Wash.
Mueller, Charles E.	*Mich.; Nat. C.	Sals. Dept., Hays Mfg. Co.	Erie, Pa.
Mueller, E. A.	Nat. C.	Pub. Service Gas Co.	Newark, N. J.
Mueller, Fred. B.	Ace.; Nat. G.; *Ind.; *Wis.	V. P., H. Mueller Mfg. Co.	Decatur, Ill.



You can increase the efficiency of your compressors by replacing your old valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Mueller, H., Mfg. Co.	Can.; N. G. S.; Nat. C.; *P. C.; Mo.		Decatur, Ill.
Mueller, John	Ace.	c/o Am. Oxhydric Co.	Milwaukee, Wis.
Mueller, Max Emil	A.		4229 No. Ashland Ave., Chicago, Ill.
Mueller, O. B.	N. J.	Mueller Mfg. Co.	254 Canal St., New York.
Mueller, Robert	*A.; *Ill.	Sec., H. Mueller Mfg. Co.	Decatur, Ill.
Mueller, Wm. L.	*Ind.	Sals., Welsbach Co.	Indianapolis, Ind.
Muhlfield, Jno. E.	*I. E.		Scarsdale, N. Y.
Muldane, G. B.	Kan.	Sec'y Field, Nat'l Elec. Lt. Assn.	New York, N. Y.
Mulgrew, John	P. C.	S., Pacific Gas & El. Co.	Oakland, Cal.
Mulholland, S. E.	A. Ind.; Nat. C.	V. P., No. Ind. Gas & El. Co.	Fort Wayne, Ind.
Mulkin, P. L.	Nat. G.	Agt., United Natural Gas Co.	Oil City, Pa.
Mullarkey, Jas. J.	Nat. C.		Philadelphia, Pa.
Muller, F. B.	Ace.	H. Muller Mfg. Co.	Decatur, Ill.
Muller, Henry N.	I. E.	S. dis., Duquesne Light Co.	Pittsburg, Pa.
Muller, Herman, Jr.	I. A.	Works A., N. Y. & Richmond Gas Co.	Stapleton, N. Y.
Muller, J. Henry	Nat. C.	S. Meter Dept., Consolidated Gas Co.	New York, N. Y.
Mulligan, Barry	*I. E.	Asso. Phys., Bureau of Standards	Washington, D. C.
Mulligan, Geo. C.	Nat. C.	Savannah Gas Co.	Savannah, Ga.
Mullins, J. F.	Ark.	M., Ark. Lt. & Pr. Co.	Morrilton, Ark.
Mumma, I. R.	Ace.	St. Clair Mfg. Co.	114 N. St. Clair St., Dayton, Ohio.
Munce, J. R.	Nat. G.	V. P. & G. M., Ark. Natural Gas Co.	Little Rock, Ark.
Muncy, Victor E.	*I. E.	Prof. Mech. & Appl. El., Ohio Mechanics Inst.	Cincinnati, O.
Municipal Gas Co.	Nat. C.; Emp.		Albany, N. Y.
Munro, R.	P. C.	Eclipse Gas Stove Co.	San Francisco, Cal.
Munro, Robert	Nat. G.	V. P. & G. M., Century Stove & Mfg. Co.	Johnstown, Pa.
Munro, W. Lorne	Nat. G.	Aud., Dominion Natural Gas Co.	Buffalo, N. Y.
Munroe, Chas. A.	Ill.; A.; Nat. C.	V. P., Public Service Co. of No. Ill.	Chicago, Ill.
Munroe, Roy G.	Nat. C.	Serv. Sup., Denver Gas & Elec. Co.	Denver, Col.
Munroe, W. N.	Nat. C.	Texas Power & Lt. Co.	Paris, Texas
Munson, Charles	Ia.; Nat. C.	Local M., Iowa Railway & Light Co.	Marshalltown, Ia.
Munson, Ralph Ira	A.	Sec., Bridgeport Gas Light Co.	Bridgeport, Conn.
Murdock, C. G.	Nat. C.	Laclede Gas Lt. Co.	St. Louis, Mo.
Murdock, H.	Mo.	P., Light & Development Co.	St. Louis, Mo.
Murdock, James W.	A.; Nat. C.	Miami Gas & Elec. Co.	Miami, Fla.
Murdock, W. J.	A.; Ill.	G. Fm., Coal Products Mfg. Co.	Joliet, Ill.
Murfit, W. G.	Nat. C.		Philadelphia, Pa.
Murota, Hannosuka	*I. E.	El. E., Tokyo Elec. Co.	Kawasaki, Kanagawa, Ken; Japan.
Murphy, Albert F.	I. A.	A. to S., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Murphy, Clarence	Ia.	Sals., Columbia Lamp Co.	St. Louis, Mo.
Murphy, C. A.	Ia.	S. of wks., Iowa City Light & Power Co.	Iowa City, Iowa
Murphy, C. E.	P. C.	Clk., Purchasing Dept., Pacific Gas & Elec. Co.	San Francisco, Cal.
Murphy, Edward J.	A.	A. Ch., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Murphy, F. C.	Nat. G.	Agt., The Mfrs. Lt. & Heat Co.	Beaver Falls, Pa.
Murphy, F. D.	Sou.	G. M., Houston Gas & Fuel Co.	Houston, Tex.
Murphy, F. H.	I. E.	Illum. E., Portland Ry., Lt. & Pwr. Co.	Portland, Oregon.
Murphy, Frank W.	Nat. C.	United Gas Imp't. Co.	Philadelphia, Pa.
Murphy, S. F.	Nat. G.	Fm., United Natural Gas Co.	Halsey (Mt. Jewett P. O.), Pa.
Murphy, Geo. C.	Nat. C.	Dist. S., Laclede Gas Lt. Co.	12 Center St., Chicopee, Mass.
Murphy, John	I. E.	El. E. Dept., Railways & Canals.	Ottawa, Ont., Can.
Murphy, Wm. J.	A.	Dist. S., Laclede Gas Lt. Co.	St. Louis, Mo.
Murphy, W. P.	Nat. C.	Texas Pr. & Lt. Co.	Brownwood, Texas
Murray, Clyde W.	Ia.	M., Creston Gas & Electric Co.	Creston, Ia.
Murray, Ed. S.	Nat. C.; A.	S., Insp. & Main. Dept., Laclede Gas Light Co.	St. Louis, Mo.
Murray, Francis H.	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Murray, James	*N. E.	Fm. Jobbing Dept., Boston Consolidated Gas Co.	Jamaica Plain, Mass.
Murray, James W.	Nat. C.	Public Service Gas Co.	Morristown, N. J.
Murray, J. L.	Nat. C.; N. E.; N. E. C.	Plymouth Gas Lt. Co.	Plymouth, Mass.
Murray, Joseph B.	I. E.	Act'g T., Edison El. Illum. Co.	Brooklyn, N. Y.
Murray, John J.	A.; Nat. G.	S. City Div., Equitable Gas Co.	Pittsburg, Pa.
Murray, M. J.	Nat. G.	Fm., East Ohio Gas Co.	Cleveland, O.
Murray, O. J.	Ace.	J. B. Colt Co.	New York, N. Y.
Murray, Thomas E.	I. E.	G. M., The New York Edison Co.	New York, N. Y.
Murtaugh, James	Nat. G.	Field S., Ohio Fuel Supply Co.	Lancaster, O.
Muskogee El. Traction Co.	Okla.		Muskogee, Okla.
Muskogee Gas & Elec. Co.	Okla.		Muskogee, Okla.
Muskegon, Tract. & Lt. Co.	Nat. C.		Muskegon, Mich.
Mustard, A. H.	Mo.	St. Louis Electric Mfg. Co.	St. Louis, Mo.
Muth, George B.	I. E.	A. to Mt. M., Philadelphia	Philadelphia, Pa.
Mutual Gas Light Co.	Nat. C.		New York, N. Y.
Myer, Albert	I. E.	Sec. Am. Optical Ass'n.	Albert Lea, Minn.
Myers, Edward Brittain	A.; I. E.	E., United Gas Imp't Co.	Philadelphia, Pa.
Myers, E. E.	Nat. G.	Agt., The Peoples Natural Gas Co.	New Kensington, Pa.
Myers, Frank F.	Sou.		Erie, Pa.
Myers, Geo. L.	Nat. C.	Pacific Pr. & Lt. Co.	Portland, Ore.
Myers, Joseph B.	A.; *I. E.; Nat. C.	Com. Agt., United Gas Imp't Co.	Philadelphia, Pa.
Myers, Ralph E.	*I. E.	Westinghouse Lamp Co.	Bloomfield, N. J.
Myers, Romaine W.	*I. E.		Oakland, Cal.
Myrtle, Frederick S.	P. C.	Pub. M., Pacific Gas & Elec. Co.	San Francisco, Cal.



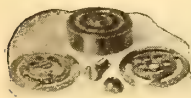
An installation of MESTA AUTOMATIC PLATE VALVES (Iversen Patent) in your compressor guarantees higher efficiency. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Nagle, Geo., Jr.	Nat. C.		1461 Jefferson Av., Brooklyn, N. Y.
Naphtaly, Sam L.	A.; P. C.	P., Oakland Antioch & E. Ry.	San Francisco, Cal.
Naschald, P. J.	Nat. C.	Nashville Gas & Htg. Co.	Nashville, Tenn.
Nash, George	Nat. C.	Sals., Lowell Gas Light Co.	Lowell, Mass.
Nash, J. J.	Nat. G.	G. M., Huntington Development & Gas Co.	Huntington, W. Va.
Nash, R. J.	*Ill.; Nat. G.	Nash Bros.	Chicago, Ill.
Nashville Gas & Htg. Co.	Nat. C.		Nashville, Tenn.
Nason, Forest J.	IA.	A. S., Blackstone Valley Gas & El. Co.	Woonsocket, R. I.
Nassau Lt. & Power Co.	Emp.		Mincola, N. Y.
Nathan Mfg. Co.	N. G. S.		New York, N. Y.
National Carbon Co.	So. W.		Cleveland, Ohio.
National Lamp Mfg. Assn.	Mo.		Cleveland, O.
National Lead Co.	So. W.		St. Louis, Mo.
National Lockwasher Co.	So. W.		Chicago, Ill.
National Machine Works	Nat. C.		Chicago, Ill.
National Stove Co.	Nat. C.		Chicago, Ill.
National Supply Co.	N. G. S.		Lorain, O.
National Transit Pump & Machine Co.	N. G. S.		Toledo, O.
National Tube Co.	N. G. S.; Nat. C.		Oil City, Pa.
Natural Gas Co. of W. Va.	O.		Pittsburgh, Pa.
Natural Gas Journal	N. G. S.		Pittsburgh, Pa.
Naylor, L. P.	Ace.	Alex. Milburn Co.	Buffalo, N. Y.
Neal, Geo. A.	IA.		Baltimore, Md.
Neal, Geo. A.	Nat. C.; Ind.	E. A., Northern Gas & El. Co.	Bethlehem, Pa.
Nealon, J. M.	Nat. C.		Hammond, Ind.
Near, C. J.	Nat. G.	Fm., The Union Nat. Gas Co.	Buckroe Beach, Va.
Near, W. W.	Nat. G.	P., Page-Hersey Iron, Tube & Land Co., Ltd.	Essex, Ont., Can.
Neel, William T.	*I. E.	El. E., Philadelphia Electric Co.	Toronto, Ont., Can.
Neely, Ira L.	Nat. G.; Nat. C. S.	Medina Gas & Fuel Co.	Philadelphia, Pa.
Neely, Lemon H.	Nat. G.	P., The Berea Pipe Line Co.	Wooster, Ohio.
Neely, M. L.	P. C.	Dist. M., Pacific Gas & El. Co.	St. Marys, O.
Neff, John E.	Nat. C.	United Gas Improvement Co.	Fresno, Cal.
Neff, Morton G.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Negley, E. H.	Ill.	M., Canton Gas & El. Co.	Philadelphia, Pa.
Neiler, Samuel G.	*I. E.	P., Neiler, Rich & Co.	Canton, Ill.
Neisser, Otto	P. C.	Agt., Ruud Mfg. Co.	Chicago, Ill.
Nelson, Albert R.	I. E.	M., Edison El. Co. of Brockton	Los Angeles, Cal.
Nelson, E. A.	IA.	E. A. of Mains & Serv., Consolidated Gas Co. of New York	Brockton, Mass.
Nelson, Geo. S.	Ill.	Dist. S., Ill. Northern Utilities Co.	New York, N. Y.
Nelson, H. E.	Nat. G.	E., Manufacturers Gas Co.	De Kalb, Ill.
Nelson, Robert	Ill.	Fitter, Public Service Co. of No. Ill.	Erdre, Jefferson Co., Pa.
Nelson, William H.	IA.	Cadet E., St. Paul Gas Light Co.	Park Ridge, Ill.
Neosha Electric Light Co.	Mo.		St. Paul, Minn.
Nestor, W. E.	Nat. G.	E., Mfrs. Lt. & Heat Co.	Neosha, Mo.
Nestor, J. F.	Nat. G.	Chf. E., Mfrs. Lt. & Ht. Co.	Waynesburg, Pa.
Neth, John A.	IA.	Fm. g. dept., Westchester Ltg. Co.	Wheeling, W. Va.
Nettles, Rosco	Nat. C. & Sou.; A. Sec. & M., Tampa Gas Co.		Tarrytown, N. Y.
Nettleton, Charles H.	A.; G. G. M.; *I. E.; Nat. C.; N. E.; Soc. G. P.	Light Co. & New Haven Gas	Tampa, Fla.
Neuman, B. S.	Nat. C.	Public Service Gas Co.	Derby, Conn.
Neumann, Paul S.	P. C.	Hackfeld & Co., Ltd.	Trenton, N. J.
Neumuller, Walter	I. E.	Sec. to G. Insp., N. Y. Edison Co.	San Francisco, Cal.
Nevada Dist. Pacific Gas & Electric Co.	*P. C.		New York, N. Y.
*Nevanas, Harold H.	A.	Fm., United Gas Improvement Co.	Nevada City, Cal.
New Amsterdam Gas Co.	Nat. C.		Philadelphia, Pa.
New Bedford Cordage Co.	N. G. S.		New York, N. Y.
Newberry, F. B.	A.	Sals. M., N. Y. & Rich. Gas Co.	New York, N. Y.
Newbert, L. H.	P. C.	M., Sals. Dept., Pac. Gas & El. Co.	Stapleton, N. Y.
Newbold, E. S.	*A.; *I. E.	P., American Street Lighting Co.	San Francisco, Cal.
Newcombe, James	Nat. C.	Col., Public Service Gas Co.	Philadelphia, Pa.
Newfane Electric Co.	Emp.		Newark, N. J.
Newhouse, B. Frank	Nat. G.	Service Clk., Union Gas & El. Co.	Newfane, N. Y.
Newman, A. J.	Nat. G.	Gen. Aud., Union Natural Gas Corp.	Cincinnati, O.
Newman, H. H.	Nat. C.; N. J.	Agt., Public Service Gas Co.	Pittsburgh, Pa.
Newning, Chas. A.	*So. W.		Houston, N. J.
Newport Elec. Light, Heat & Power Co.	Emp.		Houston, Tex.
Newport News & Hampton Ry., Gas & Elec. Co.	Nat. C.		Newport, N. Y.
New Process Stove Co.	Nat. C.		Newport News, Va.
Newton, Arthur H.	*I. E.		10708 Deering Ave. S. E., Cleveland, O.
Newton, N. A.	Nat. G.; N. G. E. Efficiency E., Logan Natural Gas & Fuel Co.		1265 Pacific St., Brooklyn, N. Y.
New York & Queens Gas Co.	Emp.; Nat. C.		34 Ruggery Bldg., Columbus, O.
N. Y. & Queens Elec. Lt. & Pr. Co.	Emp.		Flushing, New York, N. Y.
New York & Richmond Gas Emp.			Long Island City, N. Y.
N. Y. Belting & Packing Co.	N. G. S.		Stapleton, New York, N. Y.
Niagara & Erie Power Co.	Emp.		New York, N. Y.
Niagara Lt., Ht. & Pr. Co.	Emp.; Nat. C.		Buffalo, N. Y.
Nibecker, Karl	*A.	V. P., Imperial Type Metal Co.	No. Tonawanda, N. Y.
Nichols, A. S.	Nat. C.	M., Paducah Lt. & Pwr. Co.	Cleveland, Ohio.
			Paducah, Ky.



The initial cost of changing from leather, poppet or mechanically operated valves to MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is insignificant compared to the saving effected in fuel consumption, reduced repairs, attendance, etc. Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

859

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Nicholls, Carroll B.	*A.; *Pa.	G. Sals. Agt., Westmoreland Coal Co.	Philadelphia, Pa.
Nicholls, C. J.	Nat. C.; A.	S. Laclede Gas Light Co.	St. Louis, Mo.
Nicholls, P. E.	Nat. C.; Tex.	Galveston Gas Co.	Galveston, Tex.
Nichols, C. B.	Can.	Westmoreland Coal Co.	Philadelphia, Pa.
Nichols, Dr. Edw. L.	*I. E.	Prof. of Physics, Cornell University	Ithaca, N. Y.
Nichols, G. B.	I. E.	State Architect's Office	Albany, N. Y.
Nichols, J. C.	Sou.		Bluefield, Va.
Nicholas Gas Fixture Mfg. Co.	Nat. C.		Brooklyn, N. Y.
Nichols, Oscar J.	Nat. C.	Plattsburgh Gas & Electric Co.	Plattsburgh, N. Y.
Nichols, Vincent J.	*Ind.	Michigan Stove Co.	Detroit, Mich.
Nichols, W. E.	Nat. C.; A.	S. No. Ind. Gas & Elec. Co.	Plymouth, Ind.
Nichols, Wm. B.	N. E.; G. G. M.		
Nicholson, French	A.	P. & G. M., Citizens Gas Light Co.	Quincy, Mass.
Nicholson, H. J.	Nat. G.	Fm., Hope Natural Gas Co.	Bridgeport, W. Va.
Nichuals, Leroy	Nat. C.; *Ill.	2d V. P., Ruud Mfg. Co.	Chicago, Ill.
Nickerson, Franklin H.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Nickerson, Harry L. R.	A.	Chf. Stat., Consolidated Gas Co.	New York, N. Y.
Nickerson, Henry B.	Nat. G.	A. to S., New England Gas & Coke Co.	Everett, Mass.
Nickerson, H. E.	*N. E.	Sec. Amer. Steam Gauge & Valve Mfg. Co.	Boston, Mass.
Nicolai, Chas. D.	Sou.	N. E. Gas & Coke Co.	Boston, Mass.
Nicolai, G. O.	I. E.	G. M., American Street Ltg. Co.	Baltimore, Md.
Nicolaus, E. B.	*Pa.	T. H. I. & E. Traction Co.	Terre Haute, Ind.
Nicoll, Thomas	Nat. G.	Reliable Stove Co.	Cleveland, O.
Niedenthal, Geo. P.	Nat. C.	T., The Peoples Natural Gas Co.	Pittsburg, Pa.
Nieper, Carl H.	P. C.	United Gas Improvement Co.	1706 N. Broad St., Philadelphia, Pa.
Nies, H. O.	A.	Gas Dept., Pac. Gas & Elec. Co.	San Francisco, Cal.
Night Commander Co., The	Ace.	G. St. Fm., dis. dept., Laclede Gas Lt. Co.	St. Louis, Mo.
Nightingale Co., The	Nat. C.		Jackson, Mich.
Niles Gas Lt. Co.	Nat. C.		New York, N. Y.
Nims, S. E.	N. E.	Mills, Mich.	
*Nissley, Warren W.	*A.	A. S. Worcester Gas Works	Worcester, Mass.
Nixon, Chas. M.	N. J.	Nassau & Suffolk Ltg. Co.	Hempstead, N. Y.
Nixon, Geo. R.	N. E.	Millville Gas Light Co.	Millville, N. J.
Noble, B. F.	Sou.	S. dis., Pittsfield Coal Gas Co.	Pittsfield, Mass.
Noble, Fred C.	Nat. C.	Com. M., Montgomery Lt. & Water Power Co.	Montgomery, Ala.
Noble, Jay A.	A.	Central Union Gas Co.	New York City.
Noble, R. G.	Ace.	S. g. dept., Lockport Lt., Ht. & Pr. Co.	Lockport, N. Y.
Nole, E. P.	Nat. G.	Union Carbide Sales Co.	42d St. Bldg., New York.
Noll, John J.	Nat. C.	Field Fm., The Peoples Natural Gas Co.	Belle Vernon, Pa.
Nollett, Frank	Nat. C.	Public Service Gas Co.	Newark, N. J.
Noonan, Thomas	Ill.	S. Bath El. and Gas Lt. Co.	Bath, N. Y.
Norborne Fuel, Ice & Light Co.	Mo.	Shop & Fitters Fm., Peoples g. Lgt. & Coke Co.	Chicago, Ill.
Norcross, J. Arnold	A.; I. E.; Nat. C.; N. E.; Soc. G.; G. G. M.		Norborne, Mo.
Nordvall, A. R.	Ace.	Sec. & T., New Haven Gas Light Co.	New Haven, Conn.
Norman, Oscar E.	Nat. C.; Ill.; *A.	c/o Gas Accumulator Co.	Stockholm, Sweden.
Norman Milling & Grain Co.	Okla.	Librarian, Peoples Gas Light & Coke Co.	Chicago, Ill.
Norris, Henry S.	Nat. G.		Norman, Okla.
Norris, J. S.	Can.	Sec., Iroquois Natural Gas Co.	Buffalo, N. Y.
Norris, Rollin	A.; *I. E.; Nat. C.; Nat. G.	G. M., Montreal Lt., Ht. & Pr. Co.	Montreal, Que., Can.
Norris, W. A.	Ind.	G. S., United Gas Imp. Co.	Philadelphia, Pa.
No. Adirondack Power Co.	Emp.; Nat. C.	No. Ind. Gas & El. Co.	Fort Wayne, Ind.
North Carolina Public Service Co.	Nat. C.		Waterford, N. Y.
North, Edwin	Nat. C.		Greensboro, N. C.
North, M. F.	Ind.	Pur. Agt., Consolidated Gas Co.	New York, N. Y.
North, F. S.	Nat. C.	M., Indiana Lighting Co.	Lebanon, Ind.
North Kansas City Light, Heat & Pr. Co.	Mo.		White Plains, N. Y.
North Kansas City Water Co.	Mo.		730 Midland Bldg., Kansas City, Mo.
North Mercer Natural Gas Co.	O.		730 Midland Bldg., Kansas City, Mo.
North Texas Transfer & Warehouse Co.	So. W.		Ft. Recovery, O.
Northcott, G. A.	Nat. G.	Dallas, Tex.	
Northern Central Gas Co.	Pa.	T., Huntington Development & Gas Co.	928 Third Ave., Huntington, W. Va.
Northern Conn. Lt. & Pr. Co.	Nat. C.	G. M., W. R. Rhoades	Williamsport, Pa.
Northern Indiana Gas & El. Co.	Nat. C.		Thompsonville, Conn.
Northern Liberties Gas Co.	Nat. C.; Pa.		Michigan City, Ind.
Northern New York Utilities, Inc.	Emp.		Philadelphia, Pa.
Northern Texas Trac. Co.	So. W.		Watertown, N. Y.
Northern Union Gas Co.	Emp.; Nat. C.		Port Worth, Tex.
No. Wayne El. Lt. & P. Co.	Emp.		New York, N. Y.
			Wolcott, N. Y.



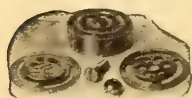
MESTA AUTOMATIC PLATE VALVES (Iversen Patent) have proved to be the ideal valves for blowing and compressing units. They are rapidly replacing the old leather, poppet and mechanically operated valves. Bulletin "D" describes these valves in detail.

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Northern Westchester Ltg. Co.	Nat. C.		Ossining, N. Y.
Northrup, Edwin S.	*I. E.	E., State Architect's Office.	Albany, N. Y.
Northumberland County Gas & Elec Co.	Pa.	S., G. W. Beck	Sunbury, Pa.
Northup, C. S.	Nat. G.	Attorney, Northwestern Ohio Natural Gas Co.	
Northwest Gas Equipment Co.	*P. C.	Sales Agt.	Spitzer Bldg., Toledo, O.
Northwestern Ohio Natural Gas Co.	O.		Portland, Ore.
Norton, Arthur E.	*A.; *N. E.		Toledo, O.
Norton, Charles L.	Nat. C.	A. E., Nathaniel Tufts Meter Works.	Boston, Mass.
Norton, Chas. J.	Nat. G.	G. R., Ohio State Telephone Co.	Columbus, Ohio
Norton, Harry A.	Nat. C.		Trenton, N. J.
	*A.; *G. G. M.; N. E.	M., Nathaniel Tufts Meter Works.	Boston, Mass.
Norton, P. T.	N. E.	A. S., Nashua Light, Heat & Pwr. Co.	Nashua, N. H.
Norton, W. C.	*N. E.; Nat. C.	S. dis., Gas Co.	Salem, Mass.
*Norton, Walter F.	A.; G. G. M.; N. E.; Nat. C.	S. g. Dept., Nashua L., H. & P. Co.	Nashua, N. H.
Norton, William J.	*I. E.; A.	Norton & Bird	111 W. Monroe St., Chicago,
Norwich Gas & Electric Co.	Emp.		Norwich, N. Y.
Novak, Frank V.	Ace.		824 E 161st St., New York.
Nowlin, Russell H.	*Ill.	Sals. M., Humphrey Water Heater Co.	Chicago, Ill.
Noyes, H. L.	Ace.	Union Carbide Sales Co.	Niagara Falls, N. Y.
Noyes, J. Wallace.	Nat. C.	Public Service Gas Co.	Kansas City, Mo.
Nunn Electric Co.	Okla.; So. W.		Amarillo, Tex.
Nusbaum, Horace	*I. E.	Beacon Light Co.	Chester, Pa.
*Nute, Joseph E.	A.; G. G. M.; N. E.; Nat. C.	M., Fall River Gas Works Co.	Fall River, Mass.
Nutt, E. Burt	Nat. G.	Aud., Peoples Natural Gas Co.	Pittsburgh, Pa.
Nuttall, John T.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Nutting, Dr. P. G.	I. E.	Dir., Westinghouse Research Lab.	E. Pittsburgh, Pa.
Nutty, G. R.	*A.; *I. E.	V. P., Gulf Refining Co.	Pittsburg, Pa.
Nye, H. G.	*Ill.	Nye Tool & Machine Works.	108 N. Jefferson St., Chicago.
Oakes, W. L.	Nat. G.	Teller, East Ohio Gas Co.	Cleveland, O.
Oberfell, Geo. G.	Nat. G.	Ch., Ohio Fuel Supply Co.	Homer, Ohio
Obermeyer, R. D.	Kan.	Sals., General Electric Co.	Kansas City, Mo.
O'Brien, T. F.	Nat. G.	S., The Texas Co.	Shreveport, La.
O'Brien, A. J.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
*O'Brien, B.	*Ill.	Sals. Agt., Connersville Blower Co.	Chicago, Ill.
O'Brien, F. J.	Kan.	Sals., Sangamon Elec. Co.	Springfield, Ill.
O'Brien, Harry D.	Nat. C.	Fulton County Gas & Elec. Co.	Gloversville, N. Y.
O'Brien, John, Boiler Works	Mo.		St. Louis, Mo.
O'Brien, M. J.	Nat. C.		303 N. Mallory, Phoebus, Va.
O'Brien, Thos. F.	Nat. G.	Agt., United Fuel Gas Co.	Spencer, W. Va.
O'Brien, W. J.	Ark.	G. M., Helena Gas & El. Co.	Helena, Ark.
O'Brien, W. T.	Ace.	Alex. Milburn Co.	Baltimore, Md.
O'Brien, William	Nat. G.	P., O'Brien Construction Co.	Washington, Pa.
O'Brien, Wm. F.	Nat. C.	Standard Gas Light Co.	New York, N. Y.
O'Connell, John	A.	G. Fm. of g. making, Consolidated Gas Co.	501 E. 21st St., New York.
O'Conner, F. B.	Ace.	Union Carbide Sales Co.	Chicago, Ill.
O'Conner, T. M.	Nat. G.	Fm., East Ohio Gas Co.	Cleveland, O.
O'Day, John J.	Nat. G.	Agt., The Mfrs. Light & Heat Co.	Coraopolis, Pa.
Odell, T. J.	Nat. C.		Nyack, N. Y.
Odenkirk, H. B.	Nat. G.		Wooster, Ohio
O'Donnell, Arthur F.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
O'Donnell, C. W.	Nat. G.	R., Equitable Meter Co.	Pittsburg, Pa.
O'Donnell, Charles J.	A.	A. to E., of Tests, The United Gas Improvement Co.	Philadelphia, Pa.
O'Donnell, Jas. J.	Nat. C.	Citizens Gas Lt. Co.	Quincy, Mass.
O'Donnell, J. L.	Nat. G.	The Hanna Oil Co.	Tulsa, Okla.
O'Donnell, Mary E.	Nat. C.	with Alfred Gratz.	Philadelphia, Pa.
O'Donnell, Wm. F.	Nat. C.	Adv. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Odrich, Erich	A.	E. and M., Manila Gas Corporation.	Manila, P. I.
Offutt, Hyman	Ace.	Model Generator Co.	Louisville, Ky.
Offutt, M. Webb.	A.	Care Engineers' Club.	32 W. 40th St., New York.
Ogden, L. E.	Nat. C.; Ace.	Oxweld Acetylene Co.	Newark, N. J.
O'Hara, Charles	Nat. G.	Field Clk., The Mfrs. Lt. & Heat Co.	Waynesburg, Pa.
O'Hara, Frank J. E.	Mich.; Nat. C.	Cash., Port Huron Gas Co.	Port Huron, Mich.
O'Hara, Lawrence	Nat. G.	Field Fm., The Mfrs. Lt. & Heat Co.	Waynesburg, Pa.
Ohio Brass Co.	So. W.; Mo.; Okla.		Mansfield, O.
Ohio Fuel Supply Co.	O.		Columbus, O.
Ohio Union Oil-Gas Co.	O.		Danville, O.
Ohmer Fare Register Co.	Okla.; So. W.		Dayton, Ohio.
Oil City Boiler Works	N. G. S.		Oil City, Pa.
Oil & Gas Journal	N. G. S.		Tulsa, Okla.
Oil Trade Journal	N. G. S.		Houston, Tex.
Oil Well Supply Co.	N. G. S.		Pittsburg, Pa.
Okamoto, Sakura	A.	Chf. E. and M., Nagoya Gas Co.	Nagoya, Japan.
Okawara, Einosuke	Nat. C.	Tokio Gas Co.	Tokio, Japan.
O'Keefe, James Garwood.	*A.	Market St. Works, Public Service Gas Co.	Trenton, N. J.
Okie, Geo. M.	*I. E.	Sals., Macbeth Evans Glass Co.	New York, N. Y.
Oklahoma Elec. Supply Co.	Okla.		Oklahoma City, Okla.
Oklahoma Gas & Electric Co.	Okla.		Oklahoma City, Okla.



Leather, poppet and mechanically operated valves in your compressor units are everlastingly wasteful. Stop this waste by replacing them with MESTA AUTOMATIC PLATE VALVES (Iversen Patent). Write for Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Oklahoma Ry. Co.	Okla.		Oklahoma City, Okla.
Okmulgee Ice & Lt. Co.	Okla.		Okmulgee, Okla.
Old Colony Gas Co.	Nat. C.	S. Geo. P. Smith	East Braintree, Mass.
Oldham, C. D.	Mo.	Of. M., Columbia Incorporated Lamp Co.	St. Louis, Mo.
Olds, Howard L.	A.; Ind.; Mich.	G. M., Twin State Gas & El. Co.	Brattleboro, Vt.
O'Leary, Dennis	Nat. G.	Chf. E., Penna. Gas Co.	Ludlow, Pa.
O'Leary, J. J.	I. E.	P., Buffalo Electric Cont. Co.	Buffalo, N. Y.
Oliphant, B. C.	Nat. G.	P., Iroquois Natural Gas Co.	Buffalo, N. Y.
Oliphant, P. H.	Nat. G.	A. E., Iroquois Nat. Gas Co.	Buffalo, N. Y.
Oliver, C. E.	Nat. G.	United Natural Gas Co.	Oil City, Pa.
Oliver, Eugene	Nat. C.	Pub. Service Gas Co.	Newark, N. J.
Olmstead, George G.	A.	V. P., Knoxville (Tenn.) Gas Co.	105 So. La Salle St., Chicago.
Olmstead, J. F.	Nat. G.	Agt., Logan Natural Gas & Fuel Co.	Columbus, O.
Olney, Geo. L.	Nat. G.	S. Bldg. Constr., E. Ohio Gas Co.	Cleveland, O.
O'Loughlin, Charles L.	*N. E.	S., St. Johnsbury Gas Co.	St. Johnsbury, Vt.
Olsen, Edward	A.	S. Mfr., Benton Harbor-St. Joseph Gas & Fuel Co.	Benton Harbor, Mich.
Olsen, Edward	Ind.	S., Central Indiana Gas Co.	Muncie, Ind.
Olson, Bernard	Nat. C.	Peoples Gas Light & Coke Co.	3700 Marshfield Ave., Chicago.
O'Neal, F. L.	Ark.	S., Fayetteville Gas & Elec. Co.	Fayetteville, Ark.
O'Neil, Charles	Nat. G.	S., Webb City-Carterville Gas Co.	Webb City, Mo.
O'Neil, W. E.	Nat. C.	S., Webb City-Carterville Gas Co.	Norwich, N. Y.
Oneonta Light & Power Co.	Emp.		Oneonta, N. Y.
Onken, Wm. H., Jr.	I. E.	Ed., Electrical World.	New York, N. Y.
Ontario Upland Gas Co.	*P. C.		Ontario, Cal.
Orange County Ltg. Co.	Emp.		Middletown, N. Y.
Orange Ice, Light & Water Co.	So. W.		Orange, Tex.
Orbin, Frank	*I. E.	Pur. Agt., Carnegie Inst. of Tech.	Pittsburg, Pa.
Oregon Power Co.	*P. C.		Eugene, Ore.
Organ, S. L.	Kan.	Sals., Johns-Manville Co.	Topeka, Kan.
Oriental Oil Co.	So. W.		Dallas, Tex.
Oristadt, Carl	Ind.	Local M., Indiana Fuel & Light Co.	Kendallville, Ind.
Orman, David L.	Nat. C.		84 Sherman St., Passaic, N. J.
Oronogo Gas Co.	Mo.		Box 405, Joplin, Mo.
O'Rourke, W. J.	Sou.	S., Central Indiana Gas Co.	Muncie, Ind.
Orpin, Charles H.	Nat. C.	Solic., Sioux City Gas & Electric Co.	Sioux City, Ia.
Orr, J. H.	Nat. C.	Cape May Illuminating.	Cape May, N. J.
Orr, William Johnston	*I. E.	Sals., Canadian Westinghouse Co., Ltd.	Toronto, Ont. Cana.
Orrell, E. E., Jr.	Nat. C.		Newton Centre, Mass.
Orrell, E. S.	*N. E.	Sals., Welsbach Co.	Boston, Mass.
Osborn, Arthur H.	N. J.	Coast Gas Co.	Belmar, N. J.
*Osborn, C. G.	*Ind.	G. M., Maxon Premix Burner Co.	Muncie, Ind.
Osborn, Frederick A.	I. E.	Prof. of Physics, University of Washington	Seattle, Wash.
Osborn, M. C.	P. C.	care Washington Water Power Co.	Spokane, Wash.
Osborn, Norris W.	Pa.; P. C.	g. E.	339 Winthrop Ave., New Haven, Conn.
Osborne, George C.	*I. E.; Mo.	A. to M. of Lamp Sales, General Electric Co.	Harrison, N. J.
Osborne, L. A.	I. E.	V. P., Westinghouse El. & Mfg. Co.	New York, N. Y.
Osborne, R.	*N. E.	American Brass & Copper Co.	Boston, Mass.
Osborne, W. J.	Nat. C.	M., Winnipeg Electric Co. gas dept.	Winnipeg, Man., Can.
Osborne, Willard B.	A.; N. E.	P. & G. M., Worcester Gas Light Co.	Worcester, Mass.
Osbourne, E. M.	Sou.	M., Talladega Lt. & Wr. Commission.	Talladega, Ala.
Osburn, C. W.	Nat. C.		235 Butternut St., Abilene, Tex.
Osceola Light & Water Co.	Mo.		Osceola, Mo.
O'Shea, Benjamin	Ace.	c/o Union Carbide Sales Co.	New York.
O'Shea, Jas. P.	I. E.	Gen. Sals. Agt., Cooper-Hewitt Electric Co.	Hoboken, N. J.
Oshima, Hiroyoshi	*I. E.		140 Oharada, Sumiyoshi-Mura, Muko Gori Hyogo-Ken, Japan.
Osius, George	*A.; Can.; *Mich.; *Wis.	Sec. & T., Michigan Ammonia Works.	Detroit, Mich.
Osler, Hubert	Can.	S., Sta. B., La Salle Plant Civic Investment & Industrial Co.	Montreal, Que. Can.
Ossenbeck, Fred J.	Nat. G.	Contractor, Ardizzone Co.	Tulsa, Okla.
Ostby, Oscar F.	Ace.	c/o Commercial Acetylene Co.	80 Broadway, New York, N. Y.
Oster, E. A.	*Ind.	Dist. Sals. M., Pittsburg Wtr. Htr. Co.	Indianapolis, Ind.
Osterhoudt, J. P.	Nat. C.	Welsbach Gas Lamp Co.	New York, N. Y.
Osterhoudt, S. H.	Nat. C.	Rome Gas, Elec. Lt. & Pr. Co.	Rome, N. Y.
Ostermaier, John	Nat. G.	Dist. Fm., Equitable Gas Co.	Pittsburgh, Pa.
Osthoff, Otto E.	A.	V. P. & Chf. E., H. M. Byllesby & Co.	Chicago, Ill.
Ostrye, Peter L.	Nat. G.	S. met dept., East Ohio Gas Co.	Cleveland, O.
Oswald, E. F.	P. C.	M., Palo Alto Gas Co.	Palo Alto, Cal.
Oswald, E. H.	Nat. C.	G. Sals. Agt., Ruud Mfg. Co.	New York, N. Y.
Oswald, Harry	Nat. C.	Sals., Public Service Gas Co.	Newark, N. J.
Otis, G. A., Jr.	Nat. C.	Lawrence Gas Co.	Lawrence, Mass.
O'Toole, John L.	Nat. C.	Pub. Dept., Public Service Corp. of N. J.	Newark, N. J.
Ott, J. M.	P. C.	M., Imperial Valley Gas Co.	El Centro, Cal.
Ottawa Gas Co.	Nat. C.		Ottawa, Ont., Canada
Otten, Charles, Jr.	A.; Nat. C.; N. E.	Pawtucket Gas Co.	Pawtucket, R. I.
Otterbein, E. J.	Ia.	Dist. M., Cedar Rapids Gas Co.	Marion, Ia.
Ottinger, F.	Ace.		380 2d Ave., New York City.
Otto, G. M.	Ace.		Oak Lawn, Ill.
Ottumwa Gas Co.	Nat. C.		Ottumwa, Iowa.
Outzen, A. N.	Emp.	Binghamton Gas Works.	Binghamton, N. Y.



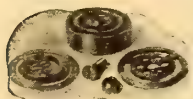
MESTA AUTOMATIC PLATE VALVES (Iversen Patent).
can be adapted to any make of gas-compressing cylinders. A few of these adaptations are described in our Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Overley, M. C.	Nat. C.	Syracuse Lighting Co.	Syracuse, N. Y.
Overman, Harry	Nat. C.	Public Service Gas Co.	Newark, N. J.
Overton, E. L.	Kan.	M. Overton Mfg. & Engineering Co.	Topeka, Kan.
Overton, Paul	P. C.	A. G. Coun., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Oviatt, J. E.	*Ind.	Sals., Detroit Stove Works.	Indianapolis, Ind.
Ovid Elec. Co.	Emp.		Trumansburg, N. Y.
Ovitz, Frank K.	Ill.	Chem., Bureau of Mines.	Urbana, Ill.
Owego Gas Light Co.	Emp.		Owego, N. Y.
Owen, Walter	N. J.	Millville Gas Light Co.	Millville, N. J.
Owens, Charles	Nat. G.	Dist. Fm., Am. Natural Gas Co.	Vandergrift, Pa.
Owens, Daniel W.	Ind.	Sals., Gas & Fuel Co.	Elkhart, Ind.
Owens, H. G.	Ind.	Div. M., Central Indiana Gas Co.	Martinsville, Ind.
Owens, H. Thurston	I. E.; N. J.		51 E. 42d St., New York, N. Y.
Owens, J. H.	Ill.	S. Elgin Works, Western United Gas & Electric Co.	Elgin, Ill.
Oxenstierna, G.	Ace.	American Gas Accumulator Co.	Philadelphia, Pa.
Oxford, O. H.	Nat. C.	Easton Gas Works.	Easton, Pa.
Oxweld Acetylene Co.	N. G. S.		Chicago, Ill.
Pace, H. M.	Sou.	Stkp., Charleston Con. Ry. & Lt. Co.	Charleston, S. C.
Pacific Gas & Elec. Co.	*P. C.		Phoenix, Ariz.
Pacific Hardware & Steel Co.	*P. C.		San Francisco, Cal.
Pacific Power & Light Co.	Nat. C.	(All branches)	Main office, Portland, Ore.
Packard, S. L.	N. E.	S., York Fuel & Light Co.	York, Me.
Packer, Frank C.	P. C.		\$63 Mission St., San Francisco
Packer, Robert B. S.	Nat. C.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Paffen, Peter	*N. E.	A. E. g. dept., Chas. H. Tenney & Co.	Boston, Mass.
Page, A. D.	I. E.	M. Incandescent Lamp Sales, General Electric Co.	Harrison, N. J.
Page, Edward	Nat. C.; *N. E.		
Page, H.	*A.	Boston Consol. Gas Co.	Boston, Mass.
Page, Howard E.	Nat. C.	Boston Cons. Gas Co.	Boston, Mass.
Paige, Clifford E.	*I. E.	G. M., Gen. Elec. Corp. of China.	Shanghai, China.
Painter, Jay C.	A.	M., Malden & Melrose Gas Co.	Malden, Mass.
Painter, Jay C.	Nat. G.	Cash., Okla. Nat. Gas Co.	Tulsa, Okla.
Palm, C. J.	Nat. G.	S., Lease Dept., Logan Natural Gas & Fuel Co.	Columbus, O.
Palmer, A. J.	A.	S. of Wks., Bridgeport Gas Co.	Bridgeport, Conn.
Palmer, Alva L.	*A.; Nat. C.	E. A., Dept. of Utilization, Consolidated Gas Co.	New York, N. Y.
Palmer, Briggs S.	*I. E.	P., John W. Sanborn Co.	149 Tremont St., Boston, Mass.
Palmer, E. C.	*Pa.	Com. M., Lebanon Gas & Fuel Co.	Lebanon, Pa.
Palmer, E. H.	A.; Emp.	Empire Gas & Electric Co.	Geneva, N. Y.
Palmer, H. C.	A.; I. E.	E., Buffalo Gas Co.	Buffalo, N. Y.
Palmer, H. O.	Emp.	Empire Gas & El. Co.	Geneva, N. Y.
Palmer, I. W.	Nat. C.		New York, N. Y.
Palmer, J. F.	Nat. G.	S., Ark. Natural Gas Co.	Shreveport, La.
Palmer, J. S.	Sou.	M., Concord Gas Co.	Concord, N. C.
Palmer, Ray	I. E.	P., N. Y. & Queens Elec. Lt. & Fr. Co.	Long Island City, N. Y.
Palmer, Robert H.	Nat. C.	Westchester Lighting Co.	Portchester, N. Y.
Palmer, S. B.	Nat. C.; *N. E.		105 Central Ave., Hyde Park, Mass.
Palmer, S. J.	Ill.	Aud., Public Service Co. of No. Ill.	Chicago, Ill.
Palmer, W. M.	Nat. G.	Dis. S., Caddo div., Southwestern Gas & El. Co.	116 Texas St., Shreveport, La.
Palo Alto Gas Co.	*P. C.		Palo Alto, Cal.
Pantasote Co., The	So. W.		New York, N. Y.
*Pape, W. F.	P. C.	Cadet E., g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
Papes, John H.	P. C.	Asst. Mgr., Pac. Gas & Elec. Co.	Berkeley, Cal.
Papst, H. M.	A.; Nat. C.; P. C.	E. Gas Dept., Portland Gas & Ck. Co.	Portland, Ore.
Pard, W., Jr.	Nat. C.	Central Union Gas Co.	New York, N. Y.
Parcher, H. F.	*N. E.	Appl. M., Springfield Gas Light Co.	Springfield, Mass.
Paris, A. J., Jr.	Nat. G.	G. E., Natural Gas Products Co.	Bradford, Pa.
Parish, William H.	*A.	Sals. E., Westmoreland Coal Co.	Philadelphia, Pa.
Park, Fred. E.	A.		307 E. Church St., Adrian, Mich.
Parker, C. E.	Nat. C.	Solic., Public Service Co. of No. Ill.	Plainfield, N. J.
Parker, Edwin S.	*I. E.	M., Com. Dept., Pettingell Andrews Co.	Boston, Mass.
Parker, Frank H.	A.; N. E.	M., Burlington Light & Power Co.	Burlington, Vt.
*Parker, Geo. Sims	*I. E.	A. S., of Penn Hospital.	Philadelphia, Pa.
Parker, George W.	*A.; Can.; Mich.; *Wis.		
Parker, John F.	Nat. C.; *Ill.; *Ind.; *Ia.; Nat. G.; *Wis.; Sou.	V. P. G. M., Russell Engineering Co.	519 International Life Bldg., St. Louis, Mo.
Parker, Joseph Smith	A.; *I. E.; Nat. C. S.	Western Sals. M., Eclipse Gas Stove Co.	Rockford, Ill.
Parker, Leonard J.	N. E.	E., Providence Gas Co.	Philadelphia, Pa.
Parker, Robert B.	*I. E.	A. M. Lamp Sales, General Elec. Co.	Providence, R. I.
Parker-Russell Mining & Mfg. Co.	Mo.; G. I.		Harrison, N. J.
Parker, Wm. B.	*Wis.	Sals., Alston Lucas Paint Co.	St. Louis, Mo.
Parkersburg Machine Co.	N. G. S.		Chicago, Ill.
Parkersburg Rig & Reel Co.	N. G. S.		Parkersburg, W. Va.



The soundness of replacing your old gas and gasoline Compressor valves with MESTA AUTOMATIC PLATE VALVES (Iversen Patent) is attested to by the large number of these valves that are now being sold for this purpose. Write for Bulletin "D."

RESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

863

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Parkhill, Benj. F.	*Ia.	Sals., Peninsular Stove Co.	Davenport, Ia.
Parkhurst, Geo. W.	I. E.; Nat. C.		
Parks, R. N.	A.	Sec. N. Y. Mutual Gas Light Co.	New York, N. Y.
Parr, Adrian T.	Nat. G.	E., Meter dept., United Fuel Gas Co.	Quarrier St., Charleston, W. Va.
*Parr, D. J.	Nat. G.	Safety Insp., Henry L. Doherty & Co.	Wooster, O.
Parr, S. W.	N. G. E.	Sals., The Dayton Natural Gas Co.	Dayton, Ohio
Parks, T. B.	Ill.	Prof. of Ch., University of Ill.	Urbana, Ill.
	P. C.	Pur. Agt., Los Angeles Gas & El.	
		Corp.	Los Angeles, Cal.
Parratt, Alfred P.	P. C.	Pacific Gas & Electric Co.	Oakland, Cal.
Parshall, A.	A.	Con. E., c/o N. Y. Athletic Club.	Central Park S., New York.
Parshall, V. V.	Ill.	S. dist., Public Service Co. of No. Ill.	Pontiac, Ill.
Parsons, Edgerton	*Emp.		New York, N. Y.
Patrick, J. S.	Nat. C.	G. S. Blodgett Co.	Burlington, Vt.
Partridge, Warren	A.; Pa.	G. M., Penn. Public Service Co.	Clearfield, Pa.
Patterson, A. B.	Sou.; A.		209 Henan Bldg., New Orleans, La.
Patterson, E. M.	Nat. C.	Consumers Gas Co.	Toronto, Ont., Canada
Patrick, R. L.	*Ill.	T., G. S. Blodgett Co.	Burlington, Vt.
Patt, Everitt I.	N. E.; A.	S., Pawtucket Gas Co.	Pawtucket, R. I.
Patten, J. A.	Ind.; A.; Wis.	G. M., Elkhart Gas & Fuel Co.	Elkhart, Ind.
Patterson, A. B.	Nat. G.	M., N. Y. Belting & Packing Co.	Pittsburg, Pa.
Patterson, Alfred R.	*A.	Aud., Stone & Webster Mgmt Assn.	Boston, Mass.
Patterson, Fred'k H.	A.	A. Aud., Rochester Ry. & Light Co.	Rochester, N. Y.
Patterson, George W.	*I. E.	Prof. of El. E., University of Mich.	Ann Arbor, Mich.
Patterson, J. H.	Ark.	M., Municipal Water & Light Plant.	Search, Ark.
Patterson, Robert B.	I. E.	S. of Lamps & Ltg., Potomac Electric Power Co.	213 Fourteenth St., N. W., Washington, D. C.
Patterson, William M.	Nat. G.	Sals., Frick & Lindsay Co.	Pittsburg, Pa.
Pattinson, R. L.	Nat. G.	P., Medina Natural Gas Co.	Chatham, Ont., Can.
Pattison, Melvin	*A.	G. M. of Sales, Brown Hoisting Machine Co.	Cleveland, Ohio.
Patton, John A.	Ind.	G. M., Gas & Fuel Co.	Elkhart, Ind.
Paul, Norman S.	*Ind.	Sals., Hammond Coupler Co.	Mt. Vernon, O.
Paul Smith's Electric Lt.			
Pwr. & R. R. Co.	Emp.		Paul Smith's, N. Y.
Pawling, E. M.	Nat. C.	Public Service Gas Co.	Hoboken, N. J.
Pawtucket Gas Co.	Nat. C.		Pawtucket, R. I.
Payne, A. I.	A.; Nat. G.	Con. E.	Box 571, Calgary, Alberta, Can.
Payne, C.	Nat. G.	Attorney & Sec., Peoples Natural Gas Co.	424 6th Ave., Pittsburgh, Pa.
Payne, F. H.	*A.; Can.; Nat. G.		
Payne, Golden	Ace.	M., Metric Metal Works.	Erle, Pa.
Payne, T. P., Jr.	Nat. C.	Jenne Acetylene Gas Machine Co.	Newcastle, Ind.
Peabody Light & Pwr. Co.	Kan.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Pearce, W. C.	Emp.	Syracuse Lighting Co.	Peabody, Kan.
Pearce, William Faulkner	*Ia.	Care United Gas Imp. Co.	Syracuse, N. Y.
Pearl, Allen S.	*I. E.	Sec. & T., Delta Star Electric Co.	1401 Arch St., Phila., Pa.
Pearsall, Geo. M.	*I. E.		Chicago, Ill.
			86 Woodruff Ave., Brooklyn, N. Y.
Pearse, Geo. F.	Nat. C.	Seattle Lighting Co.	Seattle, Wash.
Pearson, Albert L.	*I. E.	El. E.	West Somerville, Mass.
Pearson, C. A.	Nat. G.	Master Mech., United Nat. Gas Co.	Oil City, Pa.
Pearson, George S.	Nat. C.	Davis-Bourneville Co.	Seattle, Wash.
Pearson, H. B.	Nat. G.	G. S., The Canadian Western Natural Gas Lt., Heat & Power Co. Ltd.	Calgary, Alberta, Can.
Pearson, J. A.	A.; *I. E.	Pur. Agt., United Gas Imp. Co.	Philadelphia, Pa.
Pearson, Theo. L.	N. E.		Charlestown, Mass.
Pearson, W. H.	A.	Economical Gas Apparatus & Const. Co.	Toronto, Ont., Can.
Pease, Luther M.	Nat. C.; A.; N. E.		
Pease, M. T.	*N. E.; Nat. C.	A. S. New Bedford Gas & Ed. Lt. Co.	New Bedford, Mass.
*Peaslee, W. Dhu Aine	I. E.; Nat. C.	M. Ruud Mfg. Co.	Boston, Mass.
Peck, E. L.	*I. E.	E. Oregon Agric. Col.	Corvallis, Oregon
Peck, Eugene H.	*I. E.	Insp. Electrical Testing Laboratories.	New York, N. Y.
Peck, Harry G.	N. J.; *A.	M., Phoenix Glass Co.	New York, N. Y.
Peck, Henry W.	A.; Emp.; Nat. C.	Sals., The Lovekin Co.	Philadelphia, Pa.
Peck, John V.	Nat. C.	V. P. & G. M., Mohawk Gas Co.	Schenectady, N. Y.
Peck, Warren D.	*Pa.; N. J.	Michigan Stove Co.	Newton Highlands, Mass.
Peddicord, H. L.	Nat. C.		Detroit, Mich.
Peddicord, T. B.	Nat. G.	Agt., Pittsburgh & W. Va. Gas Co.	Darby, Pa.
			Union National Bk. Bldg., Clarkesburg, W. Va.
Peddle, H. G.	N. J.		Nyack, N. Y.
Peden, H. L.	*Ia.	A. S. Dis. Dept., Consolidated Gas Co.	New York, N. Y.
Peden Iron & Steel Co.	So. W.		Houston, Tex.
Pederson, B. S.	Nat. C.; P. C.		86 3d St., San Francisco, Cal.
Pedrick, Howard A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Peebles, E. C.	Nat. C.; N. E.		
	A.; Emp.	M. g. div., Rockland Lt. & Pr. Co.	Nyack, N. Y.
Peekskill Ltg. & R. R. Co.	Emp.; Nat. C.		Peekskill, N. Y.
Peerless Heater Co.	N. G. S.		Pittsburgh, Pa.
Peffly, Irvin W.	*A.; Nat. C.	Sals. Aot. Geo. M. Clark Co. Div., Am. Stove Co.	1493 Bway, New York, N. Y.
Pelling, E. S.	*I. E.	Philadelpha Electric Co.	Philadelpha, Pa.
Pelton, Bert F.	A.	S. g. Dis., St. Paul Gas Light Co.	St. Paul, Minn.
Pelton, E. W.	*I. E.	S. Power, The Stanley Works.	New Britain, Conn.
Pembleton, F. D.	*I. E.	N. B. Dept., Public Service Elec. Co.	Newark, N. J.
Penhale, J. W.	Nat. G.	S., United Fuel Gas Co.	Quarrier St., Charleston, W. Va.
Peninsular Stove Co.	Nat. C.		Detroit, Mich.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent) have proved to be the ideal valves for blowing and compressing units. They are rapidly replacing the old leather, poppet and mechanically operated valves. Bulletin "D" describes these valves in detail.

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Penn Central Light, Heat & Power Co.	Pa.		Lewiston, Pa.
Penn Pub. Service Co.	Pa.		Cleardale, Pa.
Penn Yan Gas Light Co.	Emp.		Penn Yan, N. Y.
Peunoyer, C. H.	P. C.		639 Mission St., San Francisco.
Pennsylvania Furnace & Stove Co.	N. G. S.		Warren, Pa.
Pennsylvania Ltg. Co.	Pa.	G. M., J. A. Britton	Shamokin, Pa.
Pennsylvania Steel Co.	So. W.		Steelton, Pa.
Peoples Gas & Electric Co. of Oswego	Emp.		Oswego, N. Y.
Peoples Gas & Electric Co.	Nat. C.		Mason City, Ia.
Peoples Light Co.	Nat. C.		Davenport, Ia.
Pepper, C. A.	Wis.		Sheboygan, Wis.
Pepper, H. J.	Ill.	G. S., Urbana & Champaign Railway, Gas & Electric Co.	Champaign, Ill.
Perdue, J. L.	Nat. G.	S., United Fuel Gas Co.	Charleston, W. Va.
Peterson, J. W.	Sou.	S., St. Petersburg Gas Co.	St. Petersburg, Fla.
Perkins, J. A.	Nat. C.	G. M., Lockport Lt., Ht. & Pr. Co.	Lockport, N. Y.
Perkins, Jay Hugh	A.	Con. El. E., United Gas & El. Corp.	New York, N. Y.
Perkins, Matthew F.	I. A.; *I. E.	Chf. Canv., United Gas Imp't Co.	Philadelphia, Pa.
Perkins, Rowan P.	*A.	Con. E., United Gas Imp't Co.	Philadelphia, Pa.
Perkins, R. W.	N. E.	A. M., Havenhill Gas Light Co.	Woonsocket, R. I.
Permian Oil & Gas Co.	O.		Marietta, O.
Perretti, Amato	Nat. C.		683 E. 133d St., New York.
Perrot, Emile G.	*I. E.	Architect & E., Ballinger & Perrot.	Philadelphia, Pa.
Perry, Allen M.	*I. E.	E. Ed. Electrical World.	New York, N. Y.
Perry, A. T.	*A.	V. P., Barrett Mfg. Co.	Cleveland, Ohio.
Perry County Public Utilities Co.	Mo.		St. Louis, Mo.
Perry, E. R.	Nat. G.	Cosden Oil & Gas Co.	Tulsa, Okla.
Perry, J. S.	Nat. G.	G. Producer.	Brighton Hotel, Washington, D. C.
Perry, J. V.	Sou.	S., Danville Gas Works.	Danville, Va.
Perry, Joseph A.	A.; *I. E.	E., United Gas Improvement Co.	Philadelphia, Pa.
Perry Light & Water Plant	Okla.		Perry, Okla.
Peru Gas Co.	Nat. C.		Peru, Ind.
Petaluma Dist. Pacific Gas & Electric Co.	*P. C.		Minn.
Petch, Thomas D.	P. C.		Petaluma, Cal.
Peters, Thos. W.	Sou.	Com. Agt., Gas Lt. Co. of Columbus.	2538 Ellsworth St., Berkeley, Cal.
Peterson, C. G.	Nat. C.	Providence Gas Co.	Columbus, Ga.
Peterson, Clarence A.	*I. E.	Super. Architects Office, Treas. Dept.	62 Weybosset St., Providence.
Pettes, W. H.	A.; Nat. C.; N. J.	G. Aud., Public Service Gas Co.	Washington, D. C.
Pettingell, Andrew F.	Nat. C.	Cambridge Gas Light Co.	Newark, N. J.
Pettingell, H. J.	Nat. C.	Blackstone Valley Gas & Elec. Co.	Cambridge, Mass.
Petty, Fred G.	Ind.	M., Northern Ind. Gas & El. Co.	Woonsocket, R. I.
Petty, John P.	N. J.; A.		Frankfort, Ind.
Petura, Frank J.	Can.	City E., c/o Doherty Operating Co.	790 Broad St., Newark, N. J.
Pew, James G.	Nat. G.	S., The Peoples Natural Gas Co.	New York, N. Y.
Pew, John G.	Nat. G.	V. P., Hope Natural Gas Co.	Pittsburgh, Pa.
Pfeifer, A. S.	Nat. G.	Field S., Am. Natural Gas Co.	Pittsburg, Pa.
*Pfeifer, Bernard V.	I. A.	S. of Mfg Nashville Gas & Heating Co.	Evans City, Pa.
Pfister, Charles F.	Wis.	V. P., Wisconsin Gas & El. Co.	Nashville, Tenn.
*Phelps, Nelson Gordon	Nat. C.	Laclede Gas Light Co.	Milwaukee, Wis.
Phenicie, C. R.	Wis.; Nat. C.	G. S., Wisconsin Public Service Co.	St. Louis, Mo.
Philadelphia Gas Works	Nat. C.		Green Bay, Wis.
Philadelphia Stove Co.	Nat. C.		Philadelphia, Pa.
Philadelphia Suburban Gas & Electric Co.	Nat. C.; Pa.		Philadelphia, Pa.
Philbrick, Joseph E.	N. E.	c/o New England Mfg. Co.	Jenkintown, Pa.
Philbrook, Geo. A.	N. E.	M. & S., Middleboro Gas & El. Plant.	North Woburn, Mass.
Philip, E. J.	Can.	Brockville Lt. Commrs.	Middleboro, Mass.
Philler, Geo.	Nat. C.		Brockville, Ont., Can.
Phillips, C. C.	Nat. G.	Chf. Clk., Ohio Fuel Supply Co.	228 S. Broad St., Philadelphia
Phillips, C. S.	Nat. C.	Omaha Gas Co.	52 W. Gay St., Columbus, O.
Phillips, Chas. T.	*I. E.	Con. E.	Omaha, Neb.
Phillips, D. H.	Nat. G.	Ag't., Potter Gas Co.	Pacific Bldg., San Francisco.
Phillips, Henry T.	Nat. G.	Gas Magazine Service Pub. Co.	Port Allegheny, Pa.
Phillips, John	Nat. G.	E., The Mfrs. Light & Heat Co.	Columbus, O.
Phillips, John F.	Nat. G.	Fairmont Gas & Light Co.	Porter's Falls, W. Va.
Phillips, R. E.	Nat. C.	Sec. & T., Lincoln Gas & Electric Lt. Co.	Fairmont, W. Va.
Phillips, Wilford	Can.	G. M., Winnipeg El. Ry. & Gas Co.	Lincoln, Neb.
Phillips, William N.	P. C.	S., Reno Power & Light Co.	Winnipeg, Man., Can.
Philpotts, W. Chas.	Can.	Ch., Consumers' Gas Co.	Reno, Nev.
Phoenix Glass Co.	*P. C.; Nat. C.		Toronto, Ont., Can.
Piatt, Joseph W.	Nat. G.	Sales., Wm. Crane Co.	New York, N. Y.
Picardo, Ramon, M.	*I. E.	E., Cartago Elec. Lt. Co.	New York, N. Y.
Pick, Earle	Nat. G.	Ag't., The Peoples Natural Gas Co.	Cartago, Costa, Rica. C. A.
Pickard, B. F.	Sou.	N. B. M., North Carolina Public Service Co.	Greensburg, Pa.
Pickens, Geo. A.	Ace.	Free Lt. Acetylene Gen. & Mfg. Co.	Greensboro, N. C.
Pickhardt, Henry	*I. E.	Sales Agt., Lighting Specialties.	Marysville, Mo.
Pickron, Mrs. Clara M.	Sou.	M. g. dept.	98 Park Pl., New York, N. Y.
Pierce-Fordyce Oil Assn.	So. W.		Albany, Ga.
Pierce Oil Corp.	Mo.; Okla.		Dallas, Tex.
Pierce, R. C.	Tex.		St. Louis, Mo., and Okla. City.
Pierce, Robert F.	Nat. C.; *Mich.; I. E.; Pa.; N. J.; Sou.; *Ind.; I. A.		Dallas, Texas
		M., Ill. E. Laboratories Welsbach Co.	Gloucester, N. J.



MESTA AUTOMATIC PLATE VALVES (Iversen Patent)
 can be adapted to any make of gas-compressing cylinders. A few
 of these adaptations are described in our Bulletin "D."

MESTA MACHINE COMPANY

PITTSBURGH, PA.

ASSOCIATION MEMBERS

865

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Pierron, William.....	Nat. C.	Puget Sound Trac., Lt. & Pr. Co.....	Bellingham, Wash.
Pike County Electric Light & Power Co.....	Mo.		Bowling Green, Mo.
Pinckard, T. P.....	Nat. G.	Sec., Windsor Gas Co., Ltd.....	56 Ouellette Ave., Windsor, Ontario.
Pinkerton, Andrew.....	*I. E.	Am. Sheet & Tin Plate Co.....	Pittsburg, Pa.
Pinkham, I. W.....	Acc.		141 Franklin St., Boston, Mass.
Pinkham, Ralph A.....	N. J.	G. M., Ruud Mfg. Co.....	Philadelphia, Pa.
Pinkney, W. F. T.....	*I. E.	Newcastle Elec. Supply Co.....	Newcastle-on-Tyne, England
Pipkin, Humphrey H.....	A.	G. Fm., dis. dept., Laclede Gas Light Co.....	St. Louis, Mo.
Pipkin, Jesse E.....	A.	S., Coke Sta., Laclede Gas Light Co.	St. Louis, Mo.
Piser, Theo. H.....	*A.; *I. E.; Nat. C.; *N. E.; *G.		
	G. M.	M., Welsbach Co. of N. E.....	Boston, Mass.
Pitcher, T. Walter.....	*Ind.	G. M., Specialty Sales Co.....	Indianapolis, Ind.
Pitts, H. P.....	P. C.; Nat. C.	Indus. E., Pacific Gas & Elec. Co.....	San Francisco, Cal.
Pittsburg Coal Co.....	Can.	(Seymour Whitley, Mgr.).....	Buffalo, N. Y.
Pittsburg Meter Co.....	N. G. S.		Pittsburg, Pa.
Pittsburg Reinforced Brazing & Machine Co.....	N. G. S.		Pittsburg, Pa.
Pittsburg Water Htr. Co.	S. W.; Nat. C.; N. G. S.; Can.		Pittsburg, Pa.
Pittsburgh Valve & Fittings Co.....	N. G. S.		Pittsburgh, Pa.
Pittsburg Valve, Fdy. & Constr. Co.....	N. G. S.		Pittsburg, Pa.
Place, J. W.....	Acc.	U. S. Gauge Co.....	New York, N. Y.
Plangenz, G. W.....	Nat. G.	Sec. to Sec.-T., East Ohio Gas Co.....	1447 E. 6th St., Cleveland, O.
Plank, Alan B.....	Nat. C.	G. M., Gettysburg Gas. Co.....	Gettysburg, Pa.
Plank, D. C.....	Nat. C.	Wilmington Gas Co.....	Wilmington, Del.
Platt, C. W.....	Nat. C.	Portland Gas & Coke Co.....	Portland, Ore.
Platt, Chas. J., Jr.....	*I. E.		514 W. 147th St., New York, N. Y.
*Platt, Louis J.....	*A.; Nat. C.	Indus. Fuel R., Public Service Gas Co.	Newark, N. J.
Plattsburgh Gas & Elec. Co. Emp.			Plattsburgh, N. Y.
Plattsburg Lt. & Pr. Co.....	Mo.		Plattsburg, Mo.
Plouff, N. D.....	P. C.		Panama, R. P.
Pleune, Anthony T.....	Nat. C.	Chf. Clk., Cedar Rapids Gas Lt Co.	Cedar Rapids, Ia.
Ployhar, Frank E.....	Nat. C.	Valley City Gas Co.....	Valley City, N. D.
Plucker, Howard W.....	Nat. C.; *Pa.		
	N. J.	Sals., with I. A. Sheppard & Co.....	Philadelphia, Pa.
Plumley, M. Stuart.....	Acc.	Oxweld Acetylene Co.....	Chicago, Ill.
Plummer, H. W.....	A.; Nat. C.	M., Asheville Power & Light Co.....	Asheville, No. Car.
Plymouth Cordage Co.....	N. G. S.		N. Plymouth, Mass.
Pohlman, Edward F.....	Ill.	Ch., Peoples Gas Light & Coke Co.....	Chicago, Ill.
Poingdestre, J. E.....	P. C.	M., Pacific Gas & Electric Co.....	Berkeley, Cal.
Polacheck, Phil.....	*I. E.	Sec., Chas. Polacheck & Bro. Co.....	Milwaukee, Wis.
Polk, R. E.....	Ill.	Com. M., So. Ill Gas Co.....	Marion, Ill.
Polk, Roger W.....	A.; Ill.; *Mich.; N. E.	Con. g. E.....	Chicago, Ill.
Pollard, C. R.....	Acc.	Alex. Milburn Co.....	Baltimore, Md.
Pollard, George W.....	P. C.	A. M. San Jose Dist., Pacific Gas & Electric Co.....	San Jose, Cal.
Pollitt, L. Irving.....	A.; Sou.; Nat. C.	V. P. & G. M., So. Gas & El. Corp.....	Baltimore, Md.
Pond, Prof. G. G.....	*Acc.	Pennsylvania State College.....	State College, Pa.
Poole, C. J.....	Nat. G.	Ag., Fayette County Gas Co.....	Connellsville, Pa.
Poole, E. W.....	Nat. C.; A.; Emp.	A. Sec., Syracuse Lighting Co.....	Syracuse, N. Y.
Poole, Ralph A., Jr.....	Sou.	Sals., H. Mueller Mfg. Co., Box 1432.	Jacksonville, Fla.
Pope, A. A.....	I. E.	A. G. Com. M., N. Y. Edison Co.....	New York, N. Y.
Pope, Geo. G. Co.....	Mo.		St. Louis, Mo.
Pope, Worden.....	Nat. G.	E., Henry L. Doherty & Co.....	New York, N. Y.
Popkin, Henry.....	Nat. C.	Brassard Fixture Co.....	New York City.
Port Arthur Gas Co.....	Tex.		Port Arthur, Tex.
Port Arthur Traction Co.....	So. W.		Port Arthur, Tex.
Port Arthur Lt. & Pr. Co. So. W.			Port Huron, Mich.
Port Huron Gas & Elec. Co. Nat. C.			Philadelphia, Pa.
Porter, Edward.....	A.; Nat. C.	Spec. A., United Gas Imp. Co.....	Vancouver, B. C., Can.
Porter, Geoffrey.....	*I. E.; Can.	Mgr., Vancouver Gas Co.....	Pittsburg, Pa.
Porter, Horace C.....	*A.	Ch. E., H. Koppers Co.....	Oskaloosa, Ia.
Porter, J. H.....	Nat. C.	G. M., Oskaloosa Lt. & Fuel Co.....	Kansas City, Mo.
Porter, Joseph F.....	A.; Ia.	Ill. Eng. Dept., General Electric Co.	Harrison, N. J.
Porter, Lawrence C.....	I. E.	Phila. Sub. Gas & El. Co.....	Chester, Pa.
Porter, Roland G.....	A.	Asso. Prof. Physics, Syracuse University	Syracuse, N. Y.
Porter, Royal A.....	*I. E.	United Gas Impt. Co.....	Hammond, Ind.
Porter, W. N.....	Nat. C.	Shop Fm., The Peoples Natural Gas Co.	Wilkinsburg, Pa.
Porterfield, Harry.....	Nat. G.	Insp., Ohio Fuel Supply Co.....	Columbus, O.
Porterfield, R. M.....	Nat. G.		Portland, Me.
Portland Gas Light Co.....	I. E.		Portsmouth, O.
Portsmouth Gas Co.....	O.		Cleveland, Ohio.
Possons, M. A.....	Nat. C.	New Process Stove Co.....	Philadelphia, Pa.
Post, Alfred P.....	Nat. C.; *A.; Pa.	Com. M., American Gas Co.....	Philadelphia, Pa.
Post, E. J.....	Nat. C.	Thomas, Roberts Stevenson Co.....	Philadelphia, Pa.
Postles, John V.....	*A.; Nat. C.	Cadet E., Experimental Plant, United Gas Imp. Co.....	Potsdam, N. Y.
Potsdam El. Lt. & Pr. Co.. Emp.			Newark, N. J.
Potter, Edward S.....	Nat. C.	Public Service Gas Co.....	Newark, N. J.
Potter, H. W.....	*Ia.; Nat. C.	Chf. Clk., Burlington Gas Light Co.	Burlington, Ia.

The Importance of High Percent CO₂ in Boiler Flue Gases will be furnished free by mentioning this book.

PRECISION INSTRUMENT COMPANY : : : : DETROIT, MICHIGAN

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Potter, J. H.	Nat. C.	Counties Gas & Elec. Co.	Ardmore, Pa.
Potter, J. L.	*Ind.; *Ia.; Nat. C.; *Mich.; Sou.; *Ill.; *Wis.	T. The Fuller-Warren Co.	Milwaukee, Wis.
Potter, Norman H.	Nat. C.; *I. E.	N. B. A., Public Service Gas Co.	Paterson, N. J.
Potter, Ormsby F.	Nat. C.; N. J.	Trav. Aud., Public Service Gas Co.	Newark, N. J.
Potter, R. S.	Nat. C.	250 Howe Ave., Passaic, N. J.	Passaic, N. J.
Potter, Theodore J.	Nat. C.	Sals. M., William M. Crane Co.	New York, N. Y.
Potterton, Alfred B.	Ace.	U. S. Gauge Co.	New York, N. Y.
Pottsville Gas Co.	Pa.	Pottsville, Pa.	Pottsville, Pa.
Poundstone, M. L.	Kan.	Sals. M., Office Appliance Co.	Kansas City, Mo.
Powell, A. Leslie.	*I. E.	Eng. Dept., General Electric Co.	Harrison, N. J.
Powell, Amos M.	P. C.	Heating & Indus. E.	Los Angeles, Cal.
Powell, David A.	A.; Wis.	Eng. Dept., Milwaukee Gas Lt. Co.	Milwaukee, Wis.
Powell, Richard C.	P. C.	S. El. Dis., Pacific Gas & El. Co.	San Francisco, Cal.
Powell, R. M.	Nat. C.	2023 N. 16th St., Phila., Pa.	Philadelphia, Pa.
Power, John J.	Nat. C.	Flemington, N. J.	Flemington, N. J.
Power, William R.	I. E.	M. Cons. Dept., Cons. Lt., Ht. & Pr. Co.	Huntington, W. Va.
Powers, J. A.	Nat. C.	Pub. Service Gas Co.	Newark, N. J.
Powers, Nicholas	Nat. G.	Oil & Gas Well Contractor.	Fairmont, W. Va.
Powers, Dr. R. M.	\$P. C.	San Diego, Cal.	San Diego, Cal.
*Powers, William L.	Ill.	Indus. g. E.	30 E. Randolph St., Chicago.
Pratt & Cady Co., Inc.	N. G. S.	New York, N. Y.	New York, N. Y.
Pratt, C. E.	Nat. G.	Fm. Meter Shops, Equitable Gas Co.	Pittsburgh, Pa.
Pratt, Charles O.	A.; *N. E.	S. Cons., Portland Gas Light Co.	Portland, Me.
*Pratt, D. W.	Sou.	N. B. M., Columbia Ry., Gas & El. Co.	Columbia, S. C.
Pratt, Edward G.	A.; \$G. G. M.; Ill.; *I. E.; Ia.; Nat. G.	Cons. g. E. & P., Boone (Iowa) Gas Co.	Peoples Gas Bldg., Chicago, Ill.
Pratt, Edward G., Jr.	*Wis.	Sals., Gas Appliance Sales Co.	Chicago, Ill.
Pratt, Frank S.	*G. G. M.; *N. E.	70 Equitable Bldg., Boston, Mass.	Boston, Mass.
Pratt, W. T.	Nat. C.	United Electric Light & Water Co.	Naugatuck, Conn.
Prendergast, Daniel J.	*A.; *I. E.	G. S., Welsbach St. Ltg. Co.	318 W. 42d St., New York City
Prendergast, John F.	N. J.	Salem Gas Light Co.	Salem, N. J.
Presho, A. A.	Nat. G.	Agt., Potter Gas Co.	Westfield, Pa.
Preston, C. L.	Ace.	Brandon, Man., Can.	Brandon, Man., Can.
Preston, S. C.	Nat. G.	Chf. E., The Peoples Natural Gas Co.	Pittsburgh, Pa.
Prezzano, Edw. P.	Nat. C.	Consolidated Gas Co.	2084 3d Ave., New York, N. Y.
Price, Chas. R.	Nat. C.	New Bedford Gas & Edison Lt. Co.	New Bedford, Mass.
Price, E. E.	Ind.	S. Gary Heat. Light & Water Co.	Gary, Ind.
Price, E. F.	Ace.	Union Carbide Co.	New York, N. Y.
Price, Frank S.	*I. E.	P., Pettingell-Andrews Co.	Boston, Mass.
Price, E. B.	P. C.	Pacific Gas & Elect Co.	San Francisco, Cal.
Price, Leonard	Nat. C.	St. Johns Gas Lt. Co.	St. Johns, Newfoundland.
Price, Lester	Ill.	S., Winnetka Dist., North Shore Gas Co.	Winnetka, Ill.
Price, Otto	Nat. C.	Citizens Gas Light Co.	Quincy, Mass.
Price, W. E.	Nat. C.	Hampton Court Gas Co.	Hampton Wick, England.
Price, W. W.	*A.; Nat. G.	P., The Dayton Pipe Coupling Co.	Dayton, O.
Price, William H.	Ia.; N. E.	Dftmn. & Clk., Providence Gas Co.	Providence, R. I.
*Prichard, Charles R.	A.; N. E.	S., Beverly Gas & Electric Co.	Beverly, Mass.
Prichard Supply Co.	N. G. S.	Mannington, W. Va.	Mannington, W. Va.
Priest, George Heywood.	A.; N. E.; Nat. C.; Sou.	G. M., Brockton Gas Light Co.	Brockton, Mass.
Priest, Irwin G.	*I. E.	A. Physicist, National Bureau of Standards	Washington, D. C.
*Prieth, G. F.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Prieth, Louis J.	Nat. C.; N. J.	R. Com. Dept., Public Service Corp. of N. J.	Trenton, N. J.
Prill, H. M.	Nat. G.	Cash., Warren & Chautauqua G. Co.	Warren, Pa.
Prince, J. L.	*I. E.	N. Y. Edison Co.	E 15th St., New York, N. Y.
Pringle, R. S.	Nat. G.	M., Pringle Powder Co.	Bradford, Pa.
Printz, Charles H.	A.	V. P., Gas Machinery Co.	Cleveland, O.
Prior, Charles J.	Nat. G.	A. to M., Metric Metal Works.	Erie, Pa.
Pritchard, J. F., Jr.	Wis.	Asst. S., Eastern Wis. Ry. & Lt. Co.	Fond du Lac, Wis.
Proal, A. B.	Ace.	2 Rector St., New York, N. Y.	New York, N. Y.
Protheroe, Thos. J.	P. C.	G. Agt., So. Cal. Gas Co.	Los Angeles, Cal.
Pruden, Andrew	Nat. C.	N. B. Dept., Pub. Service Gas Co.	Rutherford, N. J.
Pryor, F. B.	Nat. G.	Sec., Monongahela Valley Trac. Co.	Fairmont, W. Va.
Ptolemy, Hugh A.	*Ill.	Clk., Pub. Serv. Co. of No. Ill.	Oak Park, Ill.
Public Service Co. of No. Ill.	Nat. C.	Edison Bldg., Chicago, Ill.	Chicago, Ill.
Public Service Corp. of N. J.	Nat. C.	Newark, N. J.	Newark, N. J.
Puffer, Wm. L.	*I. E.	Con. E.	Boston, Mass.
Puget Sound Traction, Light & Power Co.	Nat. C.	Bellingham, Wash.	Bellingham, Wash.
Pugh, A. B.	Nat. C.	1023 S. 24th St., Omaha, Neb.	Omaha, Neb.
Pugh, Frank S.	Ia.	Fm. of Mains and Serv., Porto Rico Gas Co.	Rio Piedras, Porto Rico.
Pugsley, S. G.	Nat. C.	Central Union Gas Co.	New York, N. Y.
Pulliam, I. P.	Wis.	Gen. M., Eastern Wis. Ry. & Lt. Co.	Fond du Lac, Wis.
Purcell, Theo. V.	A.; Ill.	Soc., Peoples Gas Light & Coke Co.	Chicago, Ill.
Purdy, J. S. L.	Nat. G.	G. M., The Pavilion Natural Gas Co.	Le Roy, N. Y.
Purington, A. J.	N. E.	c/o E. St. Louis & Interurban Ry. Co.	E. St. Louis, Mo.
Purvis, C. Wm.	Nat. C.	Chf. Clk. to Chf. Canv. United Gas Imp. Co.	Philadelphia, Pa.
Purvis, George W.	Nat. C.	134 N. 13th St., Phila., Pa.	Philadelphia, Pa.

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ASSOCIATION MEMBERS

867

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Pusey, C. C.	Ace.	Alex. Milburn Co.	Baltimore, Md.
Putnam, Geo. E.	Nat. C.	Consolidated Gas Co.	130 E. 15th St., New York.
Putnam, William R.	A.; *I. E.; Nat. C.	N. B. M., Utah Power & Light Co.	Salt Lake City, Utah.
Pre, F. A.	Nat. C.	Chester United Gas Co.	Chester, England.
Pyle, William C.	Ill.	A. Pur. Agt., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Pyzel, E. D.	Nat. G.	g. E.	Heerengracht 141-145, Amsterdam, Holland.
Quackenbush, A. S.	Nat. C.	Portage American Gas Co.	Portage, Wis.
Quackenbush, Charles H.	A.; Ill.; Nat. C. M.	St. Clair Co. Gas & Electric Co.	East St. Louis, Ill.
Quapaw Gas Co.	Mo.		Bartlesville, Okla.
Quay, H. A.	Nat. G.; N. G. E. G. fm., Mfrs. Lgt. & Ht. Co.		Columbia Bk. Bldg., Pittsburgh
Queen City Electric Co.	Mo.		Sedalia, Mo.
Quinlan, A. J.	Nat. G.	Fm., East Ohio Gas Co.	Cleveland, Ohio.
Quinlan, M. J.	P. C.	Agt., Pacific Gas & Elec. Co.	Los Gatos, Cal.
Quinlan, P. J.	Nat. G.	Shop Fm., The River Gas Co.	Marietta, O.
Quinn, Andrew K.	A.; G. G. M.; Nat. C.; N. E. P., T. & G. M.	Newport Gas Light Co.	Newport, R. I.
Quinn, J. K.	N. E.	A. M., Newport Gas Light Co.	Newport, R. I.
Quinn, W. C.	*Ind.; *Wis.; Nat. C.; *Ill.	g. Sales M., Rathbone, Sard & Co.	Aurora, Ill.
Quirk, Wm. G.	*I. E.	Chf. Insp. St. Ltg. City of N. Y.	21 Park Row, New York, N. Y.
Raabe, Charles	A.	S. A., Consolidated Gas Co.	501 E. 21st St., New York,
Raber, Benedict	P. C.	Asso. Prof. Mechanical Engineering.	Berkeley, Cal.
Rabold, J. C.	Nat. C.		1414 11th Ave., Altoona, Pa.
Rackiewicz, J. T.	Nat. C.	A. S. Com. Dept., New Amsterdam Gas Co.	New York, N. Y.
Radcliff, G. W.	Sou.	Sals. Gas Light Co. of Columbus.	Columbus, Ga.
Radcliff, John P., Jr.	I. E.	M., Yonkers Electric Lt. & Pr. Co.	Yonkers, N. Y.
Rae, A. B.	Nat. G.	Fm., The East Ohio Gas Co.	Cleveland, O.
Raferty, Edmund	*Ill.	P., Cribben & Sexton Co.	Chicago, Ill.
Rafferty, James A.	A.; Ill.	S., People's Gas Light & Coke Co.	Chicago, Ill.
Rahn, Bruno	Wis.; A.	E. Dept., Milwaukee Gas Light Co.	Milwaukee, Wis.
Rainey, A. R.	Ace.	J. B. Colt Co.	New York, N. Y.
Raisch, E. J.	Tex.		Thurber, Texas
Rail Joint Co., The	So. W.		St. Louis, Mo.
Ralph, C. A.	Nat. G.	Ralph Bros.	Aspinwall, Pa.
Ralston, F. W.	*I. E.	St Ltg. Dept., General Electric Co.	West Lynn, Mass.
Ralston, William S.	Nat. G.	E. and Dftmn., Chaplin-Fulton Mfg. Co.	Pittsburg, Pa.
Ramage, J. R.	N. G. E.; Nat. G. E.	The Louisville Gas & Elec. Co.	Louisville, Ky.
Ramier, J. F.	Nat. C.; Sou.	Memphis Consolidated Gas & Elec. Co.	Memphis, Tenn.
Ramsay, Robt. E.	Nat. C.	The United Gas Improvement Co.	Philadelphia, Pa.
*Ramsburg, Charles J.	A.; *I. E.; Ill.; Nat. C.; Soc. G.	V. P., H. Koppers Co.	Pittsburgh, Pa.
Ramsdell, George G.	A.; *I. E.; Nat. C.; Soc. G.	Sec. and T., American Gas Institute.	New York, N. Y.
Ramsey, Harold E.	*I. E.	Jr. El. E., Interstate Commerce Com.	Washington, D. C.
Ramsey, E. C.	Nat. G.	E. Ohio Fuel Supply Co.	Columbus, O.
Ramstead, A. G.	P. C.	S. El. dis., Pacific Gas & El. Co.	San Jose, Cal.
Rancke, Louis N.	*A.	Con. E. and Ch.	Lonaconing, Md.
Rand, A. H.	Nat. C.	Minneapolis Gas Light Co.	Minneapolis, Minn.
Rand, A. T.	Nat. C.	Minneapolis Gas Light Co.	Minneapolis, Minn.
Rand, R. R.	Nat. C.	Minneapolis Gas Light Co.	Minneapolis, Minn.
Randall, George	Nat. C.	Col., Public Service Gas Co.	Orange, N. J.
Randall, Henry E., Jr.	I. E.		604 Power Bldg., Montreal, Que
Randall, John E.	I. E.	Con. E., Natl. Lamp Works of G. E. Co.	Cleveland, Ohio.
Randall, M. W.	Ace.	Air Reduction Co.	New York, N. Y.
Randall-Lovegrove Co.	*So. W.		Houston, Tex.
Randolph, Ernest L.	Nat. G.	Oil and Gas Operator.	Clarksburg, W. Va.
Randolph Lt. & Pr. Co.	Emp.		Randolph, N. Y.
Randolph, M. D.	Ark.; Nat. G.	Fm., Ark. Natural Gas Co.	Pine Bluff, Ark.
Randolph, William W.	A.; Nat. C.; P. C.; Ill.	Con. E.	233 Broadway, New York, N.Y.
Ranges, Geo.	Nat. C.	Cash., Public Service Gas Co.	Hoboken, N. J.
Rankin, Harvey	Nat. G.	Leaseman, The Peoples Natural Gas Co.	Pittsburgh, Pa.
Ranlett, Henry H.	Nat. C.; P. C.	Chf. Col., Los Angeles G. & El. Corp.	Los Angeles, Cal.
Rapid Transit Ry. Co.	So. W.		Dallas, Texas.
Rapp, William	Ace.	U. S. Gauge Co.	New York, N. Y.
Rasch, William T.	*A.; Nat. C.	A. to E. of Utilization, Consolidated Gas Co.	New York, N. Y.
Rasin, Unit	*I. E.	Dist. M., Westinghouse Lamp Co.	Philadelphia, Pa.
Rasmussen, C. F.	Kan.	S., Light & Water Co.	Clay Center, Kan.
Rastenburg, Frederic G.	Ind.	A. to G. M., Citizens Gas Co.	Indianapolis, Ind.
Ratliffe, George L.	Nat. G.	Agt., The Peoples Natural Gas Co.	Woodlawn, Pa.
Ratliff, Thos. C.	Nat. C.		Baltimore, Md.
Ratliffe, George W.	Nat. G.	T., Mfrs. Light & Heat Co.	Pittsburg, Pa.
Rath, Thomas	Nat. C.	National Stove Co.	Lorain, O.
Rathbone-Sard Co.	Mo.		Aurora, Ill.
Rathbone, Sard Co.	Nat. C.		Albany, N. Y.
Rathbun, James Eng. Co.	N. G. S.		Toledo, O.
Rea, O. M.	*I. E.	G. M., Commonwealth Power Co.	Milwaukee, Wis.
Rawlings, Thomas	*I. E.	Col., Philadelphia Electric Co.	1000 Chestnut St., Philadel-phia, Pa.
Rawlins, Forest W.	Nat. C.; Pa.	Counties Gas & El. Co.	Norristown, Pa.
Rawson, Irwin	*Wis.; Ind.; Sou.	Sec., Russell Engineering Co.	St. Louis, Mo.
Ray, Don C.	P. C.	Dist. M., Pacific G. & E. Co.	Martinez, Cal.

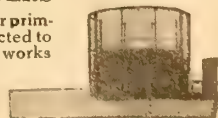


PAINTS FOR OIL TANKS AND HOLDERS

No. 250 BLUE LEAD PRIMING PAINT has no equal for priming coats on gas holders, especially where it will be subjected to extreme exposure from gases, as on gas holders and gas works structures.

Write for REVIEW OF TECHNICAL PAINTS

CHEESMAN & ELLIOT, 100 William St., New York



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Ray, T. W.	Nat. C.		12 Adelaide W., Toronto, Can.
Ray, William D.	A.; Nat. C.; Pa. G. M.	General Gas & El. Co.	Easton, Pa.
Raychester Co., Inc.	P. C.		San Francisco, Cal.
Raymond, Chas. A.	A.	A. to S., New England Gas & Coke Co.	Everett, Mass.
Raymond, E. H.	*Ill.	Sec., Crane Co.	Chicago, Ill.
Raymond, H. S.	*Wis.; *Ill.	M., National Tube Co.	Chicago, Ill.
Raynor, C. H.	*Mich.		Daytona, Fla.
Read, Wm. J., Jr.	N. E.		
Reading, Harry B.	IA.	Laboratory A., B'klyn. Union Gas Co.	Brooklyn, N. Y.
Readio, James H.	N. E.	Fm., New Bedford Gas & Ed. Lt. Co.	New Bedford, Mass.
Reardon, P. H.	P. C.	Gas Supplies & Machinery	San Francisco, Cal.
Reckard, G. H.	Nat. G.	Pur. Agt., The Miller Supply Co.	Huntington, W. Va.
Redd, John B.	P. C.; A.	Sals. dept., Davis-Bournonville Co.	Los Angeles, Cal.
*Redd, L. W.	P. C.	Contra Costa Gas Co.	Martinez, Cal.
Redding, R. M.	Nat. C.; Sou.	G. M., Porto Rico Gas Co.	San Juan, Porto Rico.
Redie, Samuel	Nat. G.	R., Spang & Co.	Butler, Pa.
Redman, Geo. M.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Redman, R. S.	*IA.	Sec. & G. M., American Gas Construction Co.	Newton, Ia.
Redmond, S. B.	Tex.		Port Arthur, Texas
Redshaw, Chas. J.	*N. E.	S. St. Mains, Derby Gas Co.	Derby, Conn.
Reed, C. S.	Nat. C.	Public Service Gas Co.	New Brunswick, N. J.
Reed, Charles C.	Nat. G.	Cons. E., Hope Natural Gas Co.	Clarksburg, W. Va.
Reed, D. A.	Nat. C.; A.	Water & Light Dept.	Duluth, Minn.
Reed, F. L.	Nat. G.	Agt., River Gas Co.	Marietta, O.
Reed, George E.	Nat. C.	Public Service Gas Co.	Bound Brook, N. J.
Reed, Harry C.	P. C.	Traffic Expert, Aud. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Reed, H. G.	Nat. C.; *I. E.	Mgr. Sales, Washington Gas Light Co.	Washington, D. C.
Reed, I. B.	Nat. G.	A. Sec., Iroquois Natural G. Co.	Buffalo, N. Y.
Reed, James H.	Nat. G.	P., Philadelphia Co.	Pittsburg, Pa.
Reed, James H., Jr.	A.; Nat. G.; Nat. C.	G. Pur. Agt., Philadelphia Co.	Pittsburg, Pa.
Reed, Joseph A.	A.; Nat. G.	A. G. S., Philadelphia Co.	Pittsburg, Pa.
Reed, N. W.	Nat. G.	Agt., Clarion Gas Co.	Clarion, Pa.
Reed, R. W.	*Mich.	Lansing Fuel & Gas Co.	Lansing, Mich.
Reeder, C. L.	I. E.	Con. E.	Baltimore, Md.
Reeger, Geo. B.	Nat. G.	Field S., Am. Natural Gas Co.	Greensburg, Pa.
Reel, G. W.	Nat. G.	Contractor, Hope Gas Co.	West Pittsburgh, Pa.
Rees, Richard	A.; Nat. C.; Ill.	c/o Peoples Gas Light & Coke Co.	Chicago, Ill.
Reeser, E. B.	Nat. G.	The Miami G. & Fuel Co.	Piqua, Ohio.
Reeser, F. B.	Nat. G.	Agt., Ohio Fuel Supply Co.	106 S. Main St., Miamessburg, O.
Reeser, J. W.	Nat. G.	G. S., United Fuel Gas Co.	Huntington, W. Va.
Reeside, Howard S.	A.	P., Washington Gas Light Co.	Washington, D. C.
Reesman, John S.	*I. E.; Nat. C.	S., No. Div. Public Serv. Co. of No. Ill.	Evanston, Ill.
Reeve, J. Wright	Nat. C.; Sou.	M., Gainesville Gas & Electric Power Co.	Gainesville, Fla.
Reeves, Edwin A.	Nat. C.	T., Reeves Mfg. Co.	Milford, Conn.
Reeves, William	*A.	P., The Reeves Mfg. Co.	Milford, Conn.
Rogan, Frank W.	IA.	Cadet E., Ft. Dodge Lt. & Pwr. Co.	Fort Dodge, Iowa.
Rogan, Frank W.	P. C.	Coast Counties Gas & Elec Co.	Watsonville, Cal.
Regan, Wm. M.	I. E.	Pmet., Consolidated Gas Co.	New York, N. Y.
Reichel, C. D.	Nat. G.	Inf. & Complaint Clk., Union Gas & El. Co.	Cincinnati, O.
Reichelderfer, Thos. R.	Nat. C.	Fm. Met. Repair Shops, Public Service Gas Co.	258 N. Park St., East Orange, N. J.
Reichert, Chas. J.	Nat. C.		Passaic, N. J.
Reichert, Wm.	Nat. G.	Shop Fm., The Peoples Nat. Gas Co.	Wilkinsburg, Pa.
Reichhelm, Paul F.	*A.	Sec., American Gas Furnace Co.	New York, N. Y.
Reid, C. W.	*Ind.; Nat. C.		
Reid, Clarence	Tex.	W. T., Rathbone, Sard & Co.	Aurora, Ill.
Reid, Jos., Gas Engine Co.	N. G. S.	Prof. El. E., Kansas State Agr. College	Manhattan, Kan.
Reid, J. F.	Nat. C.	S., Standard Gas Light Co.	Oil City, Pa.
Reid, William F.	Nat. C.	Pittsburg Water Heater Co.	New York, N. Y.
Reiley, D. M.	Nat. G.	Iroquois Nat. Gas Co.	Syracuse, N. Y.
Reilly, J. J.	*I. E.	Met. Dept., Philadelphia Electric Co.	Buffalo, N. Y.
Reilly, James A.	*Ill.; *Ind.	T. and M., The Queen City Coal Co.	Philadelphia, Pa.
Reilly, Wm. E.	Nat. C.	Public Service Gas Co.	Cincinnati, Ohio.
Reilly, W. J.	Nat. G.	Regulator Man., The Peoples Natural Gas Co.	Newark, N. J.
Rein, Fred'k E.	*I. E.	Bus. E., Fred'k C. Rein and Staff.	Pittsburgh, Pa.
Reinach, Hugo B.	A.; Nat. C.; *I. E.	A. G. S., Com. Dept. Consolidated Gas Co.	Philadelphia, Pa.
Reiner, Otto	IA.; Nat. C.	G. Fm., Public Service Gas Co.	New York, N. Y.
Reinhardt, G. A.	*A.; *Ill.	Metallurgist, Youngstown Sheet & Tube Co.	Orange, N. J.
Reinhard, Solon A.	A.; Ill.	A. S., People's Gas Lt. & Coke Co.	Youngstown, O.
Reinicker, Chas. E.	A.; Ill.	Bureau of Standards	Chicago, Ill.
Reiser, Chas. L.	Nat. G.	Station E., Iroquois Nat. G. Co.	Washington, D. C.
Reish, W. A.	Ace.	Central Chandelier Co.	Collins Center, N. Y.
Reiss, H. F.	Ace.	J. B. Colt Co.	Chicago, Ill.
Reitemeyer, A. F.	A.; Nat. C.; N. J. S.	Sec. & T., Perth Amboy Gas Light Co.	New York, N. Y.
Reliable Stove Co.	Nat. C.; N. G. S.		Perth Amboy, N. J.
Reliable Stove Co., Div. of American Stone Co.	*P. C.		Cleveland, O.
Relph, O. S.	P. C.		San Francisco, Cal.
			67 Delmas Ave., San Jose, Cal.



THE SCIENTIFIC SAFETY GARAGE HEATER

The STANDARD with all Gas Companies.

Because first in the field and constantly improved to its present final state of perfection.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ASSOCIATION MEMBERS

869

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Riemer, J. E.	Nat. G.	S. Kansas City Gas Co.	Independence, Kan.
Remington, Chas. N.	Mich.	P. Ludington Gas Co.	Grand Rapids, Mich.
Remington, Chas. R.	Mich.	Ch. Washtenaw Gas Co.	Ann Arbor, Mich.
Remington Typewriter Co.	Nat. C.		New York, N. Y.
Renick, J. D.	Nat. G.	Insp. Logan Natural Gas & Fuel Co.	Columbus, O.
Renne, V. W.	Ace.	Oxweld Acetylene Co.	Chicago, Ill.
Reno. Pwr. Light & W. Co.	Nat. C.		Reno, Nevada
Renshaw, E. N.	*I. E.	Telephone E. American Telephone & Telegraph Co.	New York, N. Y.
Renteler, A. C.	Wis.	M. Watertown Gas & El. Co.	Watertown, Wis.
Republic Iron & Steel Co.	N. G. S.		Youngstown, O.
Republic Supply Co.	N. G. S.		Houston, Tex.
Resnick, Louis	Ill.	Trade Jour. Correspondent. American Gas Eng. Journal.	Chicago, Ill.
Reul, William H.	Nat. G.	S. Fitting Dept., Union Gas & El. Co.	Cincinnati, O.
Revere Rubber Co.	N. G. S.		Chelsea, Mass.
Rew, Irwin	A.	P. National Gas & Water Co.	108 So. La Salle St., Chicago, Ill.
Rewig, A. A.	P. C.	Gage Maxwell Hardware Co.	Oakland, Cal.
Reynard, J. D.	Ind.	M. Union Ht., Lt. & Pr. Co.	Portland, Ind.
Reynolds, A. E.	Nat. C.	M. By-Products, Denver Gas & Electric Co.	Denver, Col.
Reynolds, E. T.	Ark.	M. Ark. Light & Pr. Co.	Paragould, Ark.
Reynolds, Frederick G.	*I. E.	Cont. El. E.	203 E. 44th St., New York,
Reynolds Gas Regulator Co.	Nat. C.		Anderson, Ind.
Reynolds, James	Nat. C.	Insp., Consolidated Gas Co.	New York, N. Y.
Reynolds, James F.	*A.	M. Indus. Div., Consolidated Gas Co.	New York, N. Y.
Reynolds, J. F.	Wis.		Milwaukee, Wis.
Reznor, George F.	Nat. C.	Reznor Mfg. Co.	Mercer, Pa.
Reznor Mfg. Co.	Nat. C.; N. G. S.		Mercer, Pa.
Rhoads, William R.	A.; *I. E.; Nat. C.	G. M. Northern Central Gas Co.	Williamsport, Pa.
Rhoads, Charles W.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Rhodes, Geo. W.	Nat. C.; Sou.	S. Henrico Co. Gas Co.	Richmond, Va.
*Rhodes, Lewis B., Jr.	*A.; Sou.	A. S. Henrico Co. Gas Co.	Richmond, Va.
Rhodes, S. G.	I. E.	E. met. & test dept., N.Y. Edison Co.	New York, N. Y.
Rice, E. W., Jr.	I. E.	P. General Electric Co.	Schenectady, N. Y.
Rice, H. C.	I. E.	V. P. General Incand. Lamp Co.	Cleveland, Ohio.
*Rice, Henry L.	*Ill.; Wis.	V. P. Wisconsin Public Service Co.	First Nat'l Bank Bldg., Milwaukee, Wis.
Rice, James R.	*Wis.	W. M. Lynchburg Fdy. Co., & Glamorgan Pipe Co.	Chicago, Ill.
Rice, Lawrence W.	Nat. C.		Merchantville, N. J.
Rice, Thomas	Ind.; Va.	G. M. Gage County Gas Lt. & Pr. Co.	Beatrice, Neb.
Rich, A. R.	Nat. G.	S. Ohio Cities Gas Co.	Dawes, W. Va.
Rich, Edward B.	Nat. G.	P. University Oil Co.	Parkersburg, W. Va.
Rich, F. M.	N. J.	Wildwood Gas Co.	Wildwood, N. J.
Rich, Fred S.	Nat. G.	P. Crude Oil Co.	Oil City, Pa.
Rich, W. G.	P. C.	Dist. Agt., Southern Counties Gas Co.	Whittier, Cal.
Richards, Chas. M.	Ark.	M. Municipal Water & Light Plant.	Hope, Ark.
Richards, Fred A.	Mich.	S. Michigan Light Co.	Flint, Mich.
Richards, Harry J.	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Richards, Jesse	*I. E.	N. Y. & Queens Elec. Lt. & Pr. Co.	Long Island City, N. Y.
Richards, J. L.	A.; *N. E.; Nat. C.	P. Mass. Gas Companies.	Boston, Mass.
Richards, Ralph E.	P. C.	Oftmn. Pacific Gas & El. Co.	San Jose, Cal.
Richards, William A.	*N. E.	Sals. G. M. Clark Co.	Box 147, Keene, N. H.
Richards, Wm. E.	I. E.	Supt. El. Div., The Toledo Rys. & Light Co.	Toledo, O.
*Richardson, Chas. E.	Nat. C.; *Pa.	1st Lt., Co. B., 30th Engineers, U. S. A. (Surface Combust. Co.)	New York, N. Y.
Richardson, Charles G.	*A.	Sales E., Builders Iron Foundry.	Providence, R. I.
Richardson, Frank S.	*G. M.		North Adams, Mass.
*Richardson, R. B.	*A.; Ill.	A. g. E., Illinois Traction Co.	Decatur, Ill.
Richardson, W. A.	Sou.	Com. M., New Orleans Gas Lt. Co.	New Orleans, La.
Richie, J. A.	Nat. G.	Sec. & T., Dominion Nat. Gas Co.	Buffalo, N. Y.
Richland Lt. & Pr. Co.	Mo.		Richland, Mo.
Richman, C. E.	Nat. C.	M. Welsbach Gas Lamp Co.	Buffalo, N. Y.
Richman, H. H.	I. E.; Nat. C.; *Pa.; Sou.	A. M. Welsbach Co.	Philadelphia, Pa.
Richmond, A. B.	P. C.	M. The C. H. Sharp Mfg. Co.	Los Angeles, Cal.
Richmond Elec. Light Co.	Mo.		Richmond, Mo.
Richter, G. E.	Ace.	American Lava Co.	Chattanooga, Tenn.
Richter, Wm. F.	Nat. G.	Fm. Fayette County Gas Co.	S. McConnellsville, Pa.
Richtmayer, F. K.	*I. E.	A. Prof. of Physics, Cornell Univty.	Ithaca, N. Y.
Ricker, S. J.	Ill.	A. Pur. Agt., Western United Gas & Elec. Co.	Aurora, Ill.
Ricketts, J. B.	Sou.	Detroit Stove Co.	Detroit, Mich.
Riddle, D. Wm.	Mo.	General Electric Co.	St. Louis, Mo.
Riddle, G. B.	Nat. G.	S. Natural Gas Co. of W. Va.	1226 Chaplin St., Wheeling, W. Va.
Ridenour, Oscar	Ind.	M. Peru Gas Co.	Peru, Ind.
Ridgway, J. L.	Nat. G.	Field Fm., The Peoples Natural Gas Co.	Brave, Pa.
Ridgway, Wm. H.	*Ill.	V. P. The Craig Ridgway & Son Co.	Coatesville, Pa.
Ridinger, Charles W.	I. E.	P. Iron City Electric Co.	Pittsburg, Pa.
Ridway, E. G.	Mo.	Geo. C. Pope & Co.	St. Louis, Mo.
Riefstahl, L. V.	Ill.	Div. Acct., Public Service Co. of No. Ill.	Chicago Heights, Ill.
Rieha, Edward L.	A.; I. E.; Wis.; Sou.	2d V. P., So. Gas & El. Corp.	Baltimore, Md.

HOLDERS, WATER AND GAS WORKS APPLIANCES, PIPE

R. D. WOOD & CO., PHILA., PA.



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Riesenman Mfg. Co., Ltd.	N. G. S.		Franklin, Pa.
Riesing, B. J.	*Wis.		Milwaukee, Wis.
Riesing, B. G.	*Wis.	Sals. Detroit Stove Works.	Milwaukee, Wis.
Riffle, Franklin	P. C.	c/o Dunham, Carrigan & Hayden Co.	San Francisco, Cal.
Rigar, G. Bertram	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Riggins, John A.	A.	P. N. J. Northern Gas Co.	Camden, N. J.
Riggs, D. B.	Nat. G.	Fm., Ohio Fuel Supply Co.	Zanesville, Ohio.
Riggs, George	P. C.	Southern California Gas Co.	Los Angeles, Cal.
Riggs, J. A.	P. C.	Fm. g. plant, Santa Barbara Gas & El. Co.	Santa Barbara, Cal.
Riggs, Ross	Nat. G.	Northeastern Oil & Gas Co.	Jefferson, O.
Riley, C. E.	*Ace.		Conover Bldg., Dayton, Ohio.
Riley, F. S.	*Ill.	M., Chapman Valve Mfg. Co.	Chicago, Ill.
Riley, G. W.	Nat. C.		1403 W. 6th St., Cleveland, O.
Riley, Henry M.	A.; Nat. C.	A. S., Dis. dept., Consolidated Gas, Electric Light & Power Co.	Baltimore, Md.
Riley, J. M.	*I. E.; Nat. C.	M., Com. Dept., East Boston Gas Co.	Chelsea, Mass.
Riley, Peter J.	Nat. C.	New York Mutual Gas Light Co.	New York, N. Y.
Rindlaub, Dr. J. H.	*I. E.	Oculist and Aurist	Fargo, N. D.
Rines, F. P.	Sou.	M., Sanford Light & Fuel Co.	Sanford, Fla.
Ringen Stove Co.	Mo.; Nat. C.		St. Louis, Mo.
Ringgold, Robt. G.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Rio Grande Valley Traction Co.	So. W.		El Paso, Texas.
Riordan, Daniel	IA.	Chf. Clk., Consolidated Gas Co.	New York, N. Y.
Ripley, Edwin F.	Nat. C.; *N. E.	Sals. Wholesale Dept., Welsbach Co. of N. E.	Auburndale, Mass.
Ripley, L. O.	Nat. G.	V. P. & G. M., Kansas Gas & El. Co.	Wichita, Kan.
Risdon, T. J.	I. E.	Com. Insp., Philadelphia Electric Co.	Philadelphia, Pa.
Riselay, William S.	A.	Sec. & T., Buffalo Gas Co. and Peoples Gas Light & Coke Co.	Buffalo, N. Y.
Riseley, Chas. W.	Nat. C.	Public Service Gas Co.	222 E. State St., Trenton, N.J.
Ritch, Samuel H.	*Pa.	Sals., Jos. E. Freschie.	Philadelphia, Pa.
Ritchie, Arthur Robson	IA.	S., Consolidated Gas Co.	New York, N. Y.
Ritchie, R. J.	IA.; *A.	M., Peoples Gas Co.	Shenandoah, Ia.
Ritter-Conley Mfg. Co.	G. I.		Pittsburg, Pa.
Ritter, Charles S.	A.; Mich.	Sec. & A. T., Detroit City Gas Co.	Detroit, Mich.
Rivard, Geo. H.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Rives, F. P.	Sou.	M., Sanford Light & Fuel Co.	Sanford, Fla.
Rivers, Charles E.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Riverside Lt., Pr. & Gas Co.	Kan.		Abilene, Kan.
Rix, Austin J.	P. C.; A.	g. dept., Pacific Gas & El. Co.	San Rafael, Cal.
Rix, Edward A.	P. C.	P., Rix Comp. Air & Drill Co.	San Francisco, Cal.
Rix, Fred H.	*Ill.	Sec. & M., Eureka Water Heater Co.	Chicago, Ill.
Rizzuto, Anthony	Nat. C.		1381 Myrtle Ave., Brooklyn.
Roach, H. J.	Ind.	M., Crawfordsville Water & Gas Co.	Crawfordsville, Ind.
Roane, J.	Nat. C.		320 25th St., N'port News, Va.
Roanoke Gas Light Co.	Nat. C.		Roanoke, Va.
Robb, James T.	*I. E.	Lighting Studios Corp.	New York, N. Y.
Robb, Wm. L.	I. E.	Prof. of El. E., Rensselaer Polytechnic Institute	Troy, N. Y.
Robbins, H. J.	Tex.		Corsicana, Texas.
Robbins & Myers Co., The	So. W.		St. Louis, Mo.
Robertson, Jay C.	IA.	S. of dis., Public Service Gas Co.	New Brunswick, N. J.
Robert, Charles M.	P. C.	Spec. Sals., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Roberts Brass Mfg. Co.	Nat. C.		Detroit, Mich.
Roberts, C. C.	Nat. G.	S., Southern Ontario Gas Co.	St. Thomas, Ont., Can.
Roberts, Chas.	Nat. C.		120 E. 11th St., New York.
Roberts, Clarence V.	*A.; Nat. C.	P., Roberts & Mander Stove Co.	Philadelphia, Pa.
Roberts, E. Cullen	A.; Nat. C.; N.J. Div.	Agt., Public Service Gas Co.	Hackensack, N. J.
Roberts, Earl W.	*Ill.	V. P. & A. M., Roberts Brass Mfg. Co.	Detroit, Mich.
Roberts, Edward S.	*I. E.	Sals. Agt., Savannah Electric Co.	Savannah, Ga.
Roberts, F. M.	A.; N. E.; Nat. C.	G. M., Haverhill Gas Light Co.	Haverhill, Mass.
Roberts, George J.	A.		Charlottesville, Va.
Roberts, George L.	Nat. C.	Bristol & Plainville Tramway Co.	Bristol, Conn.
Roberts, George W.	A.; Nat. C.	Sec. & T., Bridgeport Gas Co.	Bridgeport, Conn.
Roberts & Mander Stove Co.	Nat. C.	Peoples Gas Light & Coke Co.	Philadelphia, Pa.
Roberts, M. H.	Ace.	Air Reduction Co.	New York, N. Y.
Roberts, M. J.	Nat. G.	Met. Tester, Beaver Oil & G. Co.	Kingsville, Ont., Can.
Roberts, W. D.	Ill.	Com. Dept., Peoples Gas Light & Coke Co.	Chicago, Ill.
Roberts, W. T.	Nat. G.	Insp., Arkansas Natural Gas Co.	Little Rock, Ark.
Robertson, D.	Nat. G.	T., Pittsburg Oil & Gas Co.	Pittsburg, Pa.
Robertson, D. S.	Nat. G.		Greenville, Ohio.
Robertson, E. E.	*I. E.	Meter tester, Philadelphia Elec. Co.	Philadelphia, Pa.
Robertson, E. M.	P. C.	Sals., Southern Counties Gas Co.	Los Angeles, Cal.
Robertson, J. H.	Sou.	M., Salisbury and Spencer Ry. Co.	Salisbury, N. C.
Robertson, John R.	Nat. G.	Producer	Jacksonville, Ill.
Robertson, L. B.	*A.	S., of Coke Oven dept., Bethlehem Steel Co.	Sparrows Point, Md.
Robertson, Lewis A.	Tex.		Santa Anna, Texas.
Robertson, Tom P.	P. C.	Gas Appliances	Los Angeles, Cal.
Robertson, W. A.	Nat. G.	Field M., Clear Creek Oil & Gas Co.	Ft. Smith, Ark.
Robertson, William L.	*I. E.	Philadelphia Electric Co.	Narberth, Pa.
Robinson, Chauncey D.	IA.; *Emp.	Sales R., Diamond Rubber Co.	Philadelphia, Pa.
Robinson, Edwin	Nat. G.	g. Op.	Fairmont, W. Va.
Robinson, E., Jr.	Nat. G.	Ohio Fuel Supply Co.	Columbus, O.
Robinson, F. E.	Ill.; A.	Dist. M., Aurora Dist., Western United Gas & Electric Co.	Aurora, Ill.
Robinson, George	Nat. G.	Oil operator, Wayne Oil & Gas Co.	Independence, Kan.
Robinson, Geo. C.	Tex.		Ft. Worth, Texas.
Robinson, H. J.	Nat. C.	Flatbush Gas Co.	Brooklyn, N. Y.

RELIABLE



RANGES

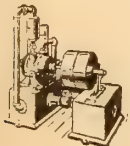
Set your expectations just as high as you like, order a sample line of "RELIABLE 'ANGLIRON'" ranges, examine and test them and you will find your ideal of what a gas range really should be. Write for catalog.

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

ASSOCIATION MEMBERS

871

MEMBER.	ASSOCIATION.	COMPANY	CITY OR TOWN.
Robinson, J. E., & Co.	N. G. S.	Oil City, Pa.	
Robinson, L. E.	Nat. G.	G. M., Robinson Packer Machine Co.	Coffeyville, Kan.
Robinson Packer & Machine Co.	N. G. S.		Tulsa, Okla.
Robinson, R. C.	*I. E.	Research E., Gen'l Electric Co.	Schenectady, N. Y.
Robison, Charles D.	A.; *Emp.; Soc.		
Robling, David T.	G.; Nat. C.	Ferstall & Robison	New York, N. Y.
Robus, A. J.	Nat. C.	Dist. Sals. M., Pittsburg Water Heater Co.	Denver, Colo.
Roby, H. P.	Mo.	Evans & Howard Fire Brick Co.	920 Market St., St. Louis, Mo.
Rochat, Henry	Nat. G.	E. Sec. & T., Interstate Pipe Co.	Pittsburgh, Pa.
Roche, J. F.	A.	S. of Mfr., Glens Falls Gas & El. Co.	Glens Falls, N. Y.
Rochester Ry. & Lt. Co.	Nat. C.	Washington Gas Lt. Co.	Washington, D. C.
Rochester, Thomas W.	Emp.; Nat. C.		Rochester, N. Y.
Rockstroh, Charles F.	I. E.	Dept. Water Supply, Gas & El.	Municipal Bldg., New York City
Rockefeller, P. S.	Acc.		Woodhaven, L. I.
Rockland Lt. & Pwr. Co.	Nat. C.		39 Jackson St., Torrington, Ct.
Rockland, Thomaston & Camden St. Ry.	Emp.; Nat. C.		Nyack, N. Y.
Rockwell, C. O.	Nat. C.		Rockland, Me.
*Rodgers, William Jos.	Nat. G.	S. The Ohio Fuel Supply Co.	Mt. Vernon, O.
Roe, Peter T.	A.	A. S. of dis., Public Service Gas Co.	Camden, N. J.
Roelings Sons Co., John	Nat. C.	United Gas Impt. Co.	Philadelphia, Pa.
Roecker, Edw. O.	N. G. S.		Trenton, N. J.
Roen, Otto S.	Nat. C.		Camden, N. J.
Roeser, Charles J.	E. C.; Nat. C.	Sec., Ontario Upland Gas Co.	Ontario, Cal.
Rogers, D. S.	Nat. C.; A.	E. Public Service Gas Co.	Paterson, N. J.
Rogers, F. A.	Nat. C.		Concord, N. H.
Rogers, Fred A.	Nat. C.; A.	Sec. & G. M., No. N. Y. Utilities Co.	Watertown, N. Y.
Rogers, Gardner	I. E.	Prof. El. Engineering, Lewis Inst.	Chicago, Ill.
Rogers, G. Whitner	*I. E.	M., Blackstone Valley Gas & El. Co.	Woonsocket, R. I.
Rogers, Henry B.	*I. E.	Phila. Suburban Gas & El. Co.	Westchester, Pa.
Rogers, H. R.	I. E.	General Electric Co.	Harrison, N. J.
Rogers, John C.	Nat. G.	M., Logan Natural Gas & Fuel Co.	Tiffin, O.
Rogers, Lines B.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Rogers, Stephen Carleton	A.	S., Lansing Fuel & Gas Co.	Lansing, Mich.
Rogers, W. H.	I. E.	General Electric Co.	Lynn, Mass.
Rogers, W. J.	A.; Nat. C.; N.J.	Agt. g. & El. Depts. Passaic Div., Public Service Gas Co.	Paterson, N. J.
Rohrman, J. G.	Nat. G.	Gen. Solic. Logan Natural Gas & Fuel Co.	Columbus, O.
Rolinson, W. H.	Sou.	Dist. Sals. Agt., Youngstown Sheet & Tube Co.	Atlanta, Ga.
Rolle, Carl	I. E.	Westinghouse Lamp Co.	New York, N. Y.
Rolph, T. W.	Nat. C.	United Gas Imp. Co.	Somerton, Philadelphia, Pa.
Roiston, R. J.	I. E.	Strong Mfg. Co.	Sebring, O.
Rom, Robert	*I. E.; Nat. C.; *A.; *Pa.; Sou.; N. J.	M., Welsbach Co.	Philadelphia, Pa.
Romano, M.	*Wis.; N. J.	P., Robert Rom Co.	Milwaukee, Wis.
Romanski, I.	Nat. G.	Mrs. Light & Heat Co.	East Pittsburgh, Pa.
Rome Gas, Electric Light & Power Co.	*Ill.	P., Atlas Coal & Coke Co.	Chicago, Ill.
Romine, Edward C.	Emp.; Nat. C.		Rome, N. Y.
Roome, H. C.	Nat. C.	Central Union Gas Co.	New York, N. Y.
Rooney, E. S.	Sou.	M. Dir., Miami Gas Co.	Miami, Fla.
Root, Wm. A.	Nat. G.	Dist. Sals. Agt., Youngstown Sheet & Tube Co.	Pittsburg, Pa.
Root, W. K.	Nat. C.		2358 Lyon Ave., Bronx, N. Y.
Root, Wm. Augustus	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Roper, George D.	*I. E.	Com. M., Bronx Gas & El. Co.	New York.
Roper, G. H.	A.; *Ill.; Ia.; Mich.; Nat. C.; P. C.	P., Eclipse Gas Stove Co.	Rockford, Ill.
Roper, Mabon P.	Sou.	S., Americus Public Service Co.	Americus, Ga.
Roper, Winfield	*Ill.; Nat. C.	Credit Man, Eclipse Gas Stove Co.	Rockford, Ill.
Rosa, Dr. Edw. B.	*A.	S., Slatington Gas Co.	Slatington, Pa.
Rose, P. A.	*I. E.	Physicist, Bureau of Standards	Washington, D. C.
Rose, S. L. E.	Acc.	Oxweld Acetylene Co.	Newark, N. J.
Rose, W. J.	I. E.	A. to I. E., General Electric Co.	Schenectady, N. Y.
Rosenbaum, E. Raven	Nat. G.		Alliance, O.
Rosenberg, Max	Acc.; Nat. C.	c/o Ashton, Laird & Co.	New York, N. Y.
Rosenberg, Percy C.	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Rosengren, Chas. B.	*I. E.	Sec. to Ist V. P., Philadelphia Elec. Co.	Philadelphia, Pa.
Rosenkrans, F. M.	Nat. C.	The House Furnishing Review	New York, N. Y.
Rosenquest, Eugene H.	Sou.	Indus. Heating Engineer	60 Wall St., New York City.
Rosenthal, Albert	A.; *I. E.		
Ross, Harry C.	Emp.; Nat. C.; Soc. G.	P. & G. M., Bronx Gas & Electric Co.	Westchester, N. Y.
Ross, J. W.	A.	E., Claiborne, Johnston & Co.	Baltimore, Md.
Ross, L. M.	P. C.	Pacific Gas & El. Co.	Sacramento, Cal.
Rossendale-Reddaway Belt-ing & Hose Co.	Nat. C.	Tuscaloosa Ry. & Utilities Co.	Tuscaloosa, Ala.
Rosman, G. M.	*Ia.	A. Sec., H. Mueller Mfg. Co.	Decatur, Ill.
Roswell Gas & El. Co.	N. G. S.		Newark, N. J.
Rotan Water & Lt. Co.	Nat. C.	T., Keene Gas & Elec. Co.	Keene, N. H.
Roth, Emory	So. W.		Roswell, N. M.
Roth, H. P.	I. E.		Rotan, Tex.
Roth, N. J.	Sou.	343 High St., Newark, N. J.	
Rother, Charles O.	Mo.	S. & E., Helena Gas & El. Co.	Helena, Ark.
	Nat. C.	Electric Appliance Co.	Chicago, Ill.
		Buffalo Dental Mfg. Co.	Buffalo, N. Y.



THE LARGEST INDUSTRIAL GAS CONSUMERS are getting wonderful results in economy and increasing the efficiency of their industrial furnaces by the aid of the **NEEDHAM HIGH PRESSURE GAS SYSTEM.**

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY	CITY OR TOWN.
Rothert, E. R.	Nat. G.	Solic. Union Gas & El. Co.	4th and Plum Sts., Cincinnati.
Rouse, Albert	Ill.	Sals. Public Serv. Co. of No. Ill.	Oak Park, Ill.
Rowan, Raymond	Nat. G.	Sec. to V. P., Union Gas & El. Co.	Cincinnati, O.
Rowe, Edward M.	*Ill.	P. The Regal Press	Chicago, Ill.
Rowe, H. J.	Mich.	S. Mfr., Michigan Light Co.	Saginaw, Mich.
Rowland, Arthur J.	*I. E.	School of Engineering, Drexel Inst.	Philadelphia, Pa.
Rowland, Charles L.	*I. E.	Con. E., American Welding Co.	Carbondale, Pa.
Rowland, Ernest W.	*I. E.	Chf. Bond Insp., Public Service Ry.	Newark, N. J.
Rowland, S. C.	Ind.	M., Crawfordsville Water & Light Co.	Crawfordsville, Ind.
Rowland, Willard J.	Nat. G.	P. Creek County Gas Co.	Pittsburg, Pa.
Rowland, William L.	A.	Ch. E., Henry Bower Chemical Mfg. Co.	Philadelphia, Pa.
Rowley, R. B.	Mich.	Semet-Solvay Co.	Detroit, Mich.
Royal, M. P.	Ind.	S. No. Ind. Gas & El. Co.	Frankfort, Ind.
Royce, Frederick P.	A.; N. E.	V. P., Stone & Webster Mgt. Assn.	Boston, Mass.
Rudd, William G.	Ill.	A. S. So. Sta., Peoples Gas Lgt. & Coke Co.	Chicago, Ill.
Rudert, Emil	Nat. G.	Cont.	Saxenburg, Pa.
Ruegenberg, John M.	A.; Nat. C.	Sa. Northern Liberties Gas Co., U. G. I. Co.	Philadelphia, Pa.
Rumbaugh, G. N.	Nat. G.	Asst. to G. S. C. B. Shaffer Interests.	Wichita, Kan.
Rumble, Frank L.	Nat. C.	Pennsylvania Globe Gas Light Co.	Philadelphia, Pa.
Rumbold, A. H.	Sou.	N. B. M., Jacksonville Gas Co.	Jacksonville, Fla.
Runnels, Paul P.	Tex.	So. Sals. M., Ideal Gas Light Co.	Terre Haute, Ind.
Runner, R. K.	A.; Ia.; Nat. C.	M., Charles City Gas Co.	Charles City, Ia.
Runyan, Cecil A.	Mich.; Ind.	M., So. Haven Gas Co.	So. Haven, Mich.
Rupp, C. H.	Nat. G.	A. T., Peoples Natural Gas Co.	424 6th Ave., Pittsburgh, Pa.
Rusby, John M.	A.; *I. E.; Nat. C.	E. of Tests, United Gas Improvement Co.	Philadelphia, Pa.
Rush, Albert	Nat. G.	Cont., Mfrs. Light & Heat Co.	Waynesburg, Pa.
Rush, J. K.	Ace.		1855 S. Salina St., Syracuse, N. Y.
Rusherchel, Carl	*N. E.	Fm. meter rep., Blackstone Valley G. & E. Co.	Woonsocket, R. I.
Rushin, J. C.	Nat. C.; Sou.; N. J.; *Pa.	Box 239	Atlanta, Ga.
Russell, C. H.	Nat. G.	Chf. Sta. E., United Gas Co.	Mt. Jewett, Pa.
Russell, Charles J.	I. E.	Dist. M., Phila. Electric Co.	Philadelphia, Pa.
Russell Engineering Co.	Mo.; G. I.		International Life Bldg., St. Louis, Mo.
Russell, Edward G.	*I. E.; Nat. C.	Com. Agt., Consumers Gas Co.	Reading, Pa.
Russell, F. E.	P. C.; Nat. C.	M., Tucson Gas, Elec. L. & P. Co.	Tucson, Ariz.
Russell, G. W.	Nat. G.	Sa. Ardmore City Gas Co.	Ardmore, Okla.
Russell, Herman	A. Mich.; Nat. C.		
Russell, James	*A.; Nat. C.	A. G. M., Rochester Ry. & L. Co.	Rochester, N. Y.
Russell, Norman F. S.	*A.	A. Chf. Dftman, United Gas Imp. Co.	Philadelphia, Pa.
Russell, R. F.	Ace.	G. Sals. M., U. S. Cast Iron Pipe & Fdy. Co.	Philadelphia, Pa.
Russell, R. J.	Mo.	Air Reduction Co.	New York, N. Y.
Russell, W. M.	Nat. C.; A.	Century Electric Co.	St. Louis, Mo.
Russum, R. C.	Nat. G.; Nat. C.	Chem. E., Providence Gas Co.	Providence, R. I.
Rust, Robert R.	*A.	S. and T., Quapaw Gas Co.	Bartlesville, Okla.
Ruth, Robert H.	*I. E.	S. of Foundries, Central Fndry Co.	New York, N. Y.
Rutledge, C. E.	P. C.	Dist. M., Benjamin Electric Mfg. Co.	Mt. Lebanon, Pa.
Rutledge, Fred J.	A.; I. E.; Nat. C.	Fmn., Santa Barbara Gas & El. Co.	Santa Barbara, Cal.
Rutz, A. O.	Nat. G.	Com. Agt., United Gas Imp. Co.	Philadelphia, Pa.
Ruud, Edwin	*A.; Nat. C.	G. M., Milwaukee Gas Specialty Co.	Milwaukee, Wis.
Ruud, W. G.	Ill.	Mfr. Ruud Mfg. Co.	Pittsburg, Pa.
Ruud Mfg. Co.	Nat. C.; N. G. S.	A. Sta. S., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Ryall, L. F.	Mich.; Ind.	A. P. Brill, Gen. Mgr.	Pittsburgh, Pa.
Ryan, B., & Co.	Nat. C.	P. T. & M., Indiana Fuel & Lt. Co.	Kendallville, Ind.
Ryan, E. M.	Nat. G.	Chf. G. Ledger Bookkeeper, Iroquois Nat. G. Co.	88 Walker St., New York, N.Y.
Ryan, Harris J.	*I. E.	Leland Stanford, Jr., University.	Buffalo, N. Y.
Ryan, Jas. T.	P. C.	Engineer, Valuation Dept.	Stanford University, Cal.
Ryan, J. L.	Nat. G.	Agt., Iroquois Nat. G. Co.	San Francisco, Cal.
Ryan, John J.	*I. E.	El. Insp., Dept. Gas & Electricity	Salamanca, N. Y.
Ryan, Thomas	Nat. C.		Chicago, Ill.
Ryan, W. D. A.	I. E.	Ill. E., General Electric Co.	421 Fifth Ave., Brooklyn, N.Y.
Ryan, W. G.	Nat. G.	Producer	Schenectady, N. Y.
Ryder, D. R.	Nat. C.	Gas Eng. Sals., Public Serv. Gas Co.	Jersey City, N. J.
Ryerson, W. N.	*I. E.	M., Great Northern Power Co.	Duluth, Minn.
Saam, W. H.	*Pa.	Spec. R., Pittsburg Water Heater Co.	Pittsburg, Pa.
Sackett, Edward	Nat. G.	Meter E., United Fuel Gas Co.	Charleston, W. Va.
Sacramento Dist. Pacific Gas & Elec Co.	*P. C.		Sacramento, Cal.
Sadler, F. E.	Ace.	American Lava Co.	Chattanooga, Tenn.
Saeger, E. L.	Nat. G.	Fm., E. Ohio Gas Co.	Barberton, O.
Safety Engineering	Nat. C.		New York, N. Y.
Sagers, Ernest E.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
St. Charles Elec. Light & Power Co.	Mo.		St. Charles, Mo.
St. Charles Lighting Co.	Mo.		St. Charles, Mo.
St. John, John W.	A.; Nat. C.; Wis.	V. P. & G. M., Madison Gas & El. Co.	Madison, Wis.
St. Joseph Gas Co.	Mo.; Nat. C.		St. Joseph, Mo.
St. Joseph Ry., Light, Heat & Power Co.	Mo.		St. Joseph, Mo.
St. Joseph Water Co.	Mo.		St. Joseph, Mo.
St. Louis & Jennings Ry. Co.	Mo.		Jennings, Mo.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

ASSOCIATION MEMBERS

873

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
St. Louis Car Co.....	So. W.; Mo.....		St. Louis, Mo.
St. Louis County Gas Co..	Mo.....		Webster Groves, Mo.
Sr. Louis Electric Terminal Ry. Co.	Mo.....		St. Louis, Mo.
Sr. Louis Surfacers & Paint Co.	So. W.....		St. Louis, Mo.
St. Mary's Gas Co.....	O.....		St. Mary's, O.
St. Paul Gas Light Co.....	Nat. C.....		St. Paul, Minn.
Salina Lt., Pr. & Gas Co..	Nat. C.; Kan.....		Salina, Kansas.
Salt, Thomas V.....	*A.....	V. P. & G. M. Federal Chemical Co.	Kingsport, Tenn.
Salzmann, Alfred H.....	Nat. C.....	Public Service Gas Co.....	Newark, N. J.
Sample, D.....	Nat. G.....	Field S. Am. Natural Gas Co.	Allison Park, Pa.
Sample, Frank L.....	*I. E.....	Sales E. Pettingell Andrews Co.	Boston, Mass.
Sampson, A. T.....	*I. E.....	Sampson & Allen.....	Lynn, Mass.
Sampson, A. W.....	Nat. C.....	Order Clk., Boston Gas Co.	Boston, Mass.
San Antonio Gas & Electric Co.	So. W.; Nat. C.....		San Antonio, Tex.
San Antonio Traction Co..	So. W.....		San Antonio, Tex.
Sanborn, G. M.....	*I. E.....	P. Sanborn Electric Co.....	Indianapolis, Ind.
Sanborn, R. A.....	Sou.; Mich.....	Sals. Sprague Meter Co.....	Bridgeport, Conn.
Sanders, Barney H.....	*A.....	P. & G. M., Am. Fdy. & Mfg. Co.	St. Louis, Mo.
Sanders, W. W.....	Id.....	Sec. & M. Decorah Gas Co.	Decorah, Ia.
Sanderson, I. E.....	Nat. C.....	Rochester Ry. & Lt. Co.	Rochester, N. Y.
San Diego Cons. G. & E. Co.	Nat. C. *P. C.....		San Diego, Cal.
Sands, H. T.....	*I. E.; N. E.; Nat. C.; A.....	G. M., Chas. H. Tenney & Co.	Boston, Mass.
Sands, Louis C.....	Nat. G.....	V. P., Oil Well Supply Co.	Pittsburg, Pa.
Sandstrom, Felix.....	Ace.....		Philadelphia, Pa.
Sanford, W. B.....	*I. E.....	Pur. E., Western Electric Co.	New York, N. Y.
San Francisco Dist. Pacific Gas & El. Co.....	*P. C.....		San Francisco, Cal.
Sanford, Fred.....	Nat. C.....		2608 West Ave., Newport News, Va.
Sanger Light Co.....	So. W.....		Sanger, Texas
Sanitary Co. of Am.....	N. G. S.; *Pa.....		Linfield, Pa.
San Joaquin Lt. & Pr. Co..	*P. C.....		Fresno, Cal.
San Jose Dist. Pacific Gas & Electric Co.....	*P. C.....		San Jose, Cal.
San Saba Lt. & Ice Co.....	So. W.....		San Saba, Texas
Santa Clara, Cal., Town of	*P. C.....		Santa Clara, Cal.
Santoff, Harry A. S.....	Nat. C.....	Public Service Gas Co.....	Paterson, N. J.
Sapp, C. J.....	Sou.....		Dayton, O.
Sapulpa Electric Co.....	Okla.....		Sapulpa, Okla.
Sapulpa Interbrn Ry. Co.	Okla.....		Sapulpa, Okla.
Saranac Lake Gas Co.....	Nat. C.....	The Ohio Fuel Supply Co.	Saranac Lake, N. Y.
Sarchet, A. C.....	Nat. G.....		Cambridge, Ohio
*Sard, Russell E.....	*A.; Nat. C.; *Ill.....	P. Rathbone, Sard & Co.	Albany, N. Y.
Sargeant, Frank Washburn	A.; Ind.....	S. Dis., Citizens' Gas Co.	Indianapolis, Ind.
Sargent, Frank C.....	N. E.....	E. M., Chas. H. Tenney & Co.	Boston, Mass.
Sargent, Fred H.....	A.; G. G. M.; *I. E.; Nat. C.; N. E.....	A. Agt., Lawrence Gas Co.	Lawrence, Mass.
Sargent, R. H.....	Nat. G.....	Works M. Roessler & Hasslacher Chemical Co.	St. Albans, W. Va.
Sartorius, F.....	Nat. G.....	T. United Nat. Gas Co.	Oil City, Pa.
Sass, Frank H.....	Ill.....	Fm., Peoples Gas Lgt. & Coke Co.	Chicago, Ill.
Sathoff, Rudy G.....	Ill.....	S., Quincy Gas, El. & Htg. Co.	Quincy, Ill.
Sattarhwait, P. M.....	N. J.....	New Jersey Gas Co.	Philadelphia, Pa.
Satterlee, Wm. B.....	*I. E.....	Satterlee Electric So.	22 E. 9th St., Kan-as City, Mo.
Sauer, Joseph F.....	P. C.....	Dftmn., Pacific Gas & Elec. Co.	San Rafael, Cal.
Sauer, William A.....	Ill.....	A. S., Peoples Gas Light & Coke Co.	Chicago, Ill.
Saul, Milt.....	*Ill.; *Ia.; Nat. G.; Nat. C.; Sou.....	Ed. Gas Record.....	Chicago, Ill.
Saulles, C. A. H. de.....	Nat. G.....	Am. Smelting & Refining Co.	165 Broadway, New York
Sault Ste Marie G. & E. Co.	Nat. C.....		Sault Ste. Marie, Mich.
Saunders, F. B.....	N. E.....	g. E., Norood Gas Co.	South Framingham, Mass.
Saunders, John B.....	*Ace.....		Fort Plain, N. Y.
Saunders, Wm. E.....	*I. E.....	E., United Gas Improvement Co.	Philadelphia, Pa.
Savage, F. J.....	Nat. C.....	Public Service Gas Co.	Newark, N. J.
Savage, George W.....	Nat. C.; A.....	S. of dis., Phila. Sub. G. & Elec. Co.	Chester, Pa.
Savannah Electric Light & Power Co.....	Mo.....		Savannah, Mo.
Savory, T. C.....	Nat. C.....	Rnud Mfg. Co.	Brookline, Mass.
Sawin, Geo. A.....	I. E.....	Ill. E., Public Serv. Corp. of N. J.	Newark, N. J.
Sawyer, Clarence P.....	N. E.....	S., Westbrook Gas Co.	Westbrook, Me.
Sewyar, Edgar P.....	Wis.....	P., Oshkosh Gas Light Co.	Oshkosh, Wis.
Sawyer, Leroy P.....	*I. E.....	P., Buckeye El. Wks. of G. E. Co.	Cleveland, Ohio
Sawyer, Phil H.....	Wis.....	Sec. & T., Oshkosh Gas Light Co.	Oshkosh, Wis.
Saxon, Fred.....	Ind.....	Local M., Ind. Fuel & Light Co.	Kendallville, Ind.
Sayer, Eugene Y.....	*A.....	V. P. & G. M., Improved Equip. Co.	New York, N. Y.
Sayer, J. D.....	*Wis.; *Mich.....	M. Bench Dept., Imp. Equip. Co.	New York, N. Y.
Saylor, R. C.....	Nat. C.; *A.....	Hagerstown Lt. & Ht. Co.	Hagerstown, Md.
Sayre Electric Co.....	Emp.....		Styre, Pa.
Scanlan, L. D.....	Kan.....	Sals., Wesco Supply Co.	St. Louis, Mo.
Scarlett, R. B.....	P. C.....	Sals., Portland Gas & Coke Co.	Portland, Ore.
Schaaf, August H.....	A.....	Pmet Insp., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Schabeck, John A.....	Ill.....	A. Dist. S., Public Service Co. of No. Ill.	Morris, Ill.
Schaddelee, Richard.....	A.; Mich.....	V. P., United Light & Rys. Co.	Grand Rapids, Mich.
Schadi, G. J.....	*I. E.....	Bureau of Standards	Washington, D. C.

Provide your men with the greatest insurance against disaster. Use the GOODMAN STOPPER.

SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATIONS.	COMPANY.	CITY OR TOWN.
Schaefer, Oscar	Nat. C.		17 Dolan Terrace, Bala, Pa.
Schaefer & Budenburg Mfg. Co.	N. G. S.		Brooklyn, N. Y.
Schaeffer, W. L.	Nat. C.; A.	National Tube Co.	Frick Bldg., Pittsburg, Pa.
Schafer, E. E.	Ill.	Indus. g. E., Peoples Power Co.	Rock Island, Ill.
Schafer, F. J.	P. C.; A.	S., Southern California Gas Co.	Los Angeles, Cal.
Schafer, Fred A.	P. C.	S., Citrus Belt Gas Co.	Colton, Cal.
Schaff, A. H.	A.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Schaffert, C. R.	Ace.	The Prest-O-Lite Co.	Indianapolis, Ind.
Schaffer, Hose	Nat. G.	Fm., The Mfrs. Light & Heat Co.	Washington, Pa.
Schake, C. F.	Nat. C.	Rochester Ry. & Lt. Co.	Rochester, N. Y.
Schalchlin, G. W.	Ark.	M. Ark. Lt. & Pr. Co.	Magnolia, Ark.
Schalck, John H.	Nat. G.	Meter Tester, Mfrs. Light & Heat Co.	Pittsburg, Pa.
Schall, Henry D.	*A.; *Ill.; *Ia.; Nat. C.; Nat. G.; *Wis.; *Ind.; Sou.; *Mich.; Mo.; Can.; N. J.; *Pa.		
Schanze, A. G.	*Pa.; Nat. C.	A. to V. P., Detroit Stove Works	Detroit, Mich.
Schaper, H. C.	Wis.; Nat. C.	G. M., Sentinel Mfg. Co.	New Haven, Conn.
Schattschneider, H.	Wis.	A. Sec. & Chf. Clk., Milwaukee Gas Light Co.	Milwaukee, Wis.
Schatzel, Geo. P.	Nat. G.	Agt., Logan Nat. Gas & Fuel Co.	Milwaukee, Wis.
Schauer, Frank F.	A.; Nat. G.	A. E., Kansas City Gas Co.	Findlay, Ohio.
Scheel, Fred H.	Ill.	Cont. A., Public Serv. Co. of No. Ill.	Kansas City, Mo.
Schelske, Albert	I. E.	Patent Attorney	Joliet, Ill.
Schell, George W.	Nat. G.	W. Va. Central Gas Co.	79 W. Monroe St., Chicago, Ill.
Schell, William F.	*A.; Nat. G.	Mech. E., Philadelphia Co.	Weston, W. Va.
Schenck, Rudolph	A.; Ill.	Architect, Peoples Gas Light & Coke Co.	Pittsburg, Pa.
Schenectady Illuminating Co.	Emp.		Chicago, Ill.
Scherck, Leon H.	A.; *I. E.; Nat. C.; Emp.	Sales M., Central Hudson Gas & Electric Co.	Schenectady, N. Y.
Scherr, Alpheus B.	*A.	Carbondale Gas Co.	Poughkeepsie, N. Y.
Schieck, Chas. H.	P. C.		Carbondale, Pa.
Schildhauer, Edward	I. E.	P. Artillery Fuse Co.	715 Indiana St., San Fran- cisco, Cal.
Schiller, Avery Reubens	N. E.	S., The Connecticut Power Co.	Box 516, Wilmington, Del.
Schiller, Charles C.	A.		New London, Conn.
Schirathin, Jacob	*Ill.	Sals., Reliable Stove Co., Div. Am. Stove Co.	Watervliet, Mich.
Schlaudecker, E. M.	Nat. G.	M., Pennsylvania Gas Co.	Chicago, Ill.
Schlegel, Carl A.	*A.; Ind.	M., Northern Indiana Gas & El. Co.	Jamestown, N. Y.
Schlesinger, Ferd.	Wis.; Nat. C.; A.		South Bend, Ind.
Schlosser, A. J.	Nat. G.	P., Milwaukee Coke & Gas Co.	Milwaukee, Wis.
Schlosser, L. L.	Nat. C.	Chf. E., Potter Gas Co.	Shinglehouse, Pa.
Schmeltz, Fred W.	Mich.	Madison Gas & Electric Co.	Madison, Wis.
Schmidt, A. P.	Nat. C.	Sals., Detroit City Gas Co.	Detroit, Mich.
Schmidt, E. F.	Nat. G.; Nat. C.	Store Clk., Consolidated Gas Co.	New York, N. Y.
Schmidt, E. H.	A.; Nat. C.	Tri City Ry. Lt. Co.	Rock Island, Ill.
Schmidt, F. W.	A.; Nat. C.	Fitting Shop S., Northern Union Gas Co.	New York, N. Y.
Schmidt, R. M.	Nat. C.	G. Agt., Hudson Div., Public Service Corporation of New Jersey	Jersey City, N. J.
Schmidt, Wm.	Nat. C.	Cons. Gas, Elec. Lt. & Pr. Co.	2472 N Rampart, New Orleans
Schneider & Trenkemp Co., The	*P. C.		Baltimore, Md.
Schneider, G. A.	*I. E.	Sals., Philadelphia Electric Co.	Cleveland, O.
Schneider, Joseph M.	*Ill.	Fm. g. dept., Public Service Co. of No. Ill.	Philadelphia, Pa.
Schneider, M. C.	Nat. G.	A. to G. S., Philadelphia Co.	Evanston, Ill.
Schneider, Philip J.	A.; Nat. C.	T., Central Union Gas Co.	Pittsburg, Pa.
Schneidewind, A.	Nat. G.	P., Exploracion del Petroleo de Co- modoro, Rivadavia	New York, N. Y.
Schnerr, Clarence A.	Ill.	A. S. of Lab., Peoples Gas Light & Coke Co.	278 Balcarce, Buenos Aires, Argentine Republic.
Schobel, Frederick A.	A.	S. of Dis., Municipal Gas Co.	Chicago, Ill.
Schoch, Prof. Eugene P.	*So. W.		Albany, N. Y.
Schoenfeld, George J.	Nat. C.	Service Equipment Co.	Austin, Texas
Schofield, Roy W.	Nat. C.	Des Moines Gas Co.	Bourse Bldg., Philadelphia, Pa.
Schofield, W. H.	Nat. C.	P., Sanitary Heating Co.	Des Moines, Iowa
Schonfarber, J. G.	Nat. C.	Atlantic Tubing Co.	Brooklyn, N. Y.
Schoonover, Victor	Nat. C.	Public Service Gas Co.	Providence, R. I.
Schorinstein, Fred F.	Nat. G.; Nat. C.	Wisconsin-Minn. Lt. & Power Co.	Newark, N. J.
Schram, Daniel	Ia.	Sec. & T., Columbus Gas Co.	Red Wing, Minn.
Schreck, L. R.	Nat. C.	Westchester Lighting Co.	Columbus, Neb.
Schreiner, Henry	Nat. C.	Brooklyn Union Gas Co.	67 N. Broadway, Yonkers, N.Y.
Schreiner, W. H.	Ill.	Clk., Citizens Lighting Co.	Brooklyn, N. Y.
Schreiter, L. E.	Ia.	N. B. M., Iowa City Light & Power Co.	La Salle, Ill.
Schroeder, Albert G.	A.; Mich.; Nat C.	Pur. Agt., Grand Rapids Gas Lt. Co.	Iowa City, Iowa
Schroeder, Carl R.	*A.	Cadet E. Dis. Dept., Public Service Gas Co.	Grand Rapids, Mich.
Schroeder, Henry	*I. E.	A. Sales M., General Elec Co.	Hoboken, N. J.
Schubert, Fred	Ace.	United States Gauge Co.	Harrison, N. J.
Schuchardt, R. F.	*I. E.	El. E., Commonwealth Edison Co.	67 Wall St., New York, N. Y.
			72 W. Adams St., Chicago, Ill.

SPECIFIC GRAVITY

American Meter Company

561 W. 47th St., New York, N. Y.

APPARATUS; YOUNG'S SULPHUR TEST—REFEREES' SULPHUR AND AMMONIA TEST.

We manufacture these apparatus, the Referees' Sulphur and Ammonia Tests being made in accordance with the latest notifications of the London Board of Gas Referees.

MEMBER.	ASSOCIATIONS.	COMPANY.	CITY OR TOWN.
Schuck, Conrad, Jr.	†A.	A. S., Public Service Gas Co.	Morristown, N. J.
Schuetz, A.	Wis.		Milwaukee, Wis.
Schuldt, C. F. A.	Nat. C.	St. Paul Gas Lt. Co.	St. Paul, Minn.
Schuler, Geo. C.	Nat. C.		707 Harrison St., Wilm'gtn, Del.
Schultz, Frank H.	N. J.	Geo. M. Clark Co.	1505 Broadway, New York.
Schultz, W. F. H.	A.	Chf. E., Dessauer Vertical Oven Co.	
Schumacher, John H.	I. E.	United Gas Imp't Co.	Philadelphia, Pa.
Schuman, John	Ill.	Schumacher Gray Co.	Winnipeg, Man., Can.
Schurz, James R.	†A.	Fm., Public Service Co. of No. Ill.	Evanston, Ill.
Schutt, H. L.	*Mich.; Nat. C.	G. Sals. Agt., Camden Coke Co.	Newark, N. J.
Schutt, Harry S.	*Ind.; *Ill.	R., Wm. M. Crane & Co.	New York, N. Y.
Schutt, W. T.	A.; I. E.; Nat.	G. M., C. H. Geist Co.	Philadelphia, Pa.
Schutts, Max	C.; Pa.	Lambert Chem. Co.	St. Louis, Mo.
Schwab, Gustave	Sou.; Nat. C.	Sals., Michigan Stove Co.	P. O. Box 240, Chattanooga, Tenn.
Schwabe, Walter P.	P. C.	Consulting Engineer	San Francisco, Cal.
Schwarm, C. A.	A.; Nat. C.; N.E.G. M.	Northern Connecticut Light & Power Co.	Thompsonville, Conn.
Schwartz, Frederick	A.; Nat. G.; Mich.; Tex.		90 Hagne St., Detroit, Mich.
Schwartz, H. M.	*I. E.	G. M., Robt. Findlay Mfg. Co.	28 Warren St., N. Y. City.
Schweitzer, E. O.	*I. E.	Prop., Robt. Findlay Mfg. Co.	Brooklyn, N. Y.
Schwind, Jos. J.	*I. E.	Chf. Testing Engr., Commonwealth Edison Co.	Chicago, Ill.
Schwing, C. F.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Scientific Heater Co.	Nat. C.; N. G. S.		31 Bay View Ave., New Brighton, N. Y.
Scobell, E. C.	A.; Nat. C.; Emp.	A. Aud., Rochester Ry. & Light Co.	Cleveland, Ohio.
*Scotfield, Thomas	A.; I. E.; Nat. C.		Rochester, N. Y.
*Scott, Alex H.	A.; N.E.; Nat. C.	Ill. E., Consolidated Gas Co.	New York, N. Y.
Scott, Prof. Arthur Curtis	§So. W.	E., Peoples Gas Light Co.	Manchester, N. H.
Scott, Charles F.	*I. E.; Nat. C.		Dallas, Tex.
Scott County Milling Co.	Mo.	Prof. El. E., Yale University	New Haven, Conn.
Scott, G. C.	Nat. G.	Sec. & T., Columbus G. & F. Co.	Oran, Mo.
Scott, H. H.	Nat. C.	Henry L. Doherty Co.	Columbus, O.
Scott, J. J.	A.	60 Wall St., New York, N. Y.	
Scott, John M.	Nat. C.; Nat. G.	S., Lewiston Gas Light Co.	Lewiston, Me.
Scott Oil & Gas Co.	O.	Sec. & T., Kansas City Gas Co.	Kansas City, Mo.
Scott, W. H.	Nat. G.		Carrollton, O.
Scott, William D.	†A.	Teller, N. W. Ohio Natural Gas Co.	Toledo, O.
Scott, Wm. R.	P. C.	E., New Haven Gas Lt. Co.	New Haven, Conn.
Seaville, Jas.	Nat. G.	Sals., Coast Counties Gas & El. Co.	Santa Cruz, Cal.
Seranton, George H.	A.; Nat. C.; N. E.	Fm., East Ohio Gas Co.	Akron, O.
Seranton, Worthington	A.	Sec., Derby Gas Co.	Derby, Conn.
Scratch, Geo.	Nat. G.	V. P., Hyde Park Gas Co.	Seranton, Pa.
Seaville, Frank E.	*So. W.	Fm., Beaver Oil & Gas Co.	Akron, O.
Seachrist, Chas. E.	Nat. G.		Laredo, Texas.
Seaman, J. B.	*I. E.	Fm., The Mfrs. Light & Heat Co.	Pittsburgh, Pa.
Searing, Roy B.	Nat. C.	A. S. Instal. Bur., Philadelphia Electric Co.	Philadelphia, Pa.
Searle, Robert M.	A.; *I. E.; Nat. C.; Soc. G.; Nat. G.	Sioux City Gas & Elec. Co.	Sioux City, Iowa.
Sears, Clifton W.	§Nat. G.; P. C.; Nat. C.	V. P., Rochester Ry. & Light Co.	Rochester, N. Y.
Seaton, F. H.	Ill.	V. P. & G. M., Central Ohio Gas & El. Co.	Wooster, O.
Seaver, E. H.	P. C.	Pipe Insp., E. & St. Dept., Peoples Gas Ltg. & Coke Co.	Chicago, Ill.
Seaver, Kenneth	*A.	Sals. M., The C. H. Sharp Mfg. Co.	Los Angeles, Cal.
Sebald, H. A.	Ind.	Chf. E., & A. G. Sales Mgr., Harbison-Walker Refractories Co.	Pittsburg, Pa.
Sechrist, M. F.	Nat. G.	P. & M. Gas Co.	Lawrenceburg, Ind.
Secord, Warren L.	A.; Nat. C.	Fm., Arkansas Natural Gas Co.	Hope, Ark.
Sedalia Ice, Light & Fuel Co.	Mo.	G. S. of Met., Westchester Ltg. Co.	Mt. Vernon, N. Y.
Sedberry, W. H.	Nat. G.; Tex.		Sedalia, Mo.
Seddon, Samuel V.	A.	M., Marshall Gas Co.	Marshall, Tex.
*See, Milton, Jr.	†A.	S., Met. Wks., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Seeger, Robert	Nat. G.	S. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Seeley, Harold K.	†A.	Dist. M., Welsbach Street Lighting Co. of America	St. Louis, Mo.
Seeley, E. J.	Mo.	A. S., City Dist., United Gas Imp. Co.	Philadelphia, Pa.
Seep, Joseph	Nat. G.	Geo. M. Clark Stove Co.	Chicago, Ill.
Seibel, John	Nat. G.	Logan Natural Gas & Fuel Co.	Findlay, O.
Seibert, Wm. F.	Nat. G.	P., Central Ky. Natural Gas Co.	Oil City, Pa.
Seibert, John	†Ill.	Public Service Gas Co.	Newark, N. J.
Seice, Jos.	Nat. G.	Works S., Decatur Ry. & Lt. Co.	Decatur, Ill.
Seidenglanz, C. H.	Tex.	Field S., Am. Natural Gas Co.	Kittanning, Pa.
Seiler, Alvin	I. E.		Dallas, Texas.
Selander, Geo. W.	Nat. C.	Ag., Westinghouse Lamp Co.	Greensburg, Pa.
Selas Co.	Nat. C.; N. G. S.	Col., Public Service Gas Co.	Newark, N. J.
Sellers, Joseph P.	*I. E.		Canton, O.
*Sellman, Nils T.	Nat. C.	Philadelphia Electric Co.	Philadelphia, Pa.
Senator, Aaron	Nat. C.	Consolidated Gas Co.	New York, N. Y.
		Sals., United Gas Imp. Co.	Philadelphia, Pa.

GASOLINE RECOVERY by Absorption or Compression. Let us investigate your proposition and figure on a plant.

HOPE ENGINEERING & SUPPLY COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATIONS.	COMPANY.	CITY OR TOWN.
Sentak, J.	Ind.	Sals., Gary Heat, Light & Water Co.	Gary, Ind.
Seneca River Power Co.	Emp.		Baldwinsville, N. Y.
Sentit, Thos.	Acc.	U. S. Gauge Co.	67 Wall St., New York, N. Y.
Serrill, William J.	A.; I.E.; Nat.C.	E. of dis. United Gas Imp. Co.	Philadelphia, Pa.
Sessing, Fred A.	Nat. C.	Col., Public Service Gas Co.	Newark, N. J.
Seyerson, Robert K.	Nat. C.	Chf. Clk. City Dist., Phila. Gas Works, United Gas Imp. Co.	Cleveland, Ohio.
Sewell, John M.	Pa.	Sais., Humphrey Water Heater Co.	Philadelphia, Pa.
Seybolt, Edward	N. E.; Nat. C.	E. & M., Portsmouth Gas Co.	Portsmouth, N. H.
Seyffert, L. A.	Nat. G.	A. T., United Fuel Gas Co.	Charleston, W. Va.
Seymour, F. W.	*I. E.		43 16th St., Flushing, N. Y.
Seymour, Freder'k Warner	Mich.; A.	V. P. & G. M., Calhoun Gas Co.	Battle Creek, Mich.
Seymour Mill, Elevator & Lt. Co.	S. W.		Seymour, Texas
Seymour, William	Mich.	Koppers Co.	Cleveland, O.
Seymour, William W.	A.	P., North Pacific Pub. Serv. Co.	Tacoma, Wash.
Shaad, George C.	I. E.; Kan.	Prof. El. E., University of Kansas.	Lawrence, Kan.
Shackelford, Benj. E.	*I. E.	Physicist, Westinghouse Lamp Co.	Bloomfield, N. J.
Shacklette, Royal	A.; Mich.; Nat.C.	Sec. & G. M., Big Rapids Gas Co.	Big Rapids, Mich.
Shaboldt, R. G.	Nat. C.	Grantham Gas Co.	Grantham, England.
Shade, R. S.	Nat. G.	A. S., Main Lines & Dis., Kansas Natural Gas Co.	Independence, Kan.
Shaeffer, John Wallace	A.	S., Milwaukee Coke & Gas Co.	Milwaukee, Wis.
Shafer, F.	Nat. G.	S., Southern California Gas Co.	Los Angeles, Cal.
Shaff, S. E.	*I. E.	Electric Machinery Co.	Minneapolis, Minn.
Shaffer, Charles F.	Nat. G.	Field Em., The Mfrs. Light & Heat Co.	Corapolis, Pa.
Shaffer, D. C.	Nat. G.	S. Dis., Union Lgt., Ht. & Pwr. Co.	Court and Park Place, Covington, Ky.
Shaffer, N. D.	Acc.	Ideal Epworth Acetylene Co.	620 Elder St., Johnstown, Pa.
Shankland, Fowler	Acc.		204 Severance Bldg., Los Angeles, Cal.
Shannon, Chas. A.	*Wis.	Sals. M., Ruud Mfg. Co.	Milwaukee, Wis.
Shannon, O. K.	Nat. G.; So. W.; Nat. C.	Sec., Ft. Worth Gas Co.	Fort Worth, Tex.
Shapiro & Aronson	Nat. C.		New York, N. Y.
Sharp, Dr. C. H.	I. E.	Tech. Dir., Electrical Testing Laboratories	New York, N. Y.
Sharp, R. P.	N. E.		4610 Broadway, Chicago, Ill.
Shattuck, A. F.	A.		Beverly Hills, Cal.
Shattuck, John D.	A.; Nat.C.; Pa.; Sou.	S., American Gas Co.	Philadelphia, Pa.
Shattuck, Jay R.	Nat. G.	Chf. Clk., Iroquois Nat. G. Co.	Buffalo, N. Y.
Shaughnessy, Thomas, Jr.	*A.	E. A., Consolidated Gas Co.	New York, N. Y.
Shaul, Clifford D.	A.; Ind.	G. M., Citizens Gas & Fuel Co.	Terre Haute, Ind.
Shaw, Arthur E.	*I. E.; Nat. C.; *A.	P., Welsbach Street Lighting Co.	Philadelphia, Pa.
Shaw, Graham	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Shaw, Herbert S.	A.; N. E.	G. M., Webster & Southbridge Gas & El. Co.	Webster, Mass.
Shaw, I. M.	Nat. C.; Sou.	Ruud Mfg. Co.	Richmond, Va.
Shaw, John C.	*I. E.		462 1st St., Brooklyn, N. Y.
Shaw, Louis E.	Acc.	J. B. Colt Co.	New York, N. Y.
Shaw, Prof. H. B.	Mo.		Jefferson City, Mo.
Shaw, R. A.	Acc.	Oxweld Acetylene Co.	Chicago, Ill.
Shaw, S. T.	Nat. G.	Agt., The Peoples Natural Gas Co.	Lafayette, Pa.
Shawnee Gas & El. Co.	Okl.		Shawnee, Okla.
Shay, John P.	I. E.	Genl. Fm., United El. Lt. & Pr. Co.	New York, N. Y.
Shay, J. W.	Nat. G.	P., Greensboro Gas Co.	Pittsburgh, Pa.
Shea, Wm.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Shear, Robert	Nat. G.	S., Home Gas Co.	Mt. Morris, Pa.
Shearer, Edward P.	Nat. C.; *I. E.	N. B. A. to Div. Agt., Public Service Gas Co.	Elizabeth, N. J.
Shearon, B. P.	Ind.	A. T., No. Ind. Gas & El. Co.	Hammond, Ind.
Sheehy, John Chas.	*A.	Queens Borough Gas & El. Co.	Far Rockaway, N. Y.
Sheets, William L.	Nat. G.	Clk., Pittsburg & W. Va. Gas Co.	Weston, W. Va.
Sheibley, Frank D.	I. E.	A. E., Cons., Tel. & Elec. Subway Co.	New York, N. Y.
Sheldon, Samuel	*I. E.	Prof. El. E., Bklyn Polytechnic Inst.	Brooklyn, N. Y.
Sheldrake, J. S.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Shell Co. of California	*P. C.		San Francisco, Cal.
Shellenberger, James M.	Nat. C.	Northern Liberties Gas Co.	Philadelphia, Pa.
Shellenberger, Joseph	P. C.	S., Citrus Belt Gas Co.	Colton, Cal.
Shelton, F. J.	*Acc.	Heat, Light & Supply Co.	19 Chuznee St., Wellington, New Zealand.
Shenker, A. B.	Nat. G.	Moving Cont., Shenker & Shenker	West Park, O.
Shenton, R. W.	I. E.; Nat. C.	E. Dept., National Lamp Works	Cleveland, O.
Shepard, Frederick C.	A.	S., Minneapolis Gas Light Co.	Minneapolis, Minn.
Shepard, J. C.	Nat. C.; Ind.	G. Contract Agt., Evansville Gas & El. Co.	Evansville, Ind.
Shepard, Richard, Jr.	A.	G. Storekeeper, Consolidated Gas Co.	124 E. 15th St., New York.
Shepard, W. H.	Nat. G.	T. & M., Coffeyville Gas & Fuel Co.	Coffeyville, Kan.
Shepardson, George D.	*I. E.	Prof. El. E., University of Minn.	Minneapolis, Minn.
Sheppard, Howard R.	*A.; Nat. C.	Member of firm of I. A. Sheppard & Co.	Philadelphia, Pa.
Sheppard, Isaac A., & Co.	Nat. C.		Philadelphia, Pa.
Sheppard, John C.	Nat. G.	S., Chaplin-Fulton Mfg. Co.	Pittsburg, Pa.
Sherech, Leon H.	Nat. C.	Central Hudson Gas & Elec. Co.	Poughkeepsie, N. Y.
Sheerlock, Amy	Nat. G.	A. T., Union Gas & Electric Co.	Cincinnati, O.
Sherman, A. H.	*Ill.	Sales Agt., General Electric Co.	Chicago, Ill.
Sherman, E. J.	P. C.	Agt., Coast Counties Gas & El. Co.	Hollister, Cal.
Sherman, E. S.	Nat. C.	Lowell Gas Lt. Co.	Lowell, Mass.
Sherman, Mason H.	Ill.	G. M., By-Prod. Coke Corp.	Chicago, Ill.



Tycos Temperature Instruments for Gas Works
 H & M Angle and Straight Stem Thermometers; Recording and Indicating Thermometers; Automatic Temperature and Pressure Regulators; Mercury Vacuum and Absolute Pressure Gauges; Engraved Stem Thermometers; Hygrometers; Hydrometers; Thermo-Electric and Radiation Pyrometers; and other heat measuring instruments.
 Write for Catalogue 600.

Taylor Instrument Companies

Rochester, N. Y.

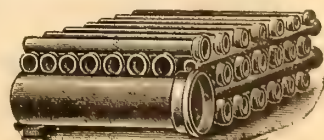


ASSOCIATION MEMBERS

877

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Sherman, S. B.	Ill.	S., Central Ill. Light Co.	Peoria, Ill.
Sherrington, Geo. Q.	Ill.	g. fitter, Public Service Co. of No. Ill.	Pontiac, Ill.
Sherwood, E. J.	A.	M., Mitchell Power Co.	Mitchell, So. Dak.
Sherwood, Herbert	I.A.	S., Westchester Ltg. Co.	Yonkers, N. Y.
Sherwood, M. S.	A.; Nat. C.	Agt. g. Dept., Public Serv. Gas Co.	Summit, N. J.
Shiebler, Marvin	A.; I. E.; Ace.; Nat. C.; Nat. G.	Con. E., 50 Church St., Residence.	278 Berkley Pl., Brooklyn, N.Y.
Shields, F. J.	Nat. C.	New Haven Gas Lt. Co.	New Haven, Conn.
Shields, Geo. Rex.	*Mich.	Care Steere Engineering Co.	Detroit, Mich.
Shields, H. C.	A.	Flatbush Gas Co.	Troy, N. Y.
Shields, W. P.	Nat. C.	Public Service Gas Co.	Brooklyn, N. Y.
Shikata, K.	*I. E.	E., Tokyo Electric Co.	Tokyo-iu, Japan.
Shimomura, Kotaro	A.	Chf. E., Osaka Gas Co.	Osaka, Japan.
Shingo, Y.	I. E.	Care, Tokyo Elec. Co.	Kawasaki, Japan.
Shinnick, Geo. S.	N. G. E.; Nat. G.; Nat. C.	Com. M., Ohio Cities Gas Co.	Columbus, Ohio.
Shipley, C. S.	Nat. C.	International Hale Gas Mixer Co.	Providence, R. I.
Shippen, Thomas	Nat. C.		24 Engle St., Englewood, N. J.
Shoe, Henry W.	Nat. C.		Newtown, Pa.
Shoemaker, W. M.	Nat. C.	Sweets Catalog.	Philadelphia, Pa.
Shoop, Alfred	Nat. G.	Field S., Am. Natural Gas Co.	Rural Valley, Pa.
Short, C. L.	Nat. G.	S., Mountain State Gas Co.	Peytons, W. Va.
Shoub, John F.	Nat. G.	Sec., The Delaware Gas Co.	Delaware, O.
Shoubridge, S. Y.	Nat. C.	The British Commercial Gas Assn.	London, S. W., Eng.
Shreve, W. E.	Nat. C.		Westville, N. J.
Shreveport Ry. Co.	So. W.		Shreveport, La.
Shriver, Chas. M.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Shriver, Ed.	Nat. G.	Fm., East Ohio Gas Co.	Ravenna, O.
Shuff, J. E.	Nat. C.; Ia.	N. B. M., Lincoln Gas & El. Lt. Co.	Lincoln, Neb.
Shuhaw, W. W.	P. C.	Chf. Clk., Pacific Gas & Elec. Co.	San Leandro, Cal.
Shulters, C. W.	Nat. G.	Cash., East Ohio Gas Co.	Cleveland, O.
Shulters, Hoyt V.	Nat. G.	Sec. & Treas., East Ohio Gas Co.	Cleveland, O.
Shultz, Edgar L.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Shuster, Z. H.	Nat. G.	Dist. S., Am. Natural Gas Co.	Kittanning, Pa.
Sickels, Wm. C.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Sievers, August A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Sibley, E. D.	Nat. G.	E., West Va. Trac. & El. Co.	Morgontown, W. Va.
Siedler, Edw.	Nat. C.		307 Waverly Ave., Newark, N. J.
Sibley College	Nat. C.	Cornell University	Ithaca, N. Y.
Signs of the Times	Nat. C.		Cincinnati, O.
Silbert, R. H.	*I. E.	Insp., Philadelphia Electric Co.	Philadelphia, Pa.
Sill Stove Works	Nat. C.		Rochester, N. Y.
Silliman, L. R.	Nat. G.	Dist. Fm., Equitable Gas Co.	Tarentum, Pa.
Silva, A.	Nat. G.	Sec.-T., Union Lgt., Ht. & Pwr. Co.	Covington, Ky.
Silverling, J. L.	Nat. G.	Field Fm., The Peoples Nat'l Gas Co.	Elderton, Pa.
Silverthorn, James C.	Ind.	G. S. g. dept., Evansville Pub. Serv. Co.	Evansville, Ind.
Simkins, H. M.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Simler, O. P.	*Ind.	R., Ruud Mfg. Co.	Pittsburg, Pa.
Simmering, Joe	Ill.	Clk., Public Serv. Co. of No. Ill.	Blue Island, Ill.
Simmons, Chas. H.	Ace.	John Simmons Co.	New York, N. Y.
Simmons, Frank H.	Ace.	John Simmons Co.	New York, N. Y.
Simmons, J. S.	Ace.	John Simmons Co.	104 Center St., New York.
Simmons, L. M.	Nat. G.	Agt., United Natural Gas Co.	Du Bois, Pa.
Simmons, W. P.	Nat. G.	Agt., The Mfrs. Light & Heat Co.	Washington, Pa.
Simons, Paul B.	Nat. C.	Three Rivers Gas Co.	Three Rivers, Mich.
Simon, John C.	Nat. C.	Buffalo Gas Co.	Buffalo, N. Y.
Simons, Keating Lewis.	A.; Nat. C.	V. P. & G. M., El Paso Gas Co.	El Paso, Tex.
Simonson, G. Metcalfe.	*I. E.	A. El. E., State Dept.	Sacramento, Cal.
Simonton, E. W.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Simpson, Colin C.	A.	A. G. S. of mains and services, Consolidated Gas Co.	New York, N. Y.
*Simpson, Henry	A.; Nat. C.	S., Consolidated Gas Co.	New York, N. Y.
Simpson, J. M.	Nat. G.	A. Pur. Agt., Ohio Fuel Supply Co.	2017 Farmers Bk. Bldg., Pittsburgh, Pa.
Simpson, Richard E.	I. E.	Travelers Ins. Co.	Hartford, Conn.
Sinal, Alexander	Nat. C.; *Pa.	M., Lindsay Light Co.	New York, N. Y.
Sinclair, E. W.	Nat. G.	P., Exchange Nat'l Bank.	Tulsa, Okla.
Sinclair, H. A.	*I. E.	Sec. & T., The Tucker El. Con. Co.	New York, N. Y.
Sinclair, Peter S.	*N. E.	V. P., Holyoke Heater Co.	Holyoke, Mass.
Singer, Sidney Charles	A.	S. of dis., Syracuse Lighting Co.	Syracuse, N. Y.
Singleton, Bert	Nat. G.	Fm., Hope Natural Gas Co.	Clarksburg, W. Va.
Sinsel, Otis A.	A.; Mich.	A. E., Detroit Gas Co.	Detroit, Mich.
Sioux Falls Gas Co.	Nat. C.		Sioux Falls, S. D.
Sipe, Wm. Everett.	Nat. G.; Tex.	M., Atlanta Gas Co.	Atlanta, Tex.
Sipe, George B.	Nat. G.	M., Louisiana Gas Co.	Shreveport, La.
Sissingh, Melchior C.	A.	M., Municipal Gas Works.	Rotterdam, Holland.
Skidmore, W. G.	Nat. C.	Public Service Gas Co.	Rutherford, N. J.
Skiff, Warner M.	*I. E.	M. E. Dept., Nat. Lamp Wks. of G. E. Co.	Cleveland, O.
Skinner, O. H.	Ace.	Prest-O-Lite Co.	Indianapolis, Ind.
Sklar, Herman N.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Sklar, Morris	*I. E.	Joseph E. Frechie & Co.	Philadelphia, Pa.
Skogland, J. F.	*I. E.	A. Physicist, Bureau of Standards.	Washington, D. C.
Skubal, John T.	Wis.; A.	Manitowoc Gas Co.	Manitowoc, Wis.
Slacey, F. A. C.	*Ind.	Slacey Mfg. Co.	Indianapolis, Ind.
Slade, Richmond E.	A.; Soc. G.		117 W. 79th St., New York, N. Y.
Sladen, H. S.	Nat. G.	M., Kansas Gas & Electric Co.	Wichita, Kan.
Slater, A. B.	*G. G. M.; A.	C. E.	Slocums, R. I.

WE HAVE LONG MADE A SPECIALTY OF
CAST IRON PIPE
 ALL REGULAR SIZES
R. D. WOOD & CO. : **PHILADELPHIA, PA.**



ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Slater, Surrey W.	A.	Mech. E., St. Maurice Paper Co., Ltd.	Cape Madeline, Quebec, Can.
Slattington Gas Co.	Pa.		Slattington, Pa.
Slattery, James B.	Nat. C.	J. B. Slattery & Bros.	135 Johnson St., Bklyn., N. Y.
Slattery, J. B., & Bros., Inc.	Nat. C.		Brooklyn, N. Y.
Slattery, P. A.	Nat. C.	J. B. Slattery & Bros.	Brooklyn, N. Y.
Sleezer, F. W.	Ill.	Cadet E., Western United Gas & Elec. Co.	Aurora, Ill.
Sligo, George	Nat. C.; Sou.	Dist. Sals. M., Ruud Mfg. Co.	Atlanta, Ga.
Slimpin, Charles D.	Nat. C.	Montreal Lt., Ht. & Pr. Co.	Montreal, Can.
Sloan, C. M.	Nat. G.	Clk. Shop, Iroquois Nat. G. Co.	Buffalo, N. Y.
Sloan, C. T.	Nat. G.	A. E., Iroquois Nat. Gas Co.	Buffalo, N. Y.
Sloan, F. M.	Nat. G.	Operator	Murraysville, Pa.
Sloan, J. A.	Nat. G.	Shop Fm., The Peoples Natural Gas Co.	Portage, Pa.
Sloan, J. C.	A.; Mich.	M., Port Huron Gas Co.	Port Huron, Mich.
Sloan, J. R.	*I. E.	G. El., Penna R. R. Co.	Altoona, Pa.
Sloan, Joseph A.	Nat. C.	P., Ohio Gas Lt. & Coke Co.	Napoleon, O.
Sloan, M. S.	Nat. C.	Edison Electric Co.	New York, N. Y.
Sloan, W. L.	Nat. G.	Shop Fm., Peoples Nat. Gas Co.	Portage, Pa.
Sloane, P. C.	Nat. G.	Agt., United Fuel Gas Co.	Charleston, W. Va.
Sloat, Charles R.	Nat. C.	Head Bookkeeper, Pub. Serv. Gas Co.	Paterson, N. J.
Slocum, Paul B.	Ill.	Tool & Stock Insp., Peoples Gas Lgt. & Coke Co.	Chicago, Ill.
Slogle, B.	Nat. G.	Oil & Gas Producer	West Park, Ohio.
Sloper, H. T.	*N. E.	Sec., New Britain Gas Co.	New Britain, Conn.
Small, James F.	Ill.	E., Henry I. Lea	Chicago, Ill.
Smart, Burton	N. E.; A.	T., Portland Gas Light Co.	Portland, Me.
Smartt, H. R.	Ace.	American Lava Co.	Chattanooga, Tenn.
Shartt, J. E.	Ace.	Hercules Mfg. Co.	Chattanooga, Tenn.
Smies, Geo. H.	Nat. G.	Clerk, Union Gas & El. Co.	Cincinnati, O.
Smiley, C. W.	Ind.	M., Brazil Gas Co.	Brazil, Ind.
Smith, A. B.	Ind.	P., Indiana Natural Gas & Oil Co.	Kokomo, Ind.
Smith, A. C.	Nat. G.	Operator	507 Virginia St., Charleston, W. Va.
Smith, A. J.	A.; N. E.; G. G.	S., Concord Lt. & Pr. Co.	Concord, N. H.
Smith, Alb.	Wis.	Eau Claire Gas Lt. Co.	Eau Claire, Wis.
Smith, B. G.	Ill.	Dist. S., Public Service Co. of No. Illinois	Kankakee, Ill.
Smith, B. H.	Ace.	Alexander Milburn Co.	Baltimore, Md.
Smith, C. E.	Nat. C.; N. E.	Pur. Agt., Torrington Electric Co.	Torrington, Conn.
Smith, C. F.	Tex.		Groesbeck, Texas.
Smith, Charles	Ia.	Sec., Yankton Lt. & Heating Co.	Yankton, S. D.
Smith, Charles G.	A.	S., Consolidated Gas Co.	New York, N. Y.
Smith, Charles S.	Nat. C.; Ia.	Indus. g. E., American Gas Co.	Philadelphia, Pa.
Smith, Charles S.	*Mich.; Nat. C.; *Ill.; *Ia.; *Ind.	Sals., Ringen Stove Co.	St. Louis, Mo.
Smith, Clement C.	Wis.	P., Wisconsin Pub. Service Co.	Milwaukee, Wis.
Smith, E. A.	Nat. G.	Aud., Am. Natural Gas Co.	Pittsburgh, Pa.
Smith, E. B.	Nat. G.	M., The Coshocot Gas Co.	Coshocot, O.
Smith, E. L.	Nat. C.	Sals., Mohawk Gas Co.	Schenectady, N. Y.
Smith, E. L.	*A.	T., Towanda Gas Co.	Towanda, Pa.
Smith, Edward	Nat. G.	Chf. Clk., Well Accounting dept., East Ohio Gas Co.	1513 Lincoln Av., Lakewood, O.
Smith, Edward M.	Nat. C.	Newton Gas Co.	Elmhurst, I. I.
Smith, Elmer W.	A.	M., Consolidated Light & Power Co.	Kewanee, Ill.
Smith, F. C.	*I. E.	Sec. & T., J. P. Hall-Smith Co.	320 Fifth Ave., New York, N. Y.
Smith, Frank D.	Nat. G.	Agt., Iroquois Nat. Gas Co.	Springville, N. Y.
Smith, Frank N.	Nat. G.	Pattern S., S. R. Dresser Mfg. Co.	170 Davis St., Bradford, Pa.
Smith, Frank W.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Smith, Frank W.	*I. E.	V. P., United Elec. Light & Pr. Co.	New York, N. Y.
Smith, Fred'k M.	A.	S of dis., Public Service Gas Co.	Newark, N. J.
Smith, G. E.	Nat. C.; N. J.; *I. E.	Spec. Gas Appl. Sals., Public Service Gas Co.	Jersey City, N. J.
Smith, Geo. H.	Sou.		Norfolk, Va.
Smith, Geo. H.	Nat. C.	N. Y. & Richmond Gas Co.	Stapleton, S. I., N. Y.
Smith, Geo. Howard	*A.	A. Dist. S., Central Hudson Gas & El. Co.	Newburg, N. Y.
Smith, George Perry, Jr.	A.; *I. E.; Nat. C.; N. E.	S., dis., Old Colony Gas Co.	East Braintree, Mass.
Smith, H. F.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Smith, H. Howard	Nat. C.; N. E.	Gas Appl. Sales Co. of Amer.	New Haven, Conn.
Smith, H. Lee	Ace.	care Wichita Acetylene Mfg. Co.	Wichita, Kan.
Smith, H. L.	Nat. G.	Aud., Carnegie Natural Gas Co.	Pittsburgh, Pa.
Smith, H. L.	Nat. G.	Dist. Fm., Equitable Gas Co.	Homestead, Pa.
Smith, H. M.	Ia.; A.; Nat. C.	Indus. Fuel E., Citizens Gas & El. Co.	Quincy, Mass.
Smith, H. M.	Ill.	M., Consol. Lt. & Pr. Co.	Kewanee, Ill.
Smith, H. R.	*I. E.	Solic., Philadelphia Electric Co.	Philadelphia, Pa.
Smith, H. S.	Ace.	The Prest-O-Life Co.	Indianapolis, Ind.
Smith, Hallum C.	Ill.	A. S., Div. St. Sta., Peoples Gas Light & Coke Co.	Chicago, Ill.
Smith, Henry W.	Nat. C.	A. Agt., United Gas Imp. Co.	Philadelphia, Pa.
Smith, J. Calhoun	Pa.; Nat. C.	N. B. M., Consumers Gas Co.	Reading, Pa.
Smith, J. Henderson	A.; Nat. C.	Chf. Cl. Aud. Dept., United Imp. Co.	Philadelphia, Pa.
Smith, J. P.	Ia.	Sales Agt., American Construction Co.	Newton, Ia.
Smith, J. Weaver	Nat. C.; Ind.	Com. Agt., Elkhart Gas & Fuel Co.	Elkhart, Ind.
Smith, James	*Wis.	R. H. Mueller Mfg. Co.	Milwaukee, Wis.
Smith, John C.	Nat. C.	New York & Richmond Gas Co.	694 Bay St., Stapleton, N. Y.
Smith, Jos. B.	Sou.	M., Winston-Salem Gas Co.	Winston-Salem, N. C.
Smith, Julian C.	*Ill.	P., Smith-Totman Co.	Chicago, Ill.
Smith, L. S.	Nat. C.	Clk., Public Service Gas Co.	Orange, N. J.



WILLIAMS' "VULCAN" CHAIN PIPE VISE

3 sizes. Capacities 1/2" to 8". Stocked by Dealers.

THE RIGHT TOOL FOR SERVICE CARTS

J. H. WILLIAMS & CO., 74 Richards Street, Brooklyn, N. Y.

ASSOCIATION MEMBERS

879

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Smith, Louis C.....	Nat. C.; A.....	M., Fulton County Gas & Elec. Co.	Gloversville, N. Y.
Smith, M. M.....	Ace.	Commercial Acetylene Welding Co.	New York, N. Y.
Smith, Malcolm C.....	Nat. G.	E., Am. Natural Gas Co.	Pittsburgh, Pa.
Smith, Mary H.....	Nat. C.	Pub. Service Gas Co.	Passaic, N. J.
Smith, Milas E.....	*Ill.	Sals., Welsbach Co.	Chicago, Ill.
Smith, Oliver H.....	A.	A. S., New Amsterdam Gas Co.	Long Island City, N. Y.
Smith, Perry, Elec. Co....	So. W.		Dallas, Texas.
Smith, R. D.....	N. E.		Keene, N. H.
Smith, R. H.....	Nat. G.	V. P., Am. Natural Gas Co.	Pittsburgh, Pa.
Smith, Raymond E.....	Nat. C.	Public Service Gas Co.	Newark, N. J.
Smith, Raymond H.....	A.	V. P. & G. M., Eastern Wis. Elec. Co.	Sheboygan, Wis.
Smith, Robert H.....	Nat. C.	New Amsterdam Gas Co.	New York, N. Y.
Smith, S.....	Mich.		P. O. Box 198, Medford, N. J.
Smith, S. W.....	*I. E.	Dist. M., Philadelphia Electric Co.	213 Susquehanna Ave., Philadelphia, Pa.
Smith, Sam N.....	Sou.	Com. M., Carolina Power & Lt. Co.	Raleigh, N. C.
Smith, T. J., Jr.....	*Ind.; Sou.; *Ia.	Sp'l Sales R., Banks Supply Co.	Huntington, W. Va.
Smith, Thomas G.....	Nat. C.	N. Y. Mutual Gas Lt. Co.	New York, N. Y.
Smith, V. V.....	Ind.	A. Treas., Citizens Gas Co.	Indianapolis, Ind.
Smith, W. F.....	*Ace.	Smith Bros.	Deep River, Conn.
Smith, W. S.....	*Ill.	P., Henry Pratt Co.	Chicago, Ill.
Smith, W. T.....	Nat. G.	Fm., Hope Natural Gas Co.	Mannington, W. Va.
Smith, Wm.....	Nat. C.	Grand Rapids Gas Light Co.	Grand Rapids, Mich.
Smith, William C.....	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Smith, William H.....	*I. E.	Chief E., T. Eaton Co.	Toronto, Ont., Can.
Smithville Elec. Lgt. Co..	Mo.		Smithville, Mo.
Smithville El., Lt., Water & Pr. Co.....	So. W.		Smithville, Tex.
Smullen, Roy Wills.....	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Smyly, Arthur L.....	*Ill.; *Mich.; *Wis.; *Ia.; *A.	West M., Connelly Iron Sponge & Governor Co.	Chicago, Ill.
Smyser, Albert E.....	*A.	E. of Refractories, H. Koppers Co.	Pittsburgh, Pa.
Smythe, Charles W.....	*A.	Mfg. Dept., Public Service Gas Co.	Newark, N. J.
Snedeker, Arthur E.....	Nat. C.	Towanda Gas Co.	Towanda, Pa.
Snell, P. Edson.....	P. C.	V. P., Unit Gas Htg. Co.	Los Angeles, Cal.
Snider, C.....	Nat. G.	S., Cohokia Gas & Oil Co.	Edwardsville, Ill.
Snoke, A.....	Nat. G.	Field S., Logan Natural Gas & Fuel	
Snooks, Don P.....	Mich.	R. R. G. Gas Light Co.	Kalamazoo, Mich.
Snow, William H.....	A.; N. E.; G. G. M.; Nat. C.	G. M., New Bedford Gas & Edison Lt. Co.	New Bedford, Mass.
Snyder, Albert I.....	A.; Mich.	S. dist., Detroit City Gas Co.	Detroit, Mich.
Snyder, Charles S.....	A.; Nat. C.; *I. E.	S. W., Phila. Dist., U. G. I. Co.	Philadelphia, Pa.
Snyder, C. S.....	Ace.	Alexander Milburn Co.	Baltimore, Md.
Snyder, H. L.....	A.; *I. E.; Emp.	P., N. Y. & Queens El. Lt. & Pr. Co.	Long Island City, N. Y.
Snyder, H. L.....	Nat. G.		Clarksburg, W. Va.
Snyder, Paul W.....	Nat. C.	Public Service Gas Co.	Bloomfield, N. J.
Snyder, R. M., Jr.....	Nat. G.	Dir., Kansas Natural Gas Co. and Caney Gas Co.	Kansas City, Mo.
Snyder, Samuel.....	I. E.; Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Snyder, S. W.....	Nat. G.	Fm., United Natural Gas Co.	Sharon, Pa.
Soffe, William W.....	*I. E.	Harter Mfg. Co.	Chicago, Ill.
Solomon, John.....	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Solomon, Nathan C.....	*I. E.	El. E. & Cont.	405 Lexington Ave., New York.
Soltow, A. F.....	Nat. C.; *Ill.	Public Service Co. N. Ill.	Blue Island, Ill.
Somers, J. A.....	P. C.	Dist. Agt., Southern Counties Gas Co.	Long Beach, Cal.
Somins, K. L.....	Sou.	El Paso Gas Co.	El Paso, Tex.
Sommar, A. M. A.....	Nat. C.; *A.	Omaha Gas Co.	Omaha, Neb.
Sommer, Orin C.....	Wis.	N. B. M., Waukesha Gas & El. Co.	Waukesha, Wis.
Soper, R. G.....	Nat. C.; Nat. G.	Sec., Dallas Gas Co.	Dallas, Texas.
Soper, W. H.....	Can.	Halifax Tramway Co.	Halifax, N. S., Can.
Soper, W. S.....	G. G. M.	Taunton Gas Lt. Co.	Taunton, Mass.
Soper, Walter T.....	Nat. C.; N. E.	Sec. & T., Taunton Gas Lt. Co.	Taunton, Mass.
Soults, Thos. A.....	Nat. C.		12 Jones Ave., Rochester, N.Y.
South, W. H.....	Nat. G.	Sec., T. & G. M., Randall Gas Co.	P. O. Box 554, Morgantown, W. Va.
So. Chester Tube Co.....	N. G. S.		Chester, Pa.
S. Dutchess Gas & Elec. Co.	Emp.		Beacon, N. Y.
Southern Public Utilities Co.	Nat. C.		Charlotte, N. C.
Southern Traction Co.....	So. W.		Dallas, Tex.
Southwest Gen. El. Co.....	So. W.		Dallas, Tex.
Southwestern Electrician.	*So. W.		Houston, Tex.
Southwestern Gas & El. Co.	So. W.		Texarkana, Tex., and Shreveport, La.
So. W. Teleg. & Telep. Co..	So. W.		Dallas, Texas.
Southwick, E., Jr.....	Nat. G.	Credit Clk., East Ohio Gas Co.	Cleveland, O.
Spahr, Otto.....	Nat. C.; N. J.	Shahr Mfg. Co.	Philadelphia, Pa.
Spain, W. H.....	Nat. G.	Oil Well Supply Co.	Pittsburg, Pa.
Spang, Chalfant & Co.....	N. G. S.		Pittsburg, Pa.
Spangenberg, Brewster H..	A.		235 E. Orange St., Lancaster, Pa.
Sparks, F. F.....	Sou.	Vesta Gas Range & Mfg. Co.	Chattanooga, Tenn.
Spaulding, Arthur B.....	*I. E.	N. B. A. to Div. Agt., Public Service El. Co.	Jersey City, N. J.
Spaulding, Charles S.....	*G. G. M.; N. E. S.	Newburyport Gas & El. Co.	Newburyport, Mass.
Spaulding, Howard T.....	*I. E.	A. Illum. E., Natl. Lamp Wks. of G. E. Co.	Cleveland, O.

ULCO LEAD WOOL FOR TIGHT JOINTS

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Sparker, G. S.	Pa.; A.; Nat. C.	G. M., Lebanon Gas & Fuel Co.	Lebanon, Pa.
Sparr, Chas. W.	Nat. C.	Northern Ind. Gas & Elec. Co.	Hammond, Ind.
Sparr, James N.	Nat. C.; N. E.	S. Boston Cons. Gas Co.	Roxbury, Mass.
Sparr, L. E.	*Ill.	Sals. Agt., Humphreys Co.	Kalamazoo, Mich.
Sparr, M. H.	A.; Nat. C.; Soc. G.	M. and Sec., N. Y. & Queens Gas Co.	Flushing, N. Y.
Sparr, W. F.	Nat. C.	Belser Water Heater Co.	Boston, Mass.
Spars, A. L.	Nat. C.	Westchester Ltg. Co.	Mt. Vernon, N. Y.
Speers, Walter	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Speer, Roderick I.	Mich.	T. & M., Mt. Clemens Gas Co.	Mt. Clemens, Mich.
Sperr, Roy	Nat. C.		35 Front St., Newark, N. J.
Speller, Frank N.	*A.	E., National Tube Co.	Pittsburg, Pa.
Spellman, Martin H.	N. E.	G. M., Westerly Light & Power Co.	Westerly, R. I.
Spence, Thos. E.	Nat. C.; *A.	Div. M., Phila. Suburban Gas & Elec. Co.	Phoenixville, Pa.
Spencer, T. M.	*Wis.	Sals., Rundle-Spence Mfg. Co.	Milwaukee, Wis.
Spencer, C. H.	Nat. G.	Shop S., Calgary Gas Co.	Calgary, Alberta, Can.
Spencer, F. B.	Mich.	Secy., Cheboygan Gas Light Co.	Cheboygan, Mich.
Spencer, Paul	I. E.	Insp. El. Plants, U. Gas Imp Co.	Philadelphia, Pa.
Spencer, Thomas	*I. E.		1628 Alameda Ave., Cleveland.
Spencer, W. H.	I. E.	E. I. P. Frink	139 10th Ave., New York, N.Y.
Spengler, Charles, Jr.	Nat. C.	Met. Or. Clk., Public Service Gas Co.	Newark, N. J.
Sperr, Fred W., Jr.	*A.	Chf. Ch., H. Koppers Co.	Pittsburgh, Pa.
Sperry, M. L.	Nat. C.	Stone & Webster	Boston, Mass.
Sperry, Richard E.	*Ill.; *A.	The Bartlett Hayward Co.	Baltimore, Md.
Spier, B. F.	Nat. G.	Agt., Logan Natural Gas & Fuel Co.	Bucyrus, O.
Spiering, R.	Wis.	M., Crookston Gas Co.	Crookston, Minn.
Spies, Joe	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Spindler, J. E.	Mich.	Grand Rapids Gas Light Co.	Grand Rapids, Mich.
Spinney, Andrew G.	Nat. C.	G. Fm., Portland Gas Light Co.	Portland, Me.
Spinney, Prof. L. B.	*I. E.	Prof. of Physics & Ill. E., Iowa State College	Ames, Iowa.
Spitzglass, Jacob M.	A.; Ill.; P. C.	V. P. & Con. E., Republic Flow Meters Co.	Chicago, Ill.
Spoehrer, Herman	Mo.	A. Sec. & A. T., Union El. Lt. & Pr. Co.	St. Louis, Mo.
Spokane Gas & Fuel Co.	Nat. C.		Spokane, Wash.
Spragle, L. D.	A.; Pa.; Nat. C.	G. M., Citizens Gas Lt. Co.	Spokane, Tenn.
Sprague, Henry H.	*A.; Nat. C.; Nat. G.; P. C.	P., Sprague Meter Co.	Bridgeport, Conn.
Sprague, L. A.	N. E. C.	Com. M., Connecticut Power Co.	New London, Conn.
Sprague Meter Co.	Nat. C.; N. G. S.		Bridgeport, Conn.
Sprague, Phineas W.	*G. G. M.		70 Kilby St., Boston, Mass.
Sprengle, W. A.	Nat. G.	Sec. & T., Natl Gas Co. of W. Va.	Pittsburgh, Pa.
Springer, A. R.	Kan.	Manhattan Ice, Lt. & Pr. Co.	Manhattan, Kan.
Springer, R. D. N.	*I. E.	Dr. Kline's Sanitarium	Anoka, Minn.
Springfield Gas & Elec. Co.	Mo.; Nat. C.		Springfield, Mo.
Springfield City Water Co.	Mo.		Springfield, Mo.
Springsteen, H. W.	*I. E.	A. Prof. Physics, West. Reserve Univ.	Cleveland, Ohio.
Sproule, Thomas	I. E.	A. E., Philadelphia Electric Co.	Philadelphia, Pa.
Sprout, A. C.	P. C.	R., The Foxboro Co.	San Francisco, Cal.
Squier, Harold N.	A.	S., Hyde Park Gas Co.	Scranton, Pa.
Staab, Charles M.	Nat. C.	Sals., Welsbach Gas Lamp Co.	New York, N. Y.
Stacey, Andrew J.	*A.; Can.; *Mich.	V. P., Stacey Bros. Gas Const. Co.	Cincinnati, Ohio.
Stacey Bros. Const'n Co.	G. I.		Cincinnati, Ohio.
Stacey, F. A. C.	*Ill.	P. & G. M., Stacey Mfg. Co.	Cincinnati, O.
Stacey, Frank	Mich.	V. P., Stacey Mfg. Co.	Cincinnati, Ohio.
Stacey, Frederick A.	A.	P., Chillicothe Gas & Water Co.	Chillicothe, Ohio.
Stacey, James E.	*A.	P., Stacey Bros. Gas Const. Co.	Cincinnati, Ohio.
Stacey Mfg. Co.	*P. C.; G. I.		Cincinnati, Ohio.
*Stacey, Wayne	*Ind.	Stacey Bros. Gas Const. Co.	Cincinnati, Ohio.
Stack, Edward M.	A.; Nat. C.	S., Hyde Park Gas Co.	Scranton, Pa.
Stack, E. S.	Nat. C.	Stack Heater Co.	Boston, Mass.
Stack Heater Co.	Nat. C.		78 Portland St., Boston, Mass.
Stacy, W. A.	Kan.	R., Electrical World.	Chicago, Ill.
Stafford, G. M.	Nat. G.	Fm., Penn. Gas Co.	Corey, Pa.
Stahl, J. A.	Ia.	Peoples Light Co.	Davenport, Iowa.
Stahler, H. C.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Stainbrook, Chris	Nat. G.	A. Fm., The Mfrs. Light & Heat Co.	Washington, Pa.
Stair, J. L.	*I. E.	Chf. E., Nat'l X-Ray Reflector Co.	Chicago, Ill.
Stallings, James T.	Sou.	S., Southern Gas Imp't Co.	Elizabeth City, N. C.
Stamford Gas & Elec. Co.	So. W.		Stamford, Texas.
Stanberry Lt. & Pr. Co.	Mo.		Stanberry, Mo.
Stand, J. H.	Nat. C.		376 Bergen St., Newark, N. J.
Standard Gas Light Co.	Nat. C.		New York, N. Y.
Standard Lt., Ht. & Pr. Co.	Emp.		Sidney, N. Y.
Standard Underground Cable Co.	So. W.; *P. C.		First National Bank Bldg., San Francisco, Cal.
Standeven, H.	Nat. C.		75 Centre St., Dorchester, Mass.
Standish, Dr. Myles	I. E.	Williams Prof. of Opth. (Emeritus), Harvard University	Boston, Mass.
Stanford, T. R.	Sou.		Durham, N. C.
Stanger, Lawrence A.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Staniek, A. E.	Nat. G.	Chf. Clk., Philadelphia Co.	Pittsburgh, Pa.
Staniford, Arthur Fowler	A.; Nat. C.; Soc. G.	2d V. P., Brooklyn Union Gas Co.	Brooklyn, N. Y.
*Staniford, Robert H.	*A.	S. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Stannard, Clare N.	A.; Nat. C.; N. J.; *I. E.	Sec., Denver Gas & Electric Co.	Denver, Colo.

EASY WORKING

DIE STOCKS

1/8 TO 12 INCH

BEAVER



BEAVER

SQUARE END

PIPE CUTTERS

1/8 TO 6 INCH

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Stansbury, I. W.	Acc.	Alex. Milburn Co.	Baltimore, Md.
Stansbury, Wm. T.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Stapleton, J. H.	Nat. C.	Public Service Gas Co.	Paterson, N. J.
Stark, A. W.	I. E.; A.; Nat. C.	E. A., Consolidated Gas Co.	New York, N. Y.
Starkweather, R. M.	*N. E.		Pittsfield, Mass.
Starry, Chas. H.	Ill.	Sals., Western United Gas & El. Co.	Aurora, Ill.
Stave, Theo.	I. E.	P. Stave Electrical Co.	New York, N. Y.
Steadman, F. M.	I. E.	Photographer	Caracas, Venezuela.
Steeley, Lee G.	A	M., St. Charles Lighting Co.	St. Charles, Mo.
Stearns, E. C., & Co.	Nat. C.		Detroit, Mich.
Stearns, G. A.	Nat. G.	Sawyer-Stearns Streeter Drill Corp.	Buffalo, N. Y.
Steel, Miles F.	I. E.	M., Benj. Elec. Mfg. Co.	San Francisco, Cal.
Steele, Fred	Ill.	Sals., Public Serv. Co. of No. Ill.	Evanston, Ill.
Steele, Oliver	Nat. G.	E., The Mfrs. Light & Heat Co.	Majorsville, W. Va.
Steele, Walter D.	*I. E.	V. P., Benjamin Electric Mfg. Co.	Chicago, Ill.
Steenbergen, C. L.	Nat. G.	M., Paris Gas & El. Co.	Paris, Ky.
Steere Engineering Co.	G. I.; Can.		Detroit, Mich.
Steere, Frank W.	*A.; Mich.	V. P. & Chf. E., Steere Engineer'g Co.	Detroit, Mich.
Steffen, F. V.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Steiger & Kerr Stove & Foundry Co.	*P. C.		San Francisco, Cal.
Steiger, F. J.	Nat. C.		80 Park Pl., Newark, N. J.
Stell, Geo. H., Jr.	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Stein, Edward	N. J.		10 Wall St., New York City.
Stein, F. V.	Nat. G.	Fm., United Natural Gas Co.	Meadville, Pa.
Stein, Vincel G.	*Pa.	P., Webb Metal & Mfg. Co., Inc.	Philadelphia, Pa.
Steinacker, Harry	Nat. G.	Fm., The Mfrs. Light & Heat Co.	Rochester, Pa.
Steiner, D. A.	Kan.	City Light & Power Co.	Centralia, Kansas.
Steinmetz, Dr. C. P.	I. E.	Con. E., General Electric Co.	Schenectady, N. Y.
Steinmetz, H. P. J.	Nat. C.		138 S. 8th St., Newark, N. J.
Steinmueller, Edward W.	*Ia.; *Mich.; *Wis.; Sou.	Western Gas Construction Co.	Fort Wayne, Ind and 25 Broad St., New York, N. Y.
Steinwedell, George	A.	V. P. & M., Binghamton Gas Works.	Binghamton, N. Y.
Stem, F. B.	*I. E.	E., Penn Central Light & Power Co.	Philadelphia, Pa.
Stephany, E. J.	Ill.; Nat. C.	Western United Gas & E. Co.	Aurora, Ill.
Stephens, A. J.	P. C.	Dist. M., Pacific Gas & Elec. Co.	Vallejo, Cal.
Stephens, C. E.	*I. E.	Westinghouse Elec. & Mfg. Co.	165 Broadway, N. Y. City.
Stephens, E. W.	Nat. C.	Kings County Ltg. Co.	Brooklyn, N. Y.
Stephens, G. E.	N. E. C.	Com. M., Worcester Gas Light Co.	Worcester, Mass.
Stephens, J. C.	Nat. C.	Burlington Gas Lt. Co.	Burlington, Iowa.
Stephens, L. C.	Ill.	S. Dist. E., Public Service Co. of No. Ill.	Crystal Lake, Ill.
Stephens, Thos. H.	Nat. G.	Agt., The Mfrs. Light & Heat Co.	East Liverpool, O.
Stephens, W. W.	*I. E.; Nat. C.	M., Welsbach Co.	St. Paul, Minn.
Stephenson, H. R.	Nat. C.	Sioux City Gas & Elec. Co.	Sioux City, Iowa.
Stephenson, J.	P. C.	G. E.	Marie, Ont., Can.
Sterling, E. D.	Wis.	M., Onelda Gas Co.	Phineland, Wis.
Sterling, James A.	Nat. C.	Burner Dept., United Gas Imp. Co.	Philadelphia, Pa.
Sterling, R. H.	P. C.	M., Santa Barbara Gas & Elec. Co.	Santa Barbara, Cal.
Sterling, W. T.	*I. E.		56 New St., New York, N. Y.
Sternburg, F. M.	Nat. G.	Field Fm., Iroquois Natural Gas Co.	Hamburg, N. Y.
Sterrett, H. R.	Nat. C.; *N. E.	The Gas Appl. Exchange.	Bridgeport, Conn.
Sterrett, Louis E.	Nat. G.	M., Smethport Gas Co.	Smethport, Pa.
Sterrett, W. G.	Nat. C.	Philadelphia Suburban Gas & El. Co.	Chester, Pa.
Sterrett, R. W.	Nat. C.		P.O. box 1022, Ft. Worth, Tex
Stett, John C.	Nat. G.	Field Fm., Carnegie Natural Gas Co.	West Union, W. Va.
Stetser, Jesse R.	Nat. C.; I. E.	Welsbach Co.	Gloucester, N. J.
Stevens, Chester N.	*Ill.; *Mich.; *Wis.; *Ind.		
Stevens, Delbert H.	*A. Nat. C.	A. V. P., Barrett Mfg. Co.	New York, N. Y.
	*Mich.; *Pa.	Peoples Gas Light & Coke Co.	2450 W. Huron St., Chicago.
Stevens, F. E.	Sou.	P., Lattimer-Stevens Co.	Columbus, Ohio.
Stevens, George	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Stevens, Harry O.	P. C.	M., Am. Rolling Mill Co.	San Francisco, Cal.
Stevens, Levi	Nat. G.	S., Maysville Gas Co.	Maysville, Ky.
Stevenson, H. C.	Ia.	M., Fairfield Gas & Electric Co.	Fairfield, Iowa.
Stevenson, Thomas Robertson, Co.	Nat. C.		Philadelphia, Pa.
Stevick, Crist H.	A.; I. E.; Nat. C.	S., Ravenswood Wks., New Amster-	Long Island City, N. Y.
		dam Gas Co.	
Stewart, C. H.	Nat. C.; A.	Laclede Gas Light Co.	St. Louis, Mo.
Stewart, D.	Nat. C.		La Salle Ave., Hampton, Va.
Stewart, Frank H.	*I. E.	P., Frank H. Stewart Electric Co.	Philadelphia, Pa.
Stewart, John	Nat. C.	Beloit Water, Gas & El. Co.	Beloit, Wis.
Stewart, Raymond W.	*Ill.	Sals., Public Serv. Co. of No. Ill.	Oak Park, Ill.
Stewart, Samuel B.	A.; Nat. C.; Nat. G.; I. E.	G. Cont. Agt., Philadelphia Co.	Pittsburg, Pa.
Stewart, William	Nat. G.	G. Fm., Allegheny Heating Co.	Pittsburgh, Pa.
Stichler, Chas.	N. J.	C. Gefrerer & Son.	248 S. 8th St., Philadelphia.
Stickney, G. H.	I. E.; Nat. C.	Ill. E. Dept., Gen. Electric Co.	Harrison, N. J.
Stieren, Dr. Edward	*I. E.	Physician	Westinghouse Bldg., Pittsburg, Pa.
Stierly, A. E.	Nat. C.		La Salle Ave., Hampton, Va.
Stiles, G. W.	A.; N. E.	S., Fitchburg Gas & El. Lt. Co.	Fitchburg, Mass.
Stiles, Linford Spearing	A.	Cons. E., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Stille, Harry	N. J.	New Jersey Gas Co.	Philadelphia, Pa.
Stillson, Howard G.	A.; Ill.; Ia.	M., Boone Gas Co.	Boone, Ia.
Stillwell, L. B.	*I. E.	Con. E.	100 B'dway, New York, N. Y.
*Stillwell, John	A.; Nat. C.	E. Dept., Cons. Gas Co. of N. Y.	New York, N. Y.
Stinemire, Wm. H.	Nat. C.	Central Hudson G. & E. Co.	Poughkeepsie, N. Y.

SPENT OXIDE FROM COAL GAS WORKS

We are buyers of this material and will quote you a price on receipt of sample for analysis.

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Stiness, G. A.	*N. E.; Nat. C.	A. T. Blackstone Valley Gas & El. Co.	Pawtucket, R. I.
Stinson, W. J.	Ace.	care Acetylene Contracting Co.	Minneapolis, Minn.
Stinson, W. R.	Ace.	care Acetylene Contracting Co.	Minneapolis, Minn.
Stirzel, Jacob W., Jr.	I.A.	Cadet E. The United Gas Impt. Co.	Philadelphia, Pa.
Suteler, H. E.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Stites, Townsend	*A.; Nat. C.; *I. E.; N. J.	G. M., Welsbach Co.	Gloucester, N. J.
Stitzer, Ralph B.	A.	S. Spokane Gas & Fuel Co.	Spokane, Wash.
Stockholm Superfosfat Fabriks Aktiebolag of Stockholm	*Ace.		Stockholm, Sweden.
Stoddard, Hugh	Nat. C.	Sioux City Gas & El. Co.	Sioux City, Ia.
Stoetzel, Frank	Nat. C.		500 Bergen St., Newark, N. J.
Stokes, D. J., Jr.	Nat. G.	Field S., The Natl Gas Co. of W. Va.	Harveys, Pa.
Stokes, John P.	Ill.	Insp., Peoples Gas Lt. & Coke Co.	Chicago, Ill.
Stokke, P. C.	Ia.	Aberdeen Gas Co.	Aberdeen, S. Dak.
Stoll, E. C.	Tex.		Dallas, Tex.
Stone, Arthur F.	N. E.	S., Arlington Gas Lt. Co.	Arlington, Mass.
*Stone, C. H.	A.; Emp.; Mich.	S. Sta. A., Detroit City Gas Co.	Detroit, Mich.
Stone, C. W.	*I. E.	General Electric Co.	Schenectady, N. Y.
Stone, Frederick W.	A.; Nat. G.		
Stone, H. C.	Nat. C.	M., Ashtabula Gas Co.	Ashtabula, Ohio.
Stone, J. P.	*I. E.	Moberly Light & Power Co.	Moberly, Mo.
Stone, S. S.	*Ind.	Care, Lindetevs-Stokvis	11 Broadway, N. Y. City.
Stone, Thomas W.	*A.	Sals., Welsbach Co.	Chicago, Ill.
Stone & Webster Eng. Co.	*So. W.	E., Western Gas Construction Co.	Fort Wayne, Ind.
Stone & Webster Southwestern Dist. Office	*So. W.		Dallas, Texas.
Stoops, Mrs. A. B.	Ark.	M., Stuttgart Water & Elec. Co.	Houston, Texas.
Storey, V. W.	Nat. G.	V. P. & M., Dixie Gas & Water Co.	Stuttgart, Ark.
Storm, E. J.	Tex.	V. P., Amarillo Gas Co.	Oil City, La.
Storm, H. C.	*I. E.		Amarillo, Tex.
Storm, J. C.	Sou. Tex.	P., Amarillo Gas Co.	126 Preston St., Ridgefield, N. J.
Storrs, Aaron Putnam	*A.; *I. E.; Nat. C.		Amarillo, Texas.
Storrs, Charles P.	*A.; *I. E.; Nat. C.	P. Storrs Mica Co.	Owego, N. Y.
Storrs Mica Co.	*P. C.; Nat. C.	Sec., Storrs Mica Co.	Owego, N. Y.
Stothart, Ed. C.	Nat. C.; Sou.	Chf. Clk., Charleston Consolidated Ry. & Ltg. Co.	Owego, Tioga Co., N. Y.
Stotler, R. M.	Nat. G.	Dist. M., Pittsburg Meter Co.	Charleston, S. C.
Stott, Edward B.	*I. E.	P., E. B. Stott & Co., Inc.	Kansas City, Mo.
Stotz, Louis	Nat. C.; N. J.; Sou.; *Pa.	Sec., Nat'l Com. Gas Assn.	New York, N. Y.
Stout, Wilbur	Nat. G.	A. Geol., Geol. Survey of Ohio	New York, N. Y.
Stow Street Lighting Co.	Ace.		Columbus, Ohio.
Strader, Roland H.	*A.	Junior A. to S., Standard Gas Light Co.	Binghamton, N. Y.
Strain, G. A.	Nat. C.	S. g. Dept., Helena Ry. & Light Co.	Brooklyn, N. Y.
Strain, J. R.	*Ia.; Ind.; *Pa.; N. J.		Helena, Mont.
Strait, E. N.	I. E.	G. Sals, M., Hale & Kilburn Co.	Philadelphia, Pa.
Strait & Richards, Inc.	Nat. C.	A. to V. P., H. M. Byllesby & Co.	Chicago, Ill.
*Strange, Harry L.	P. C.; A.	M., Honolulu Gas Co., Ltd.	Newark, N. J.
Strasser, J. M.	Ill.	Div. S., Public Service Co.	Honolulu, T. H.
Stratton, C. J.	*Wis.; *Ill.; Nat. C.		Joliet, Ill.
Stratton, S. W.	Nat. C.	Sals., Champion Stove Co.	Chicago, Ill.
Strauch, Frederic P.	Ill.	Bureau of Standards	Washington, D. C.
Strause Gas Iron Co.	Nat. C.; N. G. S.		706 S. 2d St., Champaign, Ill.
Strause, Harry	*Ill.; *Ind.	V. P., Strause Gas Iron Co.	Philadelphia, Pa.
Strause, Louis J.	*Ind.; *Mich.; *Wis.; N. J.; Nat. C.; Sou.; *Pa.; *A.		Philadelphia, Pa.
Strauss, Lawrence L.	*I. E.	Sec. & T., Strause Gas Iron Co.	Philadelphia, Pa.
Strauss, L. T.	N. J.	El. Cont.	74 W. 125th St., New York.
Strawbridge, Francis R.	*I. E.	Strawbridge & Clothier	Philadelphia, Pa.
Strawn, E. B.	Nat. C.		Philadelphia, Pa.
Strecker, Alexander H.	A.; Soc. G.; *I. E.	Con. E., Public Service Gas Co.	Box 145, Selma, Ala.
Streiber, Theo.	Nat. G.	S. of Contracts, Sun Vapor & Gas St. Lt. Co.	Newark, N. J.
Streich, H. C.	*I. E.		Canton, O.
Stretch, Ray	Nat. C.; *Pa.; Ill.	Dept. of Public Utilities	25 E. 5th St., St. Paul, Minn.
Strickland, Frank	Nat. C.	Union Gas & Elec Co.	Bloomington, Ill.
Strickler, James P.	Nat. G.	S. of City Plant, Columbus Gas & Fuel Co.	Albuquerque, N. M.
*String, Joseph S.	A.; N. E.		Columbus, Ohio.
Stringer, H.	Nat. G.	S., Dominion Natural Gas Co.	130 Arlington Ave., E. Orange, N. J.
Stroebe, D. G.	Wis.	Sec., M., Ft. Atkinson Gas Co.	Simcoe, Ontario, Can.
Strohn, C. B.	A.; Ill.	Dist. M., Elgin Dist. Gas & Electric Co.	Pt. Atkinson, Wis.
*Strohm, R. X.	A.; Ill.	V. P. & T., West. U. G. & E. Co.	Elgin, Ill.
Strong, Carlisle, Hammond Co.	Nat. C.		Aurora, Ill.
Strong, George	Nat. C.	Brooklyn Union Gas Co.	Cleveland, Ohio.
Strong, James R.	*I. E.	Tucker Electric Construction Co.	Brooklyn, N. Y.

PROTECTIVE PAINTS FOR METERS IN DAMP PLACES

METER PAINT made to your specifications for all types of service. Let us know your local conditions and color desired and we will submit specifications.

Write for Review of Technical Paints. CHEESMAN & ELLIOT, 100 William St., New York



ASSOCIATION MEMBERS

883

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Strong, Murray	Nat. G.	Fm. Ark. Natural Gas Co.	Arkadelphia, Ark.
Strother, B. H.	Ace.	Jenne Acetylene Gas Machine Co.	Fond du Lac, Wis.
Stroud, Morris W.	A.; I. E.	P. American Gas Co.	Philadelphia, Pa.
Stroup, John	Nat. G.	Fm. Glenwood Nat. Gas Co.	Port Alma, Ont., Can.
Stroup, Lloyd	Nat. G.	Field Fm. Dominion Gas Co.	Morlin, Ont., Can.
Strub, Lucas C.	Nat. C.	Consolidated Gas Co.	New York City.
Struss, John C.	Mich.	Res. M., Vincennes Gas Co.	Vincennes, Ind.
Stuart, Geo. J.	Nat. G.	Chf. E., Pitts. Valve Fdy. & Cons. Co.	Pittsburg, Pa.
Stuart, G. H.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Stuart, S. B.	Nat. C.	Art. Philadelphia Co.	Pittsburg, Pa.
Stubbs, Elmer E.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Studenmund, W. R.	Wis.		Chicago, Ill.
Stull, C. Rodman	A.; Nat. C.	A. M. Kingston Gas & Electric Co.	Kingston, N. Y.
Stull, C. R.	Nat. C.	Waukesha Gas & Elec. Co.	Waukesha, Wis.
Suburban Gas & Fuel Co. of York	Pa.		Dallastown, Pa.
Sucher, Theo. R.	A.; N. E.	S. mains and services, New Haven Gas Lt. Co.	New Haven, Conn.
Suchomel, Thomas	A.; Ia.	S. of g. wks., Cedar Rapids G. L. Co.	Cedar Rapids, Iowa.
Suffolk Gas & Elec. L. Co.	Emp.		Bay Shore, N. Y.
Sullivan, Edward J.	*A.	Sullivan Bros.	Flushing, N. Y.
Sullivan, J. H.	Nat. G.	S. Pres. Dept. East Ohio Gas Co.	Cleveland, O.
Sullivan, P. F.	*I. E.	G. M. Mass. Electric Co.	Boston, Mass.
Sullivan, P. D.	Nat. G.	Fm. Iroquois Natural Gas Co.	Buffalo, N. Y.
Sullivan, T. O.	Nat. G.	G. M. Mfrs. Lt. & Heat Co.	Pittsburg, Pa.
Sullivan, William H.	*A.	Sullivan Bros.	Flushing, N. Y.
Sulphur Ice, Light & Power Co.	Okla.		Sulphur, Okla.
Summers, George	A.; Ind.	Chf. E., Citizens Gas Co.	Indianapolis, Ind.
Summers, John A.	I. E.	General Electric Co.	Harrison, N. J.
Summers, R. M.	Mo.	M. Water, Power & Light Co.	Ozark, Mo.
Summer, Arthur W.	A.	g. E. & M., Grays & Tilbury Gas Co.	Grays, Essex, Eng.
Superior Laboratories (T. H. Tapsley)	Nat. C.		Grand Rapids, Mich.
Superior Meter Co. (D. Lambert)	Nat. C.		Brooklyn, N. Y.
Sutherland, Edward R.	Sou.	Com. M., City Gas Co. of Norfolk	Norfolk, Va.
Sutherland, T. D.	Ace.	Davis Acetylene Co.	Elkhart, Ind.
Sutton, A. I.	Nat. G.	Fm. Natural Gas Co.	St. Marys, W. Va.
Sutton, J. G.	Nat. C.	Public Service Gas Co.	Trenton, N. J.
Sutton, L. V.	I. E.	S. El. Lt. & Pr. Div., Carolina Power Co.	Raleigh, N. C.
Sutton, Woodruff	I. E.	Care, The J. G. Wilson Corp.	New York, N. Y.
Swain, R. T. M.	Ind.		Warsaw, Ind.
Swain, Thos. M.	Mich.; Ind.	Niles Gas Light Co.	Niles, Mich.
*Swain, Warren R.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Swaine, Odiorne	*G. M.		141 Milk St., Boston, Mass.
Swallow, Jos. G.	I. E.		130 E. 15th St. New York, N. Y.
Swan, G. L.	*Ia.; Nat. C.	Dist. Fm., Burlington Gas Lt Co.	Burlington, Ia.
Swan, George J.	A.; Nat. G.		
Swane, Louis E.	Nat. C.	S., Consumers L., H. & P. Co.	Topeka, Kan.
Swanson, J. K.	Wis.		Nenah, Wis.
Swartz, Geo.	Mich.	Sec. Mich. Light Co.	Jackson, Mich.
Swartz, J. K.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Swartz, J. Wm. P.	Nat. G.	Fm. Hope Natural Gas Co.	Salem, W. Va.
Swartz, Edward	Mich.	Sals., A. T. Knowlson & Co.	Detroit, Mich.
Sweazey, H. G.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Sweeney, F. B.	*A.		Evansville, Ind.
Sweeney, H. T.	Nat. C.	Canon Gas Co.	Canon City, Colo.
Sweet, Arthur J.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Sweet, C. S.	I. E.	Con. E., Vaughn, Meyer & Sweet	Milwaukee, Wis.
Sweetman, M. M.	Emp.	Western N. Y. Utilities Co.	Medina, N. Y.
Sweetman, W. D.	*Nat. G.	Sec. N. Y. Oil & Gas Co.	Am. Bank Bldg., Kansas City, Mo.
Swendeman, Joseph E.	A.; Ill.; Nat. G.	S. Division St. Sta., Peoples Gas Light & Coke Co.	Chicago, Ill.
Swing, D. R.	Nat. G.	S. & R., Amer. Steam Gauge & Valve Mfg. Co.	Boston, Mass.
Swinhoe, H. G. B.	Sou.	City of Tallahassee Gas Works.	Tallahassee, Fla.
Swisher, Stephen G., Jr.	Ia.	Yankton Light & Heating Co.	Yankton, S. Dak.
Sykes, J. D.	*I. E.	Ltg. Sals., Commonwealth Edison Co.	Chicago, Ill.
Sykes, R. J.	Nat. G.	S., The Ohio Fuel Supply Co.	Columbus, O.
Sylvester, J. Wilson	Nat. C.	London Press Exch., Ltd.	London, Eng.
Syracuse Lighting Co.	I. E.	A. S., Philadelphia Electric Co.	Philadelphia, Pa.
Taber, William B., Jr.	Emp.		Syracuse, N. Y.
Tacoma Gas & El. Co.	*A.		Radnor, Pa.
Tait, Frank M.	*P. C.		Tacoma, Wash.
Talbot, John	A.; *I. E.; N. E. P.	Dayton Power & Lt. Co.	54 Wall St., New York.
Talbot, W. E.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Talbot, Willard E.	Nat. C.		637 Jefferson St., Pittsburg.
Talbot, Frank	Sou.	N. B. M., Petersburg Gas Co.	Petersburg, Va.
Talmadge, C. H.	A.; Nat. C.	S., Sec. & T., City of Danville Water & Light Dept.	Danville, Va.
Tanner, M. Q.	Kan.	Western Electric Co.	Kansas City, Mo.
Tanner, J. Roy	Mo.	M. Scott County Milling Co.	Sikeston, Mo.
Tanzer, Dean E.	Nat. G.	G. M., Pitts. Val. Fdy. & Cons. Co.	Pittsburg, Pa.
Tappen, O. S.	*I. E.		659 Peachtree St., Atlanta, Ga.
	*Ill.	M., Branch Office, Bristol Co.	Chicago, Ill.



THE SCIENTIFIC SAFETY GARAGE HEATER

The Standard with ALL FIRE PREVENTION BOARDS.

Because it's the only safe and fool-proof garage heater made.

THE SCIENTIFIC HEATER COMPANY : : of Cleveland, Ohio

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Tarbox, Frank M.	Nat. C.	Boston Consolidated Gas Co.	Boston, Mass.
Tarkio Electric Water Co.	Mo.		Tarkio, Mo.
Tarrant County Trac. Co.	So. W.		Fort Worth, Tex.
Tate-Jones Co.	Nat. C.; N. G. S.		Pittsburgh, Pa.
Tatman, J. S.	*A.	Connersville Blower Co.	Connersville, Ind.
Tatsel, G. L.	Sou.	S. Tampa Gas Co.	Tampa, Fla.
Taver, Chas.	Tex.		Amarillo, Texas.
Taussig, J. Hawley	A.	I. of Design, U. Gas Imp. Co.	Philadelphia, Pa.
Taylor, A. Hadley	*I. E.	A. Physics, Bureau of Standards	Washington, D. C.
Taylor, Allyn C.	A.; Pa.	E., Allentown-Bethlehem Gas Co.	Allentown, Pa.
Taylor, A. R.	Ark.	S., Municipal Water & Light Plant	Prescott, Ark.
Taylor, C. H.	Kan.	Sals., Westinghouse Elec. Mfg. Co.	Kansas City, Mo.
Taylor, Edward H.	Ill.; Ia.; A.	Con. E., Cramer, Clinch & Co.	Chicago, Ill.
Taylor, E. R.	Nat. G.	Sec. & T., Fayette Lgt. & Fuel Co.	Fayette, Ala.
Taylor, Ernest E.	Nat. C.	United Gas Improvement Co.	1035 Market St., Philadelphia.
Taylor, F. H.	Nat. C.	Northern N. Y. Utilities, Inc.	Watertown, N. Y.
Taylor, Frank C.	*I. E.	E. Dept., Rochester Ry. & Lt. Co.	Rochester, N. Y.
Taylor, George	Nat. C.	Westchester Lighting Co.	New Rochelle, N. Y.
Taylor, George	Nat. G.	Fm., Alden Batavia Nat. Gas Co.	Batavia, N. Y.
Taylor, Geo. E.	Nat. G.	A. E., P. Service Com., W. Virginia	Charleston, W. Va.
Taylor, G. E.	Nat. C.	N. Y. Mutual Gas Lt. Co.	New York, N. Y.
Taylor, H. G.	A.; Nat. C.; N. E. A.	E., Lawrence Gas Co.	Lawrence, Mass.
Taylor, Howard P.	Nat. G.	P., Tri County Natural Gas Co.	Pittsburgh, Pa.
Taylor Instrument Co.	*P. C.		Rochester, N. Y.
Taylor, J. D., Jr.	Sou.; Wis.; Tex.	Sals., Balt. Gas Appl. & Mfg. Co.	Baltimore, Md.
Taylor, John B.	*I. E.; A.; Emp.	Con. E.	Schenectady, N. Y.
Taylor, John B.	Nat. C.	Northern N. Y. Utilities, Inc.	Watertown, N. Y.
Taylor, Jos. E.	*Emp.	E. W. S. Barstow Co.	New York, N. Y.
Taylor, Jas. N.	P. C.	Reliance Gas Reg. & Machine Co.	Pasadena, Cal.
Taylor, J. W.	Nat. G.	Fm., Reserve Gas Co.	Weston, W. Va.
Taylor, Norwood J.	Nat. G.	Field Clk., Mfrs. Light & Heat Co.	Atwood, W. Va.
Taylor, Percival D.	Ia.	E., United Gas Improvement Co.	Philadelphia, Pa.
Taylor, W. P. & Co.	N. J.; N. G. S.		218 Ellicott Sq., Buffalo, N. Y.
Taylor, W. H.	Nat. C.	Public Service Gas Co.	Summit, N. J.
Taylor, William H.	A.; Nat. C.; Ia.	M., Omaha Gas Co.	Omaha, Neb.
Teague, O. C.	Nat. G.	V. P., Utica Gas, Oil & Mining Co.	Utica, O.
Teegstram, Victor S.	Nat. G.	Plumbing	Kane, Pa.
Tel. Electric Co.	*So. W.		Houston, Tex.
Temple Gas Light Co.	Tex.		Temple, Texas.
Templeton, J. T.	Nat. C.	Buck Stove & Range Co.	St. Louis, Mo.
Tenney, Albert Ball	A.; Nat. C.; N. E.; *Emp.	1st V. P., Chas. H. Tenney & Co.	201 Devonshire St., Boston, Mass.
Tenney, Charles H.	A.; Nat. C.; N. E.	Springfield Gas Lt. Co.	Springfield, Mass.
Tenney, C. I.	Ia.		5147 Blackstone Ave., Chicago, Ill.
Tenney, D. C.	*Ia.; *Ill.; †A.	V. P., Am. Gas Const. Co.	Newton, Ia.
*Tenney, Geo. C.	Ia.	Mech. E., Public Service Gas Co.	Elizabeth, N. J.
Tenney, Glenn I.	Nat. C.		1373 24th St., Des Moines, Ia.
Terradell, Wm. F.	A.	S. of dis., Public Service Gas Co.	Mainfield, N. J.
Terrell Electric Light Co.	So. W.		Terrell, Tex.
Terry, F. S.	*I. E.	M., Nat. Electric Lamp Wks. of G. E. Co.	Cleveland, O.
Terry, H. Warren, Jr.	A.	A. Chf. Ch., Cons. Gas Co.	Ossining, N. Y.
Perry, L. B.	Nat. G.	Agt., The East Ohio Gas Co.	Akron, O.
Tessler, Leonard L.	*I. E.	S., De Pere Elec. Lt. & Power Co.	De Pere, Wis.
Texas City El. Lt. & Water Co.	So. W.		Texas City, Tex.
Texas City St. Ry. Co.	So. W.		Texas City, Tex.
Texas Co., The	So. W.		Houston, Tex.
Texas Gas & Electric Co.	So. W.		Beeville, Texas.
Texas Power & Lt. Co.	So. W.		Dallas, Tex., and Branches
Texas Public Service Co.	So. W.		Bonham, Texas.
Texas Traction Co.	So. W.		Dallas, Tex.
Texas Utilities Co.	So. W.		Platview, Texas.
Textes, L. J.	Nat. G.	Fm., Alden-Batavia Nat. Gas Co.	Pavilion, N. Y.
Thatcher, J. H.	Nat. G.	M., Mansfield Gas Co.	Mansfield, La.
Thatcher, Paul	*I. E.	Solic., Philadelphia Electric Co.	Philadelphia, Pa.
Thayer, William F.	*G. E. M.; N. E.	Charlestown Gas & Electric Co.	Charlestown, Mass.
Thelin, T. T.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Thiel, M. A.	Nat. G.	Chf. E., E. dept. C. & G. Cooper Co.	Mt. Vernon, Ohio.
Thierbach, William	Nat. C.	Public Service Gas Co.	Orange, N. J.
Thistlewhite, R.	*I. E.	El. E.	Los Angeles, Cal.
Thomas, Arthur H.	I. E.	American Gas Co.	Philadelphia, Pa.
Thomas, Charles G. M.	A.; Emp.; I. E.	T., Consolidated Gas Co.	New York, N. Y.
Thomas, Prof. Carl C.	A.	Prof. E., Johns Hopkins University	Baltimore, Md.
Thomas, Edgar	Nat. G.	G. E., Hope Engineering & Supply Co.	Pittsburgh, Pa.
Thomas, Fred. H.	Nat. G.	Sals. E., The C. & G. Cooper Co.	Mt. Vernon, Ohio.
Thomas, F. W.	Ill.	S., 110th St. Sta., Peoples Gas Light & Coke Co.	Chicago, Ill.
Thomas, H. W.	Nat. C.	Dist. Cash., Boston Cons. Gas Co.	So. Boston, Mass.
Thomas, Howard V.	Nat. G.	G. M., Eastern Oil Co.	Buffalo, N. Y.
Thomas, James L.	Nat. C.	N. Y. & Queens Gas Co.	Flushing, N. Y.
Thomas, J. J.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Thomas, John W.	P. C.	Pacific Gas & Elec. Co.	Vallejo, Cal.
Thomas, Neil A.	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Thomas, Nelson S.	*I. E.		1410 Belmont St., Washington, D. C.
Thomas, N. Wiley	A.; *I. E.	Chf. Insp. Bureau of Gas.	Philadelphia, Pa.
Thomas, Stephen A.	I. E.	Chf. of El. Div., Dept. of Education	New York, N. Y.
Thomas, Sterling H.	Ace.	Air Reduction Co.	50 Broad St., New York, N. Y.
Thomas, Thos.	Nat. C.	Boston Cons. Gas Co.	Boston, Mass.

We erected the first five million foot or larger holder on the Atlantic Coast, on the Pacific Coast and in the Gulf States.

R. D. WOOD & CO., PHILA., PA.



ASSOCIATION MEMBERS

885

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Thomas, W. F.	Nat. C.; N. J.	Agt. g. & El. Depts., P. S. Gas Co.	New Brunswick, N. J.
Thompson, Allison J.	I. E.	The Thompson Electric Co.	Cleveland, O.
Thompson, A. N.	Wis.		Stoughton, Wis.
Thompson, C. S.	Nat. C.	Bisbee Improvement Co.	Bisbee, Ariz.
Thompson, Fred L.	I. C.	Sals. Peninsular Stove Co.	516 S. Spring St., Los Angeles.
Thompson, W. P.	Nat. G.		55 Kennedy St., Bradford, Pa.
Thompson, Frances D.	Nat. C.	Mt. Vernon Pub. Lib.	Mt. Vernon, N. Y.
Thompson, George W.	Nat. C.	Consolidated Gas Co. of N. Y.	New York, N. Y.
Thompson, M. R.	E. C.	S. E. So. Counties Gas Co.	Los Angeles, Cal.
Thompson, Paul.	A.; I. E.; Nat. C.; Nat. G.	5th V. P., United Gas Imp. Co.	Philadelphia, Pa.
Thompson, R. B.	I. E.	Sales Dept., Central Hudson G. & E. Co.	Newburg, N. Y.
Thompson, Robert	Ill.	R. Humphrey Co.	Chicago, Ill.
Thompson, Robt. J.	Nat. C.; P. C.; I. E.; *A.	M. Welsbach Co.	San Francisco, Cal.
Thompson, William H.	Nat. G.	Atty. The Ohio Fuel Supply Co.	Cleveland, O.
Thomson, George W.	A.; Pa.; Nat. C.	A. M. Phila. Suburban G. & E. Co.	Chester, Pa.
Thomson, Jesse O.	Nat. C.	The Wm. M. Crane Co.	Philadelphia, Pa.
Thomson, L. S.	Nat. G.	Sals. La Belle Iron Works.	Steubenville, Ohio.
Thomson, R. M.	Nat. C.	S. of Retail Dept., Welsbach Co. of N. E.	Boston, Mass.
Thomson, Thos.	Can.	Consumers Gas Co.	Toronto, Ont.
Thorn, Fred G. Jr.	A.	E. of Cons., United Gas Impt. Co.	Philadelphia, Pa.
Thorne, Wm. H.	Ill.	Pittor. Pub. Serv. Co. of No. Ill.	Pontiac, Ill.
Thornton, A. H.	Nat. C.	Sioux Falls Gas Co.	Sioux Falls, S. D.
Thornton, D. Miller	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Thornton, H. M.	Nat. C.	Richmond Gas Stove & Meter Co.	London, E. C., England.
Thorson, Lars M. L.	Ill.	Ch. with U. S. Steel Co.	Chicago, Ill.
Throop, A. J.	Emp.	Chmn. Utica Gas & Elec. Co.	Utica, N. Y.
Thuman, Frederic	A.; *I. E.	Chf. E. & G. M., Humphreys & Glasgow	London, S. W., Eng.
Thurman, J. W.	Sou.	Gas Appliance Stores.	Rocky Mount, N. C.
Thurston, Ralph E.	Nat. C.; N. E.	G. M., Putnam Light & Power Co.	Putnam, Conn.
Thwing, Orrell O.	Ind.	Engineer	Ft. Wayne, Ind.
Tibbens, W. P.	Nat. G.	Shop Fmn., East Ohio Gas Co.	Cleveland, O.
Tickner, James F.	P. C.	Act'g S., Los Angeles Gas & El. Corp.	Pasadena, Cal.
Tierney, James P.	Nat. C.	T., The Tierney Co. Gas Co.	Providence, R. I.
Tilley, John	*I. E.	Marc Eidlitz & Son	New York, N. Y.
Tillman, R. H.	Nat. C.	Consolidated Gas, El. Lt. & Pr. Co.	Baltimore, Md.
Tillotson, F. H.	Nat. G.	City Plant Foreman, Pa. Gas Co.	Jamestown, N. Y.
Tillson, Edwin D.	I. E.	Commonwealth Edison Co.	Chicago, Ill.
*Timberlake, A. F.	Sou.	Sals., M., Consumers Gas & Coke Co.	Waycross, Ga.
Timberlake, H. G.	Sou.	Sals., Tampa Gas Co.	Tampa, Fla.
Timme, Charles F.	Ace.; N. J.; Nat. C.		Yonkers, N. Y.
Tims, H. S.	Nat. G.	T., Canadian Western Natural Gas, Lgt. Ht. & Pwr. Co., Ltd.	Calgary, Alberta, Canada.
Tincher, T. Symmes	A.	S. Mfr., Washington Gas Lt. Co.	Washington, D. C.
Tingley, Louisa Paine	I. E.	Physician	9 Mass. Ave., Boston, Mass.
Tinney, Thomas B.	*I. E.	Ch., United Gas Imp. Co.	Collingdale, Pa.
Tinson, H. A.	*I. E.	So. African Gen. Elec. Co.	Johannesburg, Transvaal, S. A.
Tippet, C. J.	Wis.	Wisconsin Trac., Lt. Ht. & Pr. Co.	Appleton, Wis.
Tippet, W. H.	Nat. G.	Sec. & T., Creek County Gas Co.	Cushing, Okla.
Tippy, B. O.	A.; Mich.; Nat. C.	P., Big Rapids Gas Co.	Detroit, Mich.
Tippy, C. W.	A.; Mich.	Care, Mich. Light Co.	Jackson, Mich.
Tippy, F. A.	Mich.	G. M., Citizens' Gas Co. of Hannibal	Hannibal, Mo.
Titeflex Metal Hose Corp.	Nat. C.		New York, N. Y.
Titus, H. E.	Nat. C.	Pub. Serv. Gas Co.	Trenton, N. J.
Titzel, J. C.	Nat. G.	G. M., Glenshaw Natural Gas Co.	Glenshaw, Pa.
Titzel, R. John	A.; Sou.; Nat. C.; Nat. G.	g. E., United Gas & Elec. Engr. Corp.	Birmingham, Ala.
Tizley, A. J.	I. E.	Gen. S., E. F. Caldwell & Co.	New York, N. Y.
Tobey, Franklin, Jr.	A.	M., Kingston Gas & Electric Co.	Kingston, N. Y.
Tobin, G. B.	Kan.	Sals., Columbian Elec. Co.	St. Joseph, Mo.
Todd, J. D.	Kan.	Sals., Western Elec. Co.	Kansas City, Mo.
Toddleben, William G.	Ill.	Clk., Pub. Serv. Co. of Ill.	Evanston, Ill.
Toland, Robert J.	Nat. C.	The United Gas Imp. Co.	Philadelphia, Pa.
Toledo Pipe Threading Machine Co.	N. G. S.		Toledo, O.
Tolman, William N.	A.	Cons. E.	261 State St., Hackensack, N.J.
Tomb, F. D.	Nat. G.	S., Land dept., Southern Ontario Gas Co., Ltd.	301 Central Ave., London, Ontario, Canada.
Tomer, Adam	Nat. G.	Shop Fm., The Peoples Nat. Gas Co.	Pittsburgh, Pa.
Tomlinson, F. W.	Ark.	M., Mena Elec. Lt. & Pr. Co.	Mena, Ark.
Tonkawa Elec. & Water Wks.	Okla.		Tonkawa, Okla.
Tonkin, John	Nat. G.	V. P. & G. M., C., Kentucky Nat. Gas Co.	Oil City, Pa.
Tonkin, J. B.	Nat. G.	T., Hope Natural Gas Co.	Pittsburg, Pa.
Tonkin, T. J., Jr.	Nat. G.	S., Frankfort-Kentucky N. Gas Co.	Frankfort, Ky.
Tonkin, Wade H.	Nat. G.	Agt., Hope Natural Gas Co.	Parkersburg, W. Va.
Tool Steel Gear & Pinion Co.	So. W.		Cincinnati, O.
Topeka Edison Co. (R. A. Long, Com. Mgr.)	Kan.		Topeka, Kan.
Topeka Ry. Co.	Kan.		Topeka, Kan.
Topp, A. A.	Nat. G.	Fm., Ohio Fuel Supply Co.	Mt. Vernon, O.
Topping, A. N.	*I. E.	Asso. Prof. of El. E., Purdue Univ.	West Lafayette, Ind.
Topping, C. B.	Nat. C.		Belleville, N. J.
Torchio, Philip	*I. E.	Chf. El. E., N. Y. Edison Co.	New York, N. Y.

RELIABLE

"ANGLIRON" RANGES and

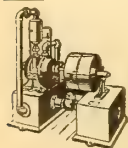
"HOT SPOT" HEATERS

RELIABLE STOVE COMPANY, Div. Am. Stove Co., CLEVELAND, O.

Service is essential to business success. It is the combination of quality, efficiency and durability. It is this combination which has placed "ANGLIRON" ranges and "HOT SPOT" heaters into the homes of thousands of satisfied users of gas as a fuel. Write for catalog.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Torrance, C. E.	Nat. G.	Ag't., The Peoples Natural Gas Co.	Altoona, Pa.
Torrance, E. E.	Nat. G.	Fm., Frost Gas Co.	Irondia, N. Y.
Torrance, J. M.	Nat. G.	Ag't., The Peoples Natural Gas Co.	Blairsville, Pa.
Torrey, A. P.	Nat. C.	United Gas Imp. Co.	North Glenside, Pa.
Torrey, Bates, Jr.	I. A.	Cadet E., Semet-Solvay Co.	Syracuse, N. Y.
Tossell, Albert L.	Nat. C.; Ill.	A. T. Peo. Gas Lt. & Coke Co.	Chicago, Ill.
Tospalik, Frank J.	Mich.	Detroit City Gas Co.	Detroit, Mich.
Four, Reuben S.	I. A.; P. C.	A. Prof. g. E., University of Cal.	Mechanics Bldg., Berkeley, Cal.
Tousey, Dr. Sinclair.	I. E.	Physician	350 Seventh Ave., New York,
Towanda Gas Co.	Nat. C.; Pa.		Towanda, Pa.
Towl, Forrest M.	Nat. G.	P., Southern Pipe Line Co.	26 Broadway, New York, N. Y.
Townsend, A. F.	Ill.	M., Beaumont El. Lt. & Pr. Co.	Beaumont, Tex.
Townsend, William.	I. A.	By-Products Coke Corp.	Chicago, Ill.
Tozier, George E.	Ind.; Nat. G.	Gas Lt. Co. of Augusta.	Augusta, Ga.
Tracy, F. B.	Nat. G.	Div. M., Central Indiana Gas Co.	Muncie, Ind.
Tracey, F. D.	Nat. G.	Pur. Ag't., Eastern Oil Co.	Buffalo, N. Y.
Traver, Alva F.	A.; Mich.; Nat. C.	With H. L. Doherty Co.	69 Wall St., New York, N. Y.
Travis, Frank M.	A.; G. G. M.; N. E.; Soc. G.	Sec., Winsted Gas Co. and T., Torrington Electric Light & Gas Co.	Torrington, Conn.
Travis, Geo. W. Leroy.	I. A.	A. E., Dept. Mains & Services, Consolidated Gas Co.	120 E. 15th St., New York.
Travis, Roy E.	Ill.	A. E., Metropolitan Gas & El. Co.	Chicago, Ill.
Traxler, Robert H.	P. C.	g. Appl. Sals., Santa Barbara Gas & El. Co.	Santa Barbara, Cal.
Treadway, Alfred A.	Mich.; Nat. C.; A.	A. E., Detroit City Gas Co.	Detroit, Mich.
Treat, E. M.	Nat. G.	P., Summerfield Gas Co.	Pittsburg, Pa.
Treat, Frederick H., Jr.	N. J.	Eastern Light & Fuel Co.	Philadelphia, Pa.
Treen, Louis S.	Nat. C.	Roberts & Mander Stove Co.	Philadelphia, Pa.
Trees, J. C.	Nat. G.	P., Arkansas Natural Gas Co.	Pittsburg, Pa.
Tregidgo, Eugene	P. C.	g. dis. dept., Pacific Gas & El. Co.	San Francisco, Cal.
Treible, R. M.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Treleaven, L. G.	A.; Nat. G.	Recor., Sec. & M., Consumers' L., H. & P. Co.	Topeka, Kan.
Tremain, L. E.	*Ind. Tex.; Sou.	Sales Ag't., Humphrey Co.	Kalamazoo, Mich.
Tremaine, B. G.	*I. E.	Natl. Lamp Wks. of G. E. Co.	Cleveland, Ohio.
Trenkamp, H. J.	P. C.; Nat. C.	P., Trenkamp Stove & Mfg. Co.	Cleveland, Ohio.
Trenton Gas & Electric Co.	Mo.		Trenton, Mo.
Tri-City Gas Co.	Nat. C.		Gadsden, Ala.
Trier, David A.	Nat. C.	Sals., Consolidated Gas Co.	New York, N. Y.
Trimble, James.	Mich.; A.	M., Sault Ste. Marie Gas Co.	Sault Ste Marie, Mich.
Trinidad Elec. Trans. Ry. & Gas Co.	Nat. C.		Trinidad, Col.
Tripp, Frank Foster.	*A.	T., Automatic Gas Lighting Supply Co.	Roxbury, Mass.
Tripp, George B.	*Emp.	United Gas & Elec. Corp.	New York, N. Y.
Troland, L. T.	*I. E.	Instr. Psychology, Harvard University	Cambridge, Mass.
Troop Mfg. Co.	N. G. S.		Pittsburg, Pa.
Trott, W. J.	*I. E.	Sals., Fostoria Incand'nt Lamp Co.	Grand Rapids, Mich.
Trout, H. M.	Nat. C.	U. G. I. Co.	Philadelphia, Pa.
Troutman, P. A.	Nat. G.	Dist. S., Carnegie Natural Gas Co.	Waynesburg, Pa.
Trowbridge, Ray	P. C.	Cadet E., Pacific G. & Elec. Co.	Sacramento, Cal.
Troy Gas Co.	Emp.		Troy, N. Y.
True, G. L.	Nat. C.		156 Myrtle Ave., Waltham, Mass.
Trumbore, Percy W.	Nat. C.	N. B. Dept., United Gas Imp. Co.	Philadelphia, Pa.
Trumbull, G. R.	Nat. C.	H. L. Doherty & Co.	New York City.
Tschantz, J. F.	Ace.		Dalton, O.
Tucker, C. A.	A.	A. Tr., Rochester Ry & L. Co.	Rochester, N. Y.
Tucker, Calvert C.	Nat. G.	E., Dominion Nat. Gas Co.	Buffalo, N. Y.
Tucker, Edw. J.	Nat. C.	Consumers Gas Co.	Toronto, Ont., Canada.
Tucker, G. C.	Nat. G.	Fm., The East Ohio Gas Co.	Massillon, O.
Tucker, Richard B.	*I. E.	G. M., Norfolk Bldg. Supplies Co.	Norfolk, Va.
Tucson Gas Elec. Lt. & Pr. Co.	Nat. C.		Tucson, Ariz.
Tudbury, John L.	N. E.; A.	M., Salem Gas Light Co.	Salem, Mass.
Tudor, E. R.	*I. A.		700 Knoxville Ave., Peoria, Ill.
Tufts, Bowen.	*A.; *N. E.; Nat. C.	Director, various gas companies.	78 Devonshire St., Boston, Mass.
Tufts, Joseph E.	*G. G. M.		455 Com'cl St., Boston, Mass.
Tufts, Joseph P.	*N. E.	N. Tufts Meter Co.	Boston, Mass.
Tufts, Nath'l. Meter Co.	Nat. C.		Boston, Mass.
Tukesbury, Harold M.	*I. E.	Welsbach Co. of N. E.	Boston, Mass.
Tull, Lucien P. F.	A.	Aud., New Amsterdam Gas Co.	New York, N. Y.
Tupper, W. C.	Sou.		Kalamazoo, Mich.
Turnbull, Jas. A.	Nat. C.	Northern Conn. Lt. & Pr. Co.	Windsor Locks, Conn.
Turner, A. C.	Nat. C.; Sou.		Little Rock, Ark.
Turner, Alfred E.	A.; Nat. C.	A. G. S., Met. Dept., Cons. Gas Co.	New York, N. Y.
Turner, A. S. Jr.	*I. E.	Edison Lamp Works.	Harrison, N. J.
Turner, Floyd A. J.	Ill.	Sals., Western United Gas & El. Co.	Joliet, Ill.
Turner, Harry E.	Nat. C.; Ill.	Dist. M., No. Shore Gas Co.	Waukegan, Ill.
Turner, H. W.	*I. E.	Designer, Frank H. Stewart Elec. Co.	Philadelphia, Pa.
Turner, L.	Nat. G.	East Ohio Gas Co.	Cleveland, O.
Turner, Walter Van.	*Ill.	Tech. Ed. Gas Publishing Co.	Chicago, Ill.
Turpin, M. C.	*I. E.	Dept. Publicity, Westinghouse Co.	E. Pittsburg, Pa.
Tury, Frank	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Tuttle, F. A.	Nat. C.	Sals., Public Service Gas Co.	Newark, N. J.
Tuttle, W. B.	A.	V. P. and G. M., San Antonio Gas & Electric Co.	San Antonio, Texas.



YOUR GREATEST ASSET IN SELLING INDUSTRIAL

GAS. The Efficiency of the NEEDHAM HIGH PRESSURE GAS SYSTEM is now holding many of the largest industrial gas consumers where earlier experiences with less efficient methods were compelling them to consider other fuels.

THE NEEDHAM GAS APPLIANCE CO., 550 W. 25th St., New York, N. Y.

ASSOCIATION MEMBERS

887

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Lawler, Carrington Ca- rell	A.; *I. E.	Con. Ch.	1630 Real Estate Tr. Bldg., Philadelphia, Pa.
Leedy, E. F.	*I. E.	N. Y. Edison Co.	New York, N. Y.
Lewis State G. & E. Co.	Emp.		Hoosick Falls, N. Y.
Ling, Arthur	Nat. G.	Cons. E. Iroquois Natural Gas Co.	Buffalo, N. Y.
Liter, R. E.	I. E.	Shelby Lamp Wks. of G. E. Co.	Philadelphia, Pa.
Liter, W. F.	P. C.	Fm. Gas Dept. San Joaquin Lt. & Pr. Corp.	Bakersfield, Cal.
Liter, W. W.	Nat. C.	Public Service Gas Co.	Rutherford, N. J.
Lyree, Lamar	Nat. C.		East Orange, N. J.
Uhlig, E. C.	*I. E.; A.; Soc. G. Ch.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Ulbricht, Emil	Nat. C.	Public Service Gas Co.	Newark, N. J.
Ummach, Charles E.	Ace.; *Ill.; Nat. C.; *Wis.	A. P. R. Williamson & Co.	Chicago, Ill.
Umstead, E. S.	Nat. C.	Washington Gas Lt. Co.	Washington, D. C.
Underhill, Henry L.	A.; Nat. C.	The Bartlett Hayward Co.	Baltimore, Md.
Underwood, C. M.	*Emp.		Buffalo, N. Y.
Underwood, Chas. E.	A.; Ill.	Eastern Coke Co.	South Bethlehem, Pa.
Underwood, R. L.	Nat. G.; Tex.	M. & A. Sec. & T., Herring Oil & Gas Co.	Groesbeck, Texas
Unger, J. S.	Ill.; *Wis.; *A.	Mech. & Chem. E. (Unger Ammonia Still)	3344 Broadway, Chicago, St. Louis, Mo.
Union El. Lt. & Pr. Co.	Mo.		Albion, Mich.
Union Steel Products Co.	Nat. C.		New York, N. Y.
Union Stove Works.	Nat. C.		Philadelphia, Pa.
United Gas Impt. Co.	Nat. C.		New York, N. Y.
United Lead Co.	Nat. C.		St. Louis, Mo.
United Railways Co.	Mo.		Columbus, Ohio
United Seal Co.	N. G. S.		1232 Syndicate Trust Bldg., St. Louis, Mo.
Universal Sand Co.	Mo.		San Francisco, Cal.
U. S. Cast Iron Pipe & Fdy. Co.	*P. C.		Berkeley, Cal.
University of Cal. Library.	Nat. C.		Chicago, Ill.
University of Chicago.	Nat. C.		Boulder, Cal.
University of Colorado.	Nat. C.		Newport News, Va.
Uppike, G. W.	Nat. C.		Newport News, Va.
Uppike, J. C.	Nat. C.		P. O. Box 563, Wheeling, W. Va.
Upham, W. H.	*I. E.	Agt., General Electric Co.	Catskill, N. Y.
Upper Hudson El. R. R. Co.	Emp.; Nat. C.		Pittsburgh, Pa.
Uptegraff, W. D.	I. E.	P. Union Switch & Signal Co.	Kansas City, Mo.
Urig, F. B.	Kan.	Dist. M., Western Electric Co.	Arlington, N. J.
Urvin, R. R.	Nat. C.	Pub. Serv. Gas Co.	Salt Lake City, Utah.
Utah Gas & Coke Co.	Nat. C.		Utica, N. Y.
Utica Gas & Elec. Co.	Emp.		Utica, O.
Utica Gas, Oil & Mining Co.	O.		Utica, N. Y.
Utica Valve & Fixture Co.	Nat. C.; N. G. S.		St. Louis, Mo.
Utilities Service Co.	Mo.		Temple, Texas
Ugley, J. D.	Tex.		Uvalde, Texas
Uvalde Elec. Lt. & Pr. Co.	So. W.		Uvalde, Texas
Uvalde-Leona Valley Inter- urban Ry. Co.	So. W.		Uvalde, Texas
Valentine, Andrew B.	*Pa.; Nat. C.	Thomas, Roberts, Stevenson Co.	Philadelphia, Pa.
Valentine, E. K.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Valentine, R. P.	P. C.		Lodi, Cal.
Vallejo Dist. Pacific Gas & Electric Co.	*P. C.		Vallejo, Cal.
Valley, Geo. J.	Nat. G.	Agt., Mfrs. Light & Heat Co.	McDonald, Pa.
Valley, J. F.	Nat. G.	Agt., Cattaraugus, N. Y., Iroquois Nat. Gas Co.	Buffalo, N. Y.
Valparaiso Ltg. Co.	Nat. C.		Valparaiso, Ind.
Van Arsdale, E.	Ind.	Op. m., Interstate Public Service Co.	Indianapolis, Ind.
Van Benschoten, Frd'k C.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Van Bergen, Curtis E.	*I. E.	Sec. & G. M., Duluth Edison Elec. Co.	Duluth, Minn.
Van Bokkelen, W. R.	P. C.	A. to G. M., Coast Counties Gas & El. Co.	San Francisco, Cal.
Van Brunt, Nicholas.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Van Buskirk, C. F.	Nat. C.	Solic., Public Service Gas Co.	New Brunswick, N. J.
Vance, Champ. S.	A.	2d V. P., Los Angeles Gas & Electric Corporation	Los Angeles, Cal.
Vance, George B.	Nat. G.	S., Drilling Dept., Randall Gas Co.	Mapletown, Pa.
Vance, S. M.	Sou.; A.	G. M., Bristol Gas & Elec. Co.	Bristol, Tenn.
Vandalia Electric Light Co.	Mo.		Vandalia, Mo.
Van Deinse, A. F.	Nat. C.	Federal Light & Traction Co.	New York, N. Y.
Vanden Bout, J.	Pa.; Nat. C.; *A.		Rochester, N. Y.
Vandergriff, J. A.	*I. E.	G. Sals, M., Nat'l Lamp Wks of G. E. Co.	Oakland, Cal.
Vanderhoof, Charles M.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Vander Naillen, R. L.	P. C.		Sharon Bldg., San Francisco, Cal.
Vanderpoel, W. H.	Nat. C.	Kings County Lighting Co.	New York, N. Y.
Van Derzee, G. W.	*I. E.	A. to V. P., Milwaukee El. Ry. & Lt. Co.	Milwaukee, Wis.
VanderWhite, A. J.	P. C.	g. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Vander White, A. J., Jr.	P. C.	g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
*Vander White, Leon.	P. C.	g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
Vander Willigen, T. A.	A.	Cont. Rep. of Messrs. Humphreys & Glasgow, Ltd.	London, S. W., England
Van Camp, W. P.	Ace.	Linde Air Products Co.	New York, N. Y.

Precision CO. Recorders automatically record the percentage of carbon-dioxide in flue gases, and are a real practical means of reducing coal bills and keeping them at a minimum. Write for Bulletin.

PRECISION INSTRUMENT COMPANY : : : DETROIT, MICHIGAN

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Vancouver Gas Co.	Nat. C.		Vancouver, B. C., Can.
Van Deusen, A. H.	Nat. C.	Mohawk Gas Co.	Schenectady, N. Y.
Van Dillen, Edward	Nat. C.		430 Washington Ave., Bellville, N. J.
Vandergrift, T. T.	Nat. G.	Field S., Preston Oil Co.	Lancaster, O.
Van Derneer, A. H.	Nat. C.	Pub. Serv. Gas Co.	Trenton, N. J.
Van Doren, Fred B.	*Emp.		Albany, N. Y.
Van Dyck, W. V. B.	*I. E.	El. E.	Rio de Janeiro, Brazil, S. A.
Van Fleet, W. E.	Nat. C.	Public Service Gas Co.	Somerville, N. J.
Van Gieson, C. J.	Nat. C.; *I. E.	N. B. A., Public Serv. El. Co.	Newark, N. J.
Van Horne, John S.	I. E.	V.-P. & M., the V. & D. El. Co.	Franklin, O.
Van Horn, W. S.	Nat. C.	Public Service Gas Co.	Bayonne, N. J.
Van Landingham, Claude	Ill.	S., Central Ill. Public Service Co.	Paris, Ill.
Van Middlesworth, T. W.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Vann, B. L.	Tex.		Austin, Texas
Van Ness, L. G.	A.	Memphis Gas & Elec. Co.	Memphis, Tenn.
Van Ostrand, S. G.	Ace.	American Lavar Co.	Chattanooga, Tenn.
Van Rensselaer, S. W.	I. E.	Westinghouse Lamp Co.	Bloomfield, N. J.
Van Reyper, John V. H.	Nat. C.	Col., Public Service Gas Co.	Newark, N. J.
Van Sant, Irving	Nat. C.	Chf. Clk., Wilmington Gas Co.	Wilmington, Del.
Van Sclver, W. J.	Nat. C.	Public Service Gas Co.	Burlington, N. J.
Van Sichel, Walter S.	Nat. G.	S., Ft. Smith Lt. & Trac. Co.	Ft. Smith, Ark.
Van Vliet, Rutherford	*A.	Steere Engineering Co.	Detroit, Mich.
Vanzwoll, H. B.	*I. E.	M., Sunbeam Incand'ct Lamp Co.	Chicago, Ill.
Varin, Ralph	Ind.	Chf. Insp., Citizens Gas Co.	Indianapolis, Ind.
Vaughn, C. R.	Ace.	J. B. Colt Co.	New York, N. Y.
Vaughn, Francis A.	I. E.	Vaughn & Meyer	Milwaukee, Wis.
Vaughn, W. E.	Wis.	M., Oneida Gas Co.	Rhinclander, Wis.
Vautier, Theo.	\$P. C.		48 Rue Centrale, Lyons, France.
Vecker, Samuel P.	*A.; Nat. C.	G. M. & Chf. E., Panama Gas Co.	Panama, R. P.
Vegkley, Albert H.	Nat. C.	A. M., Com. Dept. Boston Cons. Gas Co.	Boston, Mass.
Venus Lt. & Water Co.	So. W.		Venus, Texas
Vernon, J. W.	Nat. C.		Newport News, Va.
Vesey, Harry G.	Sou.	S. & Pur. Agt., Jacksonville Gas Co.	Jacksonville, Fla.
Vianna, John J.	*I. E.	Rio de Janeiro Tmwy, Lt. & Pr. Co.	Rio de Janeiro, Brazil, S. A.
Vierigg, Emil H.	Ia.	Grand Island Gas Co.	Grand Island, Neb.
Viets, H. A.	Nat. C.; *Wis.	P., Fuller-Warren Co.	Milwaukee, Wis.
Vilven, F. W.	Ill; A.	Dist. M., Fox River Dist., Western United Gas & Electric Co.	Batavia, Ill.
*Vincent, G. I.	A.; Ia., Nat. C.	E., Syracuse Ltg. Co.	Syracuse, N. Y.
Vincent, H. B.	Pa.; *A.; I. E.	E., Penn Central Light & Power Co.	Philadelphia, Pa.
Vincent, W. G., Jr.	P. C.	Valuation E., Pacific Gas & El. Co.	San Francisco, Cal.
Vissiere, Vernon C.	P. C.	Cash., Coast Counties Gas & Elec. Co.	Watsonville, Cal.
Vivarattas, Francis R.	N. J.	c/o Manhattan Gas Heating Co.	New York, N. Y.
Voelke, L. P.	Nat. G.	Bkpr., East Ohio Gas Co.	1447 6th St., Cleveland, O.
Vogel, Abe	Nat. C.	Louisiana Lt., Pr. & Trac. Co.	Louisiana, Mo.
Vogel, Joshua H.	*I. E.	Architect and V. P., W. M. Vories & Co.	1581 Michigan Ave., Columbus, O.
Vondersaar, Clarence	Ind.	Rec. Clk., Citizens Gas Co.	Indianapolis, Ind.
Von-Gemmingen, Wm. G.	A.; N. E.	S., City Gas Co.	Norfolk, Va.
Von Maur, Jacob D.	A.; Nat. C.	S. of Dis., Laclede Gas Light Co.	St. Louis, Mo.
Von Nieda, H. J.	Nat. C.; *A.; Pa.	S. Com. Dept., Lancaster Light & Fuel Co.	Lancaster, Pa.
Von Phul, William	A.	Ford. Bacon & Davis, Engineers	San Francisco, Cal.
Von Starzenski, V.	A.; Nat. C.	S., Mohawk Gas Co.	Schenectady, N. Y.
Von Vittinghoff, Hans	A.; *N. E.	Stone & Webster	Boston, Mass.
Voorhees, Andrew J.	A.	Sec. to P., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Voorhees, D. S.	Nat. C.	Flatbush Gas Co.	Brooklyn, N. Y.
Voth, W. B.	Nat. C.	Minnesota Light & Power Co.	Eau Claire, Wis.
Vought, W. G.	Nat. C.; N. J.	New Process Stove Co.	New York, N. Y.
Voyer, Leonard E.	*I. E.	General Electric Co.	San Francisco, Cal.
Vredenburg, F. W.	Nat. C.; *A.	Central Hudson Gas & Electric Co.	Newburgh, N. Y.
Vroom, George H.	*Pa.	General Gas Light Co.	New York, N. Y.
Vulcan Process Co.	Ace.		25th and University Aves., Minneapolis, Minn.
Waclark Wire Co.	So. W.		New York, N. Y.
Waddell, Jesse	Ace.	Davis Acetylene Co.	Elkhart, Ind.
Waddom, Thomas	Nat. C.		Newcastle-on-Tyne, England.
Wade, A. C.	*I. E.		Collingswood, N. J.
Wade, F. S.	P. C.	S. Op., Southern Counties Gas Co.	Los Angeles, Cal.
Wadelson, Chas. H.	*Ill.	D. McDonald & Co.	Albany, N. Y.
Wadsworth, W. A.	Nat. G.	Dist. M., Union Gas & El. Co.	4th and Plum Sts., Cincinnati
Waggoner, C. W.	*I. E.	Prof. Physics, West Va. University	730 University Terrace, Morgantown, W. Va.
Wagner, E. F.	N. G. E.	M., Wm. D. McJunkin Ad. Agency	Cleveland, Ohio.
Wagner Electric Mfg. Co.	So. W.; Okla.; Mo.		St. Louis, Mo.
*Wagner, E. W.	N. G. E.	East Ohio Gas Co.	Cleveland, O.
*Wagner, Fred H.	A.	Chf. E., Bartlett Hayward & Co.	Baltimore, Md.
Wagner, Geo. E.	Wis.	Madison Gas & Elec. Co.	Madison, Wis.
Wagner, H. B.	Mich.	Gen. M., Gratiot Co. Gas Co.	Alma, Mich.
Wagner, Herbert A.	*I. E.	Cons. Gas. Elec. Light & Power Co.	Baltimore, Md.
Wagner, R. B.	Sou.	G. M., Appleby-Wagner Co.	Saginaw, Mich.
Wahrenbrock, M. F.	Mo.		La Monte, Mo.
Wainwright, Arthur V.	A.		218 Maple Ave., Red Bank, N. J.
Waits, C. G.	Mo.	Commercial Elec. Supply Co.	St. Louis, Mo.
Wakefield, F. W.	*I. E.	F. W. Wakefield Brass Co.	Vermillion, Ohio.

MacDONALD - MANN COKE QUENCHING CHUTES makes quenching an easier and more agreeable duty, as the gas and steam are confined in water-sealed bins during the process. Loss by incipient combustion is reduced to a minimum, and the labor of handling the finished coke is reduced. Write for Catalogue N15-3.

C. W. HUNT CO., INC., Main Office and Works, WEST NEW BRIGHTON, N. Y.

ASSOCIATION MEMBERS

881

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Wakeman, E. A.	Pa.; †A.; Nat. C.	G. M., Wilkes-Barre Gas Co.	Wilkes-Barre, Pa.
Wakeman, J. T.	Nat. C.	Society for Electric Development.	New York, N. Y.
Waldo, John A.	*G. M.; *N.		
Waldron, Charles, Jr.	E.		102 Milk St., Boston, Mass.
Wales, E. H.	A.	Central Hudson Gas & El. Co.	Poughkeepsie, N. Y.
Wales, Harry B.	Nat. C.	Ruralite Co.	Washington, D. C.
Walker, Arthur W.	Mich.	G. M., Pontiac Light Co.	Pontiac, Mich.
Walker, Edmund E.	Nat. C.	Walker & Pratt Mfg. Co.	Boston, Mass.
Walker, Frank H.	*I. E.	Sales E., Lt. & Pwr. Dept., B. C.	Vancouver, B. C., Canada
Walker, G. B.	P. C.	Elec. Ry., Lt. & Pwr. Co.	Los Angeles, Cal.
Walker, Geo. B.	Kan.	Walker Automatic Water Heater Co.	St. Louis, Mo.
Walker, James H.	Ace.	Sals., General Electric Co.	Chicago, Ill.
Walker, J. L.	*I. E.	Oxweld Acetylene Co.	Cincinnati, Ohio
Walker, M. T.	Wis.; †A.	Dist. Sals. M., Cooper-Hewitt E. Co.	Milwaukee, Wis.
Walker, W. O.	Nat. C.; Sou.	Ap. E., Milwaukee Gas Light Co.	New Orleans, La.
Walker, Wm. T.	A.; Sou.; Tex.	Pittsburg Water Heater Co.	Beaumont, Texas
Wall, W. A.	Nat. G.	M., Beaumont Gas Light Co.	Oil City, Pa.
Wallace, A. I.	Nat. G.	Sec. & T., Central Ky. Nat. Gas Co.	Newark, N. J.
Wallace, Cylon W.	Nat. G.	Public Service Gas Co.	Shreveport, La.
Wallace, H. A.	Nat. G.	And., Southwestern G. & El. Co.	Kalamazoo, Mich.
Wallace, Herbert F.	*Wis.; *Ill.; †A.; *Ind.	Caddo div.	Tonawanda, N. Y.
Wallace, John	A.; Nat. C.	Sals., General Gas Light Co.	919 Quarrier St., Charleston, W. Va.
Wallace, R. A.	Nat. G.	G. M., Niagara Light, Heat & Pr. Co.	
Wallace, R. S.	Nat. E.	G. S., United Fuel Gas Co.	
Wallace, William	*I. E.	Dist. Sales M., El. Lamp Wks. of G. E. Co.	Boston, Mass.
Wallen, William	Nat. C.	Public Service Gas Co.	Newark, N. J.
Wallis, Frank E.	Nat. G.	S., Logan Natural Gas Co.	Ashland, Ohio
Walmsley, W. N.	A.; Can.	S. g. div., Quebec Ry., Lt., Ht. & Pr. Co.	Quebec, Canada.
Walsh, C. H.	Ill.; Nat. C.; A. G. M.	Central Illinois Light Co.	Peoria, Ill.
Walsh, D. C.	Ind.	S., LaFayette Gas Co.	La Fayette, Ind.
Walsh, E. V.	Wis.	M. and Pur. Agt., Oshkosh Gas Light Co.	Oshkosh, Wis.
Walsh, H. F.	*I. E.	Architect, Wallis & Goodwillie.	56 W. 45th St., New York.
Walsh, John H.	*I. E.	Alabama Power Co.	Birmingham, Ala.
Walsh, J. P.	Ja.	Peoples Gas & El. Co.	Burlington, Iowa.
Walsh, M. W.	Nat. G.	Fm. East Ohio Gas Co.	Canton, Ohio.
Walsh, Thomas F.	Nat. C.	Public Service Gas Co.	West New York, N. J.
Walsh, Wm. J.	Nat. G.	Field Fm., The Mfrs. Light & Heat Co.	Hundred, W. Va.
Walsh, William M.	Nat. G.	S., Iroquois Natural Gas Co.	Buffalo, N. Y.
Walter, E. P.	Ill.	Com. Dept., Peoples Gas Light & Coke Co.	Chicago, Ill.
Walters, Benj. S.	Nat. G.	S. of g. Dept., Louisville Gas & El. Co.	Louisville, Ky.
Walters, C. K.	Nat. C.	Public Service Gas Co.	27 W. 8th St., Bayonne, N. J.
Walters, L. H.	Nat. C.	546 Dean St., Brooklyn, N. Y.	
Walton, A. E.	Nat. C.	Mohawk Gas Co.	Schenectady, N. Y.
Walton, J. D.	A.	E., United Gas Imp. Co.	Philadelphia, Pa.
Walton, S. V.	A.; Ind.; Nat. C.	M., Northern Indiana G. & E. Co.	Hammond, Ind.
Wanamaker, G. B.	Nat. G.	Dist. Fm., Equitable Gas Co.	Carnegie, Pa.
Wanamaker, S. R.	*Ill.	Sals., Chicago White Lead & Oil Co.	Chicago, Ill.
Wapakoneta Natural Gas Co.	Nat. C.	11 S. 16th St., Philadelphia.	
Warburton, Alf. N.	Nat. G.	315 Trenton Ave., Uhrichsville, Ohio.	
Ward, C. F.	Nat. G.	Gas Insp.	San Francisco, Cal.
Ward, Charles A.	P. C.	M. of Com. Dept., Pac. Gas & El. Co.	Lock Box 56, Wooster, Ohio
Ward, E. J. E.	Nat. G.	G. M., Highland Development Co.	Philadelphia, Pa.
Ward, Harrison	*I. E.	Sals., Philadelphia Electric Co.	
Ward, James B.	O.		Wapakoneta, Ohio.
Ward, L. T. R., Jr.	P. C.	Dftmn. g. Dept., Pacific Gas & El. Co.	San Francisco, Cal.
Ward, Maurice P.	Nat. G.	Fm. Const. Dept., Ohio Fuel Supply Co.	Homer, Ohio.
Ward, R. W.	Nat. C.	Dayton Gas Co.	Dayton, Ohio.
Ward, Thomas F.	Ill.	V. P., Peo. Gas Lt. & Coke Co.	Chicago, Ill.
Ward, William T.	Nat. C.	East Boston Gas Co.	East Boston, Mass.
Wardell, Charles W.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Ware, Leon H.	*I. E.	Public Service Elec. Co.	Elizabeth, N. J.
Waring, C. H.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Waring, George H.	*A.; Nat. C.	Fmn. United Natural Gas Co.	Oil City, Pa.
Warner, Charles P.	Nat. G.	Sals., United Gas Imp. Co.	Philadelphia, Pa.
Warner, George H.	Mich.; Nat. C.; *I. E.; *Pa.; *Mich.; Nat. C.; *Ind.; N.J.	S. Saginaw City Gas Co.	Saginaw, Mich.
Warner, John H.	Sou.; Nat. G.	Ill. E., Welsbach Co.	Philadelphia, Pa.
Warren, Henry J.	Nat. C.; Pa.; †A.	S., Martinsburg Gas Co.	Martinsburg, W. Va.
Warren, J. S.	Nat. G.; A.	S. Dis., Kansas City Gas Co.	Kansas City, Mo.
Warren, P. D.	A.; *I. E.; †A.	G. M., Utah Gas & Coke Co.	Salt Lake City, Utah.
Warren, W. M.	Nat. C.	Cadet E., Allentown-Bethlehem Gas Co.	Allentown, Pa.
	*A.; Nat. C.	V. P., William M. Crane Co.	New York, N. Y.
	*A.; Nat. C.	A. to G. S., United Gas Imp't Co.	Philadelphia, Pa.
	*A.	Stamford Gas Stove Co.	Stamford, Conn.
	Mo.	Westinghouse Elec. Mfg. Co.	St. Louis, Mo.
	Ill.	A. S., Appl. Dept., Peo. Gas Lt. & Coke Co.	8506 So. Peoria St., Chicago.
	*Ia.	Warren Coke Co.	St. Louis, Mo.

CALORIMETERS

American Meter Company

561 W. 47th St., New York, N. Y.

The American-Junkers' Calorimeter has been greatly improved and accessories added until it has been made what we consider the most advanced type of instrument for this purpose now in use. This is confirmed by the numerous orders we are constantly receiving for it from all parts of the country and that it has been furnished to all the large syndicates, State Public Utilities Commissions and the City Gas Inspectors, the Public Utilities Commission at Washington, D. C., the U. S. Bureau of Standards, and the U. S. Department of War.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Warrensburg and Pertie Springs Water Co.	Mo.		Warrensburg, Mo.
Warrensburg El. Lt., Ht. & Pr. Co.	Mo.		Warrensburg, Mo.
Warwick Valley Lt. & Pr. Co.	Emp.		Warwick, N. Y.
Washington Gas Light Co.	Nat. C.		Washington, D. C.
Washington Wt. & Lt. Co.	Mo.		Washington, Mo.
Washita Elec. Power Co.	Okla.		Pauls Valley, Okla.
Waterbury Gas Light Co.	Nat. C.		Waterbury, Conn.
Waterbury, Herbert J.	A.; Mich.	M. Marquette Gas Light Co.	Marquette, Mich.
Waterbury, Warren H.	Nat. C.	Col., Public Service Gas Co.	Bayonne, N. J.
Water, Light & Transit Co.	Mo.		Carrollton, Mo.
Water Power & Light Co.	Mo.		Ozark, Mo.
Waterloo Light Commrs.	Can.		Waterloo, Ont., Can.
Waters, John A.	A.; N. E.	A. S., g. Dept., Stamford G. & E. Co.	Stamford, Conn.
Waters, Paul A.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Watkins, Frederick A.	*I. E.	Dist. Sals. M., Pittsburg Reflector & Illum. Co.	Chicago, Ill.
Watkins, Fred B.	P. C.	Ch., Pacific Gas & El. Co.	Oakland, Cal.
Watson, Francis E.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Watson, Geo. O.	*Ill.	Sals. H. Channon Co.	Chicago, Ill.
Watson, H. E. G.	Nat. C.; Can.	Consumers Gas Co.	Toronto, Ont., Can.
Watson, H. M.	Nat. C.	United Gas & Elec. Eng. Co.	Birmingham, Ala.
Watson, W. E.	Nat. G.	A. G. M. of Sales, Youngstown Sheet & Tube Co.	Youngstown, O.
Watterson, Gabriel	Nat. G.	Field S. Am. Natural Gas Co.	Creekside, Pa.
Watts, A. E.	Nat. G.	Oil & Gas Producer.	Tulsa, Okla.
Watts, Harry P.	Nat. G.	Field Clk., Peoples Nat. Gas Co.	Brave, Greene Co., Pa.
Waxahachie Gas Co.	Tex.		Waxahachie, Texas.
Way, Albert L.	A.	S. of dis., Public Service Gas Co.	Somerville, N. J.
Way, Alexander B.	A.; N. E.	Chf. Ch., N. E. Gas & Coke Co.	Everett, Mass.
Way, Alfred D., Jr.	Nat. C.	Public Service Gas Co.	Newark, N. J.
Way, S. B.	Wis.	V. F., Milwaukee Lt., Ht. & Trac. Co.	Milwaukee, Wis.
Way, William B.	Nat. G.	Dist. M., Ludlow Valve Mfg. Co.	Pittsburg, Pa.
Wayland-Steuken Pr. Co.	Emp.		Wayland, N. Y.
Weadley, Wm. F.	*Mich.; I. E.; Sou.; *Ill.; *Wis.; *Ind.	Sals. M., General Gas Light Co.	Kalamazoo, Mich.
Weak, C. H.	Nat. C.; Pa.; tA.	Aud., C. H. Geist Co.	Philadelphia, Pa.
Wearing, George E.	Nat. G.	Field M., Elk Natural Gas Co.	Clarion, Pa.
Weatherford Electric Light Plant	Okla.		Weatherford, Texas.
Weaver, D. W.	*I. E.	Physician	Greensburg, Ind.
Weaver, Harry O.	Nat. C.	Consolidated Gas Co.	New York City.
Weaver, H. P.	*Ill.	Dist. E., Independence Insp. Bureau.	Chicago, Ill.
Weaver, S. D.	Nat. G.	Agt., Manufacturers Gas Co.	Bradford, Pa.
Weaver, Smith J.	Ind.		Elkhart, Ind.
Weaver, W. D.	I. E.		Charlottesville, Va.
Webb City & Carterville Gas Co.	Mo.		Webb City, Mo.
Webb, Frank A.	Ace.	Southwestern Lighting Co.	Protection, Kans.
Webber, C. H.	P. C.	G. M., Hemet-San Jacinto Gas Co.	Hemet, Cal.
Webber, Daniel S.	Nat. G.	S. Lease Dept., Ohio Fuel Supply Co.	Columbus, O.
Webber Elec. & Power Co. (John Webber, Mgr.)	Kan.		Wilson, Kan.
Webber, H. B.	Mich.	P., Ionia Gas Co.	Ionia, Mich.
Webber, Louis V.	I. E.	Jefferson Glass Co., Ltd.	Monreal, Que., Can.
Webber, M. B.	*I. E.	A. T., Athol Gas & El. Co.	Boston, Mass.
Webber, M. B.	N. E. C.	Gardner Gas Fuel & Light Co.	Gardner, Mass.
Webber, Paul B.	*N. E.; A.	T., Athol Gas Light Co.	Athol, Mass.
Weber, Albert J.	P. C.		The Apothorp, New York
Weber, F. C.	A.; Nat. C.; Ill.	g. E., H. L. Doherty & Co.	New York, N. Y.
Weber, Hans F.	*A.	Op. E., Didier-March Co.	Perth Amboy, N. J.
Weber, Herman	P. C.	M., Petaluma Dist., Pa. Gas & E. Co.	Petaluma, Cal.
Weber, T. G.	A.	A. S., Central Union Gas Co.	New York, N. Y.
Weber, Theo. J.	A.	Cons. E., United Lt. & Ry. Co.	Grand Rapids, Mich.
Webster, Ed. H.	Nat. C.	Queens Borough Gas & Elec. Co.	Far Rockaway, N. Y.
Webster, Wooster C.	Nat. C.	Sals. Clk., United Gas Imp. Co.	Philadelphia, Pa.
Weeder, James K.	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Weldon, John	Ill.	Adv. M., Peoples Gas Light & Coke Co.	Chicago, Ill.
Weekes, Wm. O.	Nat. C.	Calhoun Gas Co.	Battle Creek, Mich.
Weeks, Harvey E.	A.	A. Dist. M., Western United G. & E. Co.	Joliet, Ill.
Weeks, Wm. O.	Mich.	Mgr. Com. Dept., Calhoun Gas Co.	Battle Creek, Mich.
Wego, Henry P.	Nat. G.	Oil Well, Refinery & Mill Supplies.	Oil City, Pa.
Wegner, Paul H.	Nat. C.	Consolidated Gas Co.	New York, N. Y.
Wehner, Robert K.	*A.	T., Isbell-Porter Co.	Newark, N. J.
Wehnert, H. C.	A.	S., Sta. "A," Laclede Gas Light Co.	St. Louis, Mo.
Wehrle, George	A.; Nat. C.	A. S., g. dept., Denver Gas & El. Co.	Denver, Colo.
Weideman, J. F.	Nat. C.	Central Ohio Gas Co.	Vincennes, Ind.
Weideman, George	*I. E.	P. & T., Geo. Weideman Elec. Co.	New York, N. Y.
Weiland, C. C.	Ill.	Acct. Dept., Western United Gas & Electric Co.	Aurora, Ill.
Weinmeister, C. J.	Nat. C.; Sou.; A. S.	of Mains, Atlanta Gas Light Co.	Atlanta, Ga.
Weintraub, Ezechiel	*I. E.	Con. E.	78 Riverside Drive, New York, N. Y.
Weir, J. B.	Nat. G.	T., Falling Rock Channel Coal Co.	Charleston, W. Va.
Weir Stove Co.	Nat. C.		Taunton, Mass.
Weir, Wharton W.	Nat. C.	Sals. Clk., Northern Liberties G. Co.	Philadelphia, Pa.
Weisenberger, L. L.	Nat. G.; N. G. E.	Indus. E., Ohio Fuel Supply Co.	97 N. Front St., Columbus, O.

Twenty years ago some of the largest gas companies experimented with the GOODMAN STOPPER. Today these same companies think it a necessity. SAFETY GAS MAIN STOPPER COMPANY,

263 East 133rd Street, New York, N. Y.

ASSOCIATION MEMBERS

891

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Weiskittel, Harry C.....	Nat. C.		2000 Aliceana St., Baltl., Md.
Weiss, Charles A.....	Nat. C.	App. Clk., New Amsterdam Gas Co.	New York, N. Y.
Weiss, Frank.....	P. C.; Nat. C.	A. Sec., Los Angeles Gas & El. Corp.	Los Angeles, Cal.
Weiser, Frank L.....	A.; Tex.	S. g. dept., San Antonio Gas & El. Co.	San Antonio, Texas
Welch, William McNair.....	Nat. G.	Mech. E., Bureau of Mines, Exper. Station	San Francisco, Cal.
Welker, Geo. E.....	Nat. G.	Chief E., Iroquois Natural Gas Co.	Buffalo, N. Y.
Wellander, C. L.....	Nat. C.		Brooklyn Union Gas Co.
*Weller, F. M.....	Nat. C.		Brooklyn, N. Y.
Welles, R. H.....	Acc.	Sec. & G. M., Badger Brass Mfg. Co.	1514 Eutaw Pl., Baltimore.
*Weller, L. H.....	Sou.	W. H. Weller, Jr.	Kenosha, Wis.
Wellington, O. F.....	P. C.	Eng. dis. dept., Pacific Gas & El. Co.	Birmingham, Ala.
Wellington, Herbert.....	Nat. C.	B'klyn Union Gas Co.	Oakland, Cal.
Wellington Lt. & Pr. Co.....	Mo.		Brooklyn, N. Y.
Wellman, A. Miner.....	Nat. G.	P. Tri-County Nat. Gas Co.	Wellington, Mo.
Wells, Archibald C. V.....	Nat. C.	Sals., United Gas Improvement Co.	Caledonia, N. Y.
Wells, Fred K.....	*A.; *N. E.; Nat. C.		Philadelphia, Pa.
Wells, Geo. C.....	Nat. G.	M., Pittsburg Water Heater Co.	Boston, Mass.
Wells, H. H.....	Nat. C.	Ag't. Mfrs. Light & Heat Co.	Wellsburg, W. Va.
Wells, J. A.....	Nat. C.	Public Service Gas Co.	Newark, N. J.
Wells, J. A.....	Ark.	G. M., Warren Light & Water Co.	Warren, Ark.
Wells, L. D.....	Nat. G.	Dist. S., Caddo div., Southwestern G. & El. Co.	
Wells, Norman W.....	Mich.; Nat. C.	M., Petoskey & Bay Shore Gas Co.	Vivian, La.
Wells, Walter F.....	*I. E.	V-P. & G. M., Edison El. Illum. Co.	Petoskey, Mich.
Wells, Wilson P.....	*Ill.	A. to Com. Ag't., Western United G. & E. Co.	Brooklyn, N. Y.
*Wellwood, Arthur R.....	*A.	Lieut. Officers Reserve Corps, U.S.A.	Aurora, Ill.
Welsbach Co.....	*P. C.		P. O. Box 478, Wichita Falls, Texas.
Welsbach Co.....	N. G. S.		San Francisco, Cal.
Welsbach Street Ltg. Co. of Am.....	*P. C.		Gloucester, N. J.
Welsh, M. G.....	*A.	S. Mohawk Gas Co.	Philadelphia, Pa., and San Francisco, Cal.
Welsh, William J.....	A.; Emp.; Nat. C.; Soc. G.		Schenectady, N. Y.
Wemple, Frank B.....	Nat. C.	P. & M., N. Y. & Richmond Gas Co.	Stapleton, Boro. of Richmond, N. Y.
Wendehack, C. P.....	Nat. C.	Public Service Gas Co.	28 Elder St., Schenectady, N. Y.
Weniger, Wallibald.....	*I. E.	Physicist, Nela Research Lab. of G. E. Co.	West New York, N. J.
Wenrick, Walter B.....	Nat. C.	United Gas Imp. Co.	Cleveland, Ohio.
Wentz, Daniel B.....	*A.	P., Stonegas Coke & Coal Co.	Philadelphia, Pa.
Wenzel, Herman W.....	*I. E.	A. Dist. M., Phila. Elec. Co.	Philadelphia, Pa.
Wentzel, H. W.....	Nat. G.	A. Storekeeper, Equitable Gas Co.	Manayunk, Philadelphia, Pa.
Wepfer, William M.....	A.	Chf. Dftmn., Brooklyn Union Gas Co.	Pittsburgh, Pa.
Werner, E. M.....	Nat. G.	N. B. dept., East Ohio Gas Co.	Brooklyn, N. Y.
Werner, J. H.....	Nat. C.	Luzerne County Gas & El. Co.	Cleveland, O.
Werner, John H.....	Pa.	M., Berwick Gas Co.	Kingston, Pa.
Werner, Louis H.....	A.; Nat. C.	Sec. Central Union Gas Co.	Berwick, Pa.
Werry, John.....	P. C.	M., Nevada Dist., Pacific Gas & E. Co.	New York, N. Y.
Wertley, Lewis H.....	Nat. C.	United Gas Improvement Co.	Nevada City, Cal.
Wesco Supply Co.....	Mo.; Okla.		Philadelphia, Pa.
West, D. E.....	Tex.	L. M., North Texas Gas Co.	St. Louis, Mo.
West, Grant.....	Nat. G.	Chf. Sta. E., United Natural Gas Co.	Denton, Texas.
West, John.....	Nat. C.	C. H. Tenney & Co.	Sigel, Pa.
West, L. E.....	Tex.		Boston, Mass.
West, R. H.....	Nat. G.	Ag't., The Mfrs. Light & Heat Co.	McKinney, Texas.
West Texas Elec. Co.....	So. W.		Steubenville, O.
West, W. D.....	Ia.	M. & S., Oelwein Gas & Power Co.	Sweetwater, Tex., and Big Springs, Tex.
West, W. H.....	Nat. C.; N. E.	General Gas Lt. Co.	Oelwein, Ia.
Westchester Lighting Co.....	Emp.; Nat. C.		New York, N. Y.
Westcott, H. P.....	Nat. G.	Metrie Metal Works.	Mt. Vernon, N. Y.
Westcott, John Townsend.....	A.; *I. E.	Con. E.	Erie, Pa.
Westmaier, F. Victor.....	*A.; *I. E.; *Ill.	E., Welsbach St. Lighting Co. of Am.	11 Strawberry Hill Rd., Twickenham, London, Eng.
Western Electric Co.....	So. W.		Philadelphia, Pa.
Western Electric Co.....	Okla.; Mo.		Dallas, Texas.
Western F., G. & P. Co.....	*P. C.		St. Louis, Mo.
Western Gas Const'n Co.....	G. I.		Redondo Beach, Cal.
Western N. Y. Utilities Co. Emp.....			Fort Wayne, Ind.
Western Power & Lgt. Co. Mo.....			Medina, N. Y.
Western States Gas & Elec. Co.....	*P. C.		Ry Exch. Bldg., St. Louis, Mo.
West St. Louis Water & Light Co.....	Mo.		Stockton, Cal.
Westing'house El. & Mfg. Co. So. W.; Mo.....			University City, Mo.
West's Gas Improvement Co., Ltd.....	Can.	(I. Ipinger, Engineer)	Dallas, Texas.
Westinghouse Machine Co. N. G. S.....			Manchester, Eng.
Westinghouse Trac. Brake Co.....	So. W.		Pittsburg, Pa.
Weston, E. A.....	P. C.	S., Gas Works, Pac. Gas & Elec. Co.	St. Louis, Mo.
Weston, Edgar C.....	A.	Sec. & T., Gas Light Co.	Fresno, Cal.
Weston, Edward.....	I. E.	P., Weston Electric Inst. Co.	Middletown, Conn.
Weston, John A.....	*Mich.; *Ind.	Detroit Stove Works.	Newark, N. J.
Wedlaufer, Ervin H.....	A.	A. E., Henry I. Lea.	Detroit, Mich.
*Wetmore, E. V. D.....	Nat. C.	Consolidated Gas Co.	Chicago, Ill.
Weymouth, E. A.....	P. C.	A. M., Pac. G. & Elect. Co.	New York, N. Y.
Weymouth, Thos. R.....	Nat. G.	Chf. E., United Natural Gas Co.	San Francisco, Cal.
			Oil City, Pa.

HAMMON PIPE COUPLERS insure tight lines, reduce costs of pipe laying and decrease the difficulties in making changes.

THE HAMMON COUPLER COMPANY,

Pittsburgh, Pa.

Mt. Vernon, Ohio.

Tulsa, Okla.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Weymuller, Louis W.	Nat. C.; Ia.	A. T. Omaha Gas Co.	Omaha, Neb.
Weymuller, W. H.	Nat. C.	Omaha Gas Co.	Omaha, Neb.
Whalan, T. J.	Mich.	S. of Mfr., Jackson Gas Co.	Jackson, Mich.
Whaling, Thomas G.	*I. E.	A. to G. M., Westinghouse Lamp Co.	New York, N. Y.
Wharton, F. D.	Nat. C.	American Gas Co.	Philadelphia, Pa.
Wharton, Henry	*A.	P., Montrose-Pocahontas Coal Co.	Philadelphia, Pa.
Wharton & Co., Wm., Jr.	Nat. C.	M., Helena Gas & Elec. Co.	Helena, Ark.
Wheat, Herbert C.	So. W.	British Thomson-Houston Co., Ltd.	Henderson, N. C.
Wheaton, J. S. M.	*I. E.	S., Peoples Lighting, Heating & Pr.	Rugby, England.
	N. E.	Co.	Barre, Vt.
Wheeler, C. H.	Nat. C.	Hattiesburg Traction Co.	Hattiesburg, Miss.
Wheeler, Hon. Benj. Ide.	*P. C.	P., University of California.	Berkeley, Cal.
Wheeler, Edward M.	Nat. G.	T., West Virginia Central Gas Co.	312 Fidelity Bldg., Buffalo, N. Y.
Wheeler, Frank	Ind.	G. Aud., Ind. Fuel & Lt. Co.	Kendallville, Ind.
*Wheeler, Fred B.	A.	g. E.	Stephney Depot, Conn.
Wheeler, Hugh Flower.	A.	G. M., Hattiesburg Traction Co.	Hattiesburg, Miss.
Wheeler, M. B.	*Ind.; Wis.; Nat. C.; Mich.	Com. Agt., Am. Public Utilities Co.	Grand Rapids, Mich.
Wheelhouse, Sid. H.	Nat. G.	M. g. furnace dept., Columbus Heating & Ventilating Co.	425-435 W. Town St., Columbus, Ohio.
Wheeling Steel & Iron Co.	N. G. S.		Wheeling, W. Va.
Wheelmeyer, A. H.	Ind.	Bkpr., Ind. Fuel & Lt. Co.	Kendallville, Ind.
Whetstone, Walter	Nat. C.; *A.	Whetstone & Co., Inc.	Philadelphia, Pa.
Whipple, Henry S.	A.; Ill.; Nat. C.	M., Rockford Gas Lt. & Coke Co.	Rockford, Ill.
Whipple, Robert H.	A.	E. dept., American Gas Co.	Philadelphia, Pa.
Whitaker, T. W.	Ind.	M., Indiana Lighting Co.	Frankfort, Ind.
Whitcomb, E. C.	Nat. G.	A. Chf. E., Manufacturers Gas Co.	Brookville, Pa.
Whitcomb, E. P.	Nat. G.	V. P. & G. M., Union Nat. Gas Corp.	Pittsburg, Pa.
Whitcomb, H. D.	A.; N. J.; Nat. C.; Soc. G.	V. P. & G. M., Pub. Serv. Gas Co.	Newark, N. J.
White, A. H.	Nat. C.; Ia.; Ind.	No. Ind. Gas & Elec. Co.	Fort Wayne, Ind.
White, Albert R.	*Ia.	Mich. Electric Chemical Co.	Menominee, Mich.
*White, Alfred H.	A.; *Mich.	Capt., Ordnance Dept., U. S. A.	Washington, D. C.
White, Charles E.	N. E.	G. M., Peoples Elec. & Ice Co.	Montgomery, Ala.
White, David	Nat. G.	Fm., Hope Natural Gas Co.	Lumberport, W. Va.
White, D. A.	P. C.	Chief of Police.	San Francisco, Cal.
White, Cantelo E.	*I. E.	P. Duplex Ltg. System, Inc.	Chicago, Ill.
White, Ernest E.	Ace.	Union Carbide Sales Co.	People's Gas Bldg., Chicago.
White, F. L.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
White, H. E.	N. E.; A.	S. St. Dept., New Haven Gas L. Co.	New Haven, Conn.
White, Israel C.	*Nat. G.	Staate Geologist	Morgantown, W. Va.
White, John T.	A.	S. of Street Main Dept., Bkln. Union Gas Co.	Brooklyn, N. Y.
White, O. C.	Ill.; Tex.	G. Sales M., Rathbone-Sard & Co.	Albany, N. Y.
White, T. J.	Nat. G.	Field Fm., Carnegie Nat. Gas Co.	Hundred, W. Va.
*White, William Morse.	A.	S., Coke Oven Plant, Philadelphia Sub. Gas & Electric Co.	Chester, Pa.
Whitehead, George	Nat. C.	Sals., Public Service Gas Co.	Paterson, N. J.
Whitehead, L. K.	Nat. G.	S. g. dept., So. W. Gas & El. Co.	Texarkana, Ark.
Whitehurst, E.	Tex.		San Angelo, Texas.
Whiteley, Benjamin	A.; *I. E.; Nat. C.	A. T., Consolidated Gas Co. of N. Y.	New York, N. Y.
Whiting, F. C.	P. C.	R., Foxboro Co., Inc.	Los Angeles, Cal.
Whittles, Fred	Nat. C.	Kings County Ltg. Co.	Brooklyn, N. Y.
Whiting, H. C.	Nat. C.	Brooklyn Union Gas Co.	Brooklyn, N. Y.
Whiting, Herbert S.	I. E.	J. Livingston & Co., Inc.	New York, N. Y.
Whitney, E.	*Ace.	E., E. P. Gleason Mfg. Co.	37 Murray St., New York.
Whitney, Roy F.	A.; I. E.; Nat. C.	G. M., Fall River Elec. Lt. Co.	Fall River, Mass.
Whitney, Willis R.	*I. E.	General Electric Co.	Schenectady, N. Y.
Whittaker, Alan Dean	A.; Nat. C.; Sou.	S. of Works, Atlanta Gas Light Co.	Atlanta, Ga.
Whittaker, Frederic S.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Whitted, Thomas B.	A.	Mech. E.	Realty Bldg., Charlotte, N. C.
Whittington, Charles	Emp.	Chmn., Empire Gas & Elec. Co.	Geneva, N. Y.
Whittle, George H.	Nat. C.	Public Service Gas Co.	Orange, N. J.
Wiechman, J.	Nat. C.		New York, N. Y.
Whitton, W. H.	*I. E.	N. Y. Edison Co.	New York, N. Y.
Whitton, W. H.	A.; Nat. C.	S. & T., Laclede Gas Light Co.	St. Louis, Mo.
Whitwell, L. M.	A.	G. S., Semet-Solvay Co.	Syracuse, N. Y.
Whitwell, Sanford N.	A.; Nat. C.	G. Aud., Washington Gas Light Co.	Washington, D. C.
Wholey, John F.	Nat. C.	United Gas Imp. Co.	Philadelphia, Pa.
Whysall, George	A.	Con. E., Hamilton (Ont.) Gas Lt. Co.	Marion, Ohio.
Wichita Falls Elec. Co.	So. W.		Wichita Falls, Texas.
Wichita Falls Gas Co.	So. W.		Wichita Falls, Texas.
Wickersham, P. C.	P. C.	Com. Dept., Pacific G. & E. Co.	Oakland, Cal.
Wickett, G. D.	Nat. G.; Can.	T., Windsor Gas Co., Ltd.	Windsor, Ont.
Wickham, Leigh	*A.; *Ill.; *Ia.; Can.; *Mich.; *Wis.	Sales Agt., Parker-Russell Min. & Mfg. Co.	St. Louis, Mo.
Wickham, T. F.	Nat. G.	Sec. & T., Union Gas & El. Co.	Cincinnati, Ohio.
Widdersheim, D. E.	Nat. C.	S. g. dept., Western States Gas & Electric Co.	Stockton, Cal.
Wiedemeir, A. J.	Nat. C.	Burlington Gas Light Co.	Burlington, Iowa.
Wiggers, Charles H.	Wis. *A.	S. Burner Dept., Milwaukee G. L. Co.	Milwaukee, Wis.
Wiggins, J. H.	Nat. G.	E. Illinois Oil & Gas Co.	Bartlesville, Okla.
Wikoff, J. B.	Nat. G.	T. The Ohio Fuel Supply Co.	Pittsburg, Pa.
Wilbur, Leonard M.	Nat. C.	Chf. Clk., Boston Cons. Gas Co.	Dorchester, Mass.
Wilbur, M. E.	Nat. C.; A.	A. Aud., Boston Cons. Gas Co.	Boston, Mass.



Tycos Temperature Instruments
 INDICATING—CONTROLLING—RECORDING
 Catalogue 600 Describes instruments especially for Gas Works
Taylor Instrument Companies Rochester N. Y.



ASSOCIATION MEMBERS

893

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Wilcox, F. W.	*I. E.	British Thomson-Houston Co., Ltd.	London, E. C. Eng.
Wilcox, Norman T.	*I. E.	Mississippi River Pr. Co.	Keokuk, Iowa.
Wilde, Charles	A.	E. of Mains, Phila. Sub. G. & E. Co.	Chester, Pa.
Wilder, Stuart	A.; Nat. C.; *I. E.; Emp.	V. P. & G. M., N. Westchester Ltg. Co.	Mt. Vernon, N. Y.
Wiley, A. M.	Nat. C.	Queensborough Gas & El. Co.	Far Rockaway, N. Y.
Wiley, James H.	*I. E.	A. Prof. Physics, Lehigh University	So. Bethlehem, Pa.
Wiley, Lyman A.	A.; *I. E.; Ill.	Sec. People's Gas Light & Coke Co.	Chicago, Ill.
Wilhoite, L. J.	*I. E.	Cont. Agt., Chattanooga Ry. & Lt. Co.	Chattanooga, Tenn.
Wilke, Arno C.	A.; Wis.	Ch. Milwaukee Gas Light Co.	Milwaukee, Wis.
Wilkins, Henry G.	Nat. C.	Mutual Gas Co.	New York, N. Y.
Wilkes-Barre Gas Co.	Pa.		Wilkes-Barre, Pa.
Wilkins, G. L.	Wis.	Wis. Public Service Co.	Green Bay, Wis.
Wilkinson, A. L.	Nat. G.		Detroit, Mich.
Will, Carl H.	Nat. C.	Wilcox Motor Truck Co.	Minneapolis, Minn.
Willard, Edward A.	Nat. C.; N. E. C.	Portland Gas Light Co.	Portland, Me.
Willard, F. A.	A.	Choctaw Nat. Gas Co.	McAlester, Okla.
Willard, Harold A.	Sou.; Nat. C.	Sals., W. M. Crane Co.	Washington, D. C.
Willard, J. M.	Ill.	Supt. Pub. Serv. Co. of No. Ill.	Streator, Ill.
Willcox, F. W.	*I. E.	British Thomson-Houston Co., Ltd.	London, Eng.
Willard, H. A.	Nat. C.		706 20th St. N.W., Wash., D.C.
Willett, Wm. M.	Ill.; A.	Con. E., Coal Prod. Mfg. Co.	Aurora, Ill.
Williams, Arthur	I. E.	G. Com. Mgr., N. Y. Edison Co.	New York, N. Y.
Williams, B. G.	P. C.	Mech. E., Southern California Gas Co.	Los Angeles, Cal.
Williams, Carl C.	Sou.	Sals., Rathbone-Sard Co.	Albany, N. Y.
Williams, C. C.	Nat. C.		The Burlington, Washington, D. C.
Williams, D. W.	Nat. G.	Geol., Dominion Natural Gas Co., Ltd.	Buffalo, N. Y.
Williams, E. H.	A.; Nat. C.; N. E.	M., The Waterbury Gas Lt. Co.	Waterbury, Conn.
Williams, George	Nat. C.	Com. Sp'l., Henry L. Doherty & Co.	New York, N. Y.
Williams, Geo. I., Jr.	P. C.	Pur. dept., Pac. G. & Elec. Co.	San Francisco, Cal.
Williams, Herbert G.	A.	G. M., Alliance Gas-Power Co.	Alliance, Ohio.
Williams, John B.	Nat. G.	Sec.-T., The Sarnia Gas & Elec. Co.	Sarnia, Ont., Can.
Williams, John F.	Ace.	Sunlight Gas Machine Co.	New York, N. Y.
Williams, John H.	Nat. G.	S., Hope Natural Gas Co.	Clarksburg, W. Va.
Williams, Joseph A.	I. A.	Insp., Laclede Gas Light Co.	St. Louis, Mo.
Williams, Luther S.	A.; Nat. C.; Pa.	M., Harrisburg Gas Co.	Harrisburg, Pa.
Williams, R. J.	Nat. G.	Chf. E., United Natural Gas Co.	Kane (R. D. No. 2), Pa.
Williams, Robert	Nat. C.	Public Service Gas Co.	Orange, N. J.
Williams, Thos. G.	Nat. C.	A. S., Spring Garden Dist., Phila. Gas Wks., United Gas Imp. Co.	Philadelphia, Pa.
Williams, W.	Can.	Sarnia Gas Co.	Sarnia, Ont., Canada.
Williams, W. A.	Nat. G.	A. to G. M., Emp. G. & Fuel Co.	Bartlesville, Okla.
Williams, W. A.	Nat. G.	Chf. Petroloum Expert, U. S. Bureau of Mines	San Francisco, Cal.
Williams, W. S.	Nat. C.	V. P., Peoples Gas Light & Coke Co.	286 Main St., Orange, N. J.
*Williamson, Clarence W.	*Ill.	M., Goheen Mfg. Co. of Canton, O.	Chicago, Ill.
Williamson, E. W.	Nat. G.	S., Hope Natural Gas Co.	Parkersburg, W. Va.
Williamson, John	A.; Ill.; *I. E.; Nat. C.; Wis.	V. P. & Con. E., Peoples Gas L. & C. Co.	Chicago, Ill.
Williamson, J. L.	Nat. C.	Public Service Gas Co.	Jersey City, N. J.
Williamson, R., & Co.	Ace.; Nat. C.		609 W. Washington St., Chicago, Ill.
Willich, P. S.	*N. E.	S., Springfield Gas & El. Co.	Springfield, Mo.
Willien, L. J.	*N. E.; A.	Ch., C. H. Tenney & Co.	Boston, Mass.
Willis, B. F.	Ace.	Henderson Willis Co.	St. Louis, Mo.
Willis, Charles M.	A.; Nat. C.	M., Peoples Gas & Electric Co.	Chillicothe, Mo.
Willoughby, Horace	Nat. G.	Scioto Valley Supply Co.	Columbus, Ohio.
Will, John Valentine	A.	V. P., Michigan Light Co.	Pontiac, Mich.
Willsey, J. H.	Nat. G.	A. S., Ashtabula Gas Co.	Ashtabula, O.
Wilmington Gas Co.	Nat. C.		Wilmington, Del.
Wilputte, Louis	*A.	P. & G. M., Wilputte Coke Oven Corp.	New York, N. Y.
Wilson, A. M.	*I. E.	Prof. of El. E., State University of Cincinnati	Cincinnati, Ohio.
Wilson, A. M.	Nat. G.		Room 330, Robinson Bldg., Tulsa, Okla.
Wilson, A. M.	Nat. C.	Flatbush Gas Co.	Brooklyn, N. Y.
Wilson, Charles J.	I. A.	Sals., St. Clair County Gas Co.	East St. Louis, Ill.
Wilson, Chester P.	Ind.	P., Interstate Pub. Serv. Co.	Indianapolis, Ind.
Wilson, Clyde	Kan.	Manhattan Elec. Light & Power Co.	Manhattan, Kansas.
Wilson, Edward F.	*A.	Chf. Ch., Westmoreland Coal Co.	Irwin, Pa.
*Wilson, Frank S.	I. E.	El. E.	8 Irvington St., Boston, Mass.
Wilson, George Landis	Ace.	P., F. Cortez Wilson & Co.	Chicago, Ill.
Wilson, H. H.	Wis.; A.	M., Wausau Gas Co.	Wausau, Wis.
Wilson, Harry D.	Sou.	M., Consumers Gas & Coke Co.	Waycross, Ga.
Wilson, Henry M.	Nat. G.	R., Pitts. Valve, Fdy. & Cons. Co.	Cleveland, Ohio.
Wilson, J. W.	Nat. G.	M., Knapp Oil & Gas Co.	Weston, W. Va.
Wilson, Jesse C.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Wilson, John Crosier	*A.; Nat. G.; *Wis.	E. Thomas Meter Dept., Cutler-Hammer Mfg. Co.	Milwaukee, Wis.
Wilson, L. B., Jr.	Nat. C.		1068 N. Front St., Baltimore.
Wilson, Ralph I.	Nat. C.; N. J.	Cash., Public Service Gas Co.	Paterson, N. J.
Wilson, Robert	Nat. C.; N. J.	Schneider & Trenkamp	New York, N. Y.
Wilson, Rodney C.	Nat. C.; Sou.	M., Athens Gas Light & Fuel Co.	Athens, Ga.
Wilson, Rodney M.	A.	Ch. Dftmn., Dept. Mafns & Serv., Consolidated Gas Co.	New Rochelle, N. Y.
Wilson, R. S.	Ace.	Davis Acetylene Co.	Elkhart, Ind.

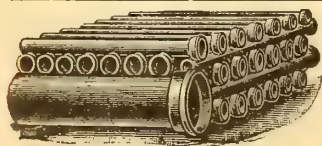
SPENT OXIDE BUYERS (FROM COAL GAS WORKS)

SEND US SAMPLES AND WE WILL MAKE YOU AN OFFER

HENRY BOWER CHEMICAL MFG. CO. Gray's Ferry Road and 29th Street PHILADELPHIA, PA.

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Wilson, S. B.	Ark.	M., Cotton Plant Lt. & Pr. Co.	Cotton Plant, Ark.
Wilson, Stanley	*I. E.		113 W. 12th St., New York, N. Y.
Wilson, S. Tully	*A.	Improved Appliance Co.	Brooklyn, N. Y.
Wilson, T. B.	Nat. G.	Field S., Am. Natural Gas Co.	Wilkesburg, Pa.
Wilson, Vincent J.	Ill.	Cont. E., Gas Heat Dept., General Fire Extinguisher Co.	Chicago, Ill.
Wilson, W. A.	A.	Wilson Bros., Elec. Contractors	Canton, Ohio.
Wimberly, A. H.	Sou.; I.A.	Fm., Atlanta Gas Light Co.	Atlanta, Ga.
Winchell, Stirling A.	Ia.; Nat. C.	A. M., South Bend Supply Co.	So. Bend, Ind.
Windsor, J. E.	Ace.	Jenne Acetylene Gas Machine Co.	Indianapolis, Ind.
Windsor Light, Water, Heat & Power Co.	Mo.	Appliance & Mfg. Co.	Windsor, Mo.
Wing, John Franklin	A.; G. G. M.; N. E.	S., Everett Station, Boston Consolidated Gas Co.	Everett, Mass.
Wingard, Guy H.	Nat. G.	Fm., Mfrs. Gas Co.	Brookville, Pa.
Winn, Sidney	Nat. C.	Public Service Gas Co.	South Amboy, N. J.
Winsor, A. D.	Nat. C.	Seattle Lighting Co.	Seattle, Wash.
Winslow, William H.	*I. E.; Nat. C.; Wis.	S. & Act. G. M., Sup. W., L. & P. Co.	Superior, Wis.
Winterstein, Clarence C.	Nat. C.	United Gas Improvement Co.	22 E. Sedgwick St., Philadelphia, Pa.
Wirt, Charles	I. E.	P. & E., Wirt Co.	Philadelphia, Pa.
Wirt, C. P.	Mich.	N. B. M., Battle Creek Gas Co.	Battle Creek, Mich.
Wisconsin-Minnesota Lt. & Pr. Co.	Nat. C.		La Crosse, Wis.
Wisconsin Traction, Light, Heat & Power Co.	Nat. C.		Appleton, Wis.
Wise, Bud	Nat. G.	Field Clk., The Mfrs. Light & Heat Co.	Cameron, W. Va.
Wiseman, R.	Mich.	Hillsdale Gas Co.	Hillsdale, Mich.
Wishon, A. Emory	P. C.	A. G. M., San Joaquin Lt. & Pr. Corp.	Fresno, Cal.
Wiske, Prescott B.	I.A.	S. A., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Wisson, A.	Kan.	St. Mary Electric Co.	St. Mary's Kan.
Witherby, Edwin C.	A.; *Emp.	V. P., Semet-Solvay Co.	East Harpswell, Me.
Witherby, Edwin E.	A.; *I. E.; Nat. C.; Soc. G.; N. E.	N. E. R.—Gas Machinery Co.	Boston, Mass.
Withers, W. G.	Sou.; Nat. C.	Sals., New Process Stove Co.	Philadelphia, Pa.
Witt, Irwin H.	Ill.	S. P. S. Co. of Northern Ill.	Ottawa, Ill.
Witte, Louis A.	*A.	E., Didier-March Co.	Perth Amboy, N. J.
Witti, William	Nat. C.	Public Service Gas Co.	Passaic, N. J.
Wittkorski, F. D.	Nat. G.	Chf. Insp., Union Nat. G. Co. of Canada	Chatham, Ont., Can.
Wittmer, Geo., Jr.	Nat. G.	A. G. M., Am. Natural Gas Co.	Pittsburgh, Pa.
Wittmer, Henry	Nat. G.	Sec., American Natural Gas Co.	Pittsburg, Pa.
Wittmer, Thomas	Nat. G.	Div. S., American Natural Gas Co.	Pittsburgh, Pa.
Wogan, F. R.	Nat. C.		176 Remsen St., Brooklyn, N. Y.
Wohlauer, Alfred A.	I. E.	Con. El. E.	546 5th Ave., New York, N. Y.
Wolf, G. M.	Nat. C.	The U. G. I. Co.	Philadelphia, Pa.
Wolfe, D. A.	Nat. G.	Agt., The Mfrs. Light & Heat Co.	McKees Rocks, Pa.
Wolfe, Harry L.	Nat. C.; Ill.	E., Rockford Gas Light & Coke Co.	Rockford, Ill.
Wolfe, W. W.	Nat. G.	A. Sec., United Fuel Gas Co.	Charleston, W. Va.
Wolff, A. H.	Nat. C.	Wolff Gas Radiator Co.	New York, N. Y.
Wolff, Elmer H.	Nat. C.	Public Service Gas Co.	Montclair, N. J.
Wolff, J. B.	Mich.	Solic., Jackson Gas Co.	Jackson, Mich.
*Wolff, S. E.	A.; Mich.; Nat. C.	c/o Hodenpyl, Hardy & Co.	New York, N. Y.
Wolters, R. H.	Nat. C.		409 E. 84th St., New York, N. Y.
Wonderly, W. V.	Nat. G.	S., Compression Plants, Logan Natural Gas Co.	Columbus, O.
Wood, Edward R.	*A.	Executor	401 Chestnut St., Philadelphia, Pa.
Wood, Frank A.	I.A.; N. E.	A. S., Boston Cons. Gas Co.	Everett, Mass.
Wood, Fred E.	Ace.	Ypsilite Mfg. Co.	Ypsilanti, Mich.
Wood & Co., R. D.	Can.; *P. C.		Philadelphia, Pa.
Wood, L. L.	Nat. G.	Fm., Penn Gas Co.	Warren, Pa.
Wood, L. O. L.	Kan.	Dist. Sals. M., Geo. Cutler Co.	St. Louis, Mo.
Wood, T. E.	Tex.		Mart, Texas
Wood, Thomas B.	Wis.	S., Staunton Gas Co.	Staunton, Va.
Wood, W. H.	Ace.	Commercial Acetylene Welding Co.	Toronto, Ont., Can.
Wood, W. L.	Nat. G.	M., Southwestern Gas & El. Co.	Texarkana, Texas.
Wood, Walter	P. C.	Cumberland County Gas Co.	Philadelphia, Pa.
Wood, William Austin	A.; G. G. M.; N. E.; Soc. G.	P., Boston Consolidated Gas Co.	Boston, Mass.
Wood, W. M.	Nat. C.; I.A.	Pacific Power & Light Co.	Lewiston, Idaho.
Wood, William Musgrave	A.	The United Gas Imp. Co.	Philadelphia, Pa.
Woodall, George Herbert	A.; *I. E.; Nat. C.; Soc. G.	G. M., Brooklyn Borough Gas Co.	Coney Island, Brooklyn, N. Y.
Woodbury, H. P.	*G. G. M.; *N. E.; Nat. C.	Waldo Bros.	102 Milk St., Boston, Mass.
Woodfin, Web	Ind.	Sec.-Treas., Greensburg Gas & El. Co.	Greensburg, Ind.
Woodhead, F. A.	Nat. C.; N. E.		
Woodin, Ernest C.	N. E. C.	M., Arlington Gas Light Co.	Newark, N. J.
Woodland, John E.	Nat. C.	A. S., Pitney Court Sta., Peoples Gas Light & Coke Co.	Chicago, Ill.
Woodruff, F. G.	P. C.	Public Service Gas Co.	Newark, N. J.
Woods, George E.	A.; Soc. G.; I. E.		768 Mission St., San Francisco, Cal.
Woods, H. S.	Kan.	A. Chf. E., Cons. Gas Co. of N. Y.	New York, N. Y.
Woods, Wm. H.	*I. E.	Sals. Agt., General Electric Co.	St. Louis, Mo.
Woods, W. L. Jr.	Ark.	Toronto Hydro Elec. System.	Toronto, Ont., Can.
		M., Southwestern Gas & El. Co.	Texarkana, Ark.



CAST IRON PIPE

ALL REGULAR SIZES

R. D. WOOD & CO., PHILADELPHIA, PA.

ASSOCIATION MEMBERS

897

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Woodward, F. S.	Emp.	N. Y. & Queens El. Lt. & Pr. Co.	Long Island City, N. Y.
Woodward, W. L.	Tex.		Santa Anna, Texas.
Woodward, Ralph	*G. G. M.	Con. E.	Grafton, Mass.
Woodwell, J. E.	I. E.	Con. E.	S. W. 40th St., New York, N. Y.
Woodworth, R. B.	Nat. G.	The United Gas Imp. Co.	Philadelphia, Pa.
Woolcott, H.	Nat. C.	Sec., Tidewater Power Co.	Wilmington, N. C.
Woolfolk, Wm. G.	Ill.; A.	M., Sanderson & Porter	Chicago, Ill.
*Woolfson, Monroe G.	I. E.	A. to E. Lamp Tests, Electrical Test- ing Laboratories	New York, N. Y.
Woolum, J. B.	Ark.	M., Ark. Lt. & Pr. Co.	Camden, Ark.
Woolworth, Miss C. B.	Nat. C.	The U. G. I. Co.	Philadelphia, Pa.
Woolworth, F. W.	Nat. C.	Sioux City Gas Co.	Sioux City, Iowa
Woomer, Sedgwick W.	Nat. C.	Canv., Public Service Gas Co.	Orange, N. J.
Wooster, L. F.	*I. E.	Prof. El. E., Oregon Agric. College.	Corvallis, Ore.
Wooster, M. E.	P. C.	P., Rector Steam Gas Heating Co.	San Francisco, Cal.
Work, R. D.	Nat. C.	Agt., United Gas Improvement Co.	Philadelphia, Pa.
Work, W. H.	Nat. C.	The U. G. I. Co.	Philadelphia, Pa.
Workman, D. M.	A.; Wis.	Dist. M., Western Gas & El. Co.	Woodstock, Ill.
Worrell, Duncan A.	N. J.; *Pa.; Nat.		
Worrell, Dwight E.	*I. E.	Sals., Bartlett & Co.	Philadelphia, Pa.
Wortendyke, I. F.	A.; Wis.; Nat. C.	Harter Mfg. Co.	Chicago, Ill.
Worthen, W. T.	Acc.	S., New Gas Light Co.	Janesville, Wis.
		Compressed Gas Co. Ltd.	1530 Hastings St., East V. ancouver, B. C., Can.
Worthing, L. E.	A.; Mich.	Chf. Ch., Detroit City Gas Co.	Detroit, Mich.
Worthington, C. D.	*Ill.	Sals. M., Addressograph Co.	Chicago, Ill.
Worthington, Joshua	*I. E.	Philadelphia Electric Co.	Philadelphia, Pa.
Worthington Pump & Mchry. Co.	N. G. S.		Buffalo, N. Y.
Wray, Edward	*I. E.	Sangamon Elec. Co.	Springfield, Ill.
Wrenn, J. W.	Nat. C.; P. C.		
	Nat. G.	M., Economic Gas Co.	Los Angeles, Cal.
Wright, George	Nat. C.	W. F. Boardman Co.	Los Angeles, Cal.
Wright, Geo. H.	P. C.	Reliable Stove Co.	Los Angeles, Cal.
Wright, H. W.	Ark.	S. McGehee Water & Lt. Distr.	McGehee, Ark.
Wright, J. L.	Sou.	Tuscaloosa Ry. & Utilities Co.	Tuscaloosa, Ala.
Wright, John N.	Mich.	Cash., Detroit City Gas Co.	Detroit, Mich.
Wright, R. B.	Sou.	Sals. M., Mobile Gas Co.	Mobile, Ala.
Wright, Sidney B.	*Ill.	E., The Texas Co.	Chicago, Ill.
Wright, W. H.	A.; Ind.	E., Citizens Gas Co.	Indianapolis, Ind.
Wright Wire Co.	N. G. S.		Worcester, Mass.
Wrightington, Edgar N.	A.; I. E.; Nat. C.; *N. E.	Sec. & M. Com. Dept., Boston Con. Gas Co.	Boston, Mass.
Wrynn, S. T.	Nat. C.	East River Gas Co.	Long Island City, N. Y.
Wuest, Henry A.	A.	Chf. Clk., Brooklyn Union Gas Co.	Brooklyn, N. Y.
Wunder, Frank P.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Wyant, Robert E.	A.; *I. E.; N. E.		
	Soc. G.; G. G. M. E.	E., New Haven Gas Light Co.	New Haven, Conn.
Wycoff, Carl B.	Sou.	S. works. Mobile Gas Co.	Mobile, Ala.
Wycoff, D. V.	N. J.		Washington, N. J.
Wyer, S. S.	A.; Nat. G.; Nat. C.	Cons. E.	1014 Hartman Bldg., Colum- bus, O.
Wylle, Arthur G.	*I. E.		173 Cabot St., Holyoke, Mass.
Wyman, Charles B.	Nat. C.		2144 N. Reese St., Philadelphia
Wyman, John	Mich.	Detroit City Gas Co.	Detroit, Mich.
Wyman, Phillip	Nat. C.	Adv. Section, Pub. Inf. Div.	Washington, D. C.
Wyman, Walter S.	A.	T. & G. M., Central Maine Power Co.	Augusta, Me.
Wyness, Alexander, Jr.	Sou.		Spartanburg, S. C.
Wynkoop, R. N.	Nat. C.	Public Service Gas Co.	Hackensack, N. J.
Wynne, A. V.	Nat. C.	Fremont Gas & Elec. Lt. & Pr. Co.	Fremont, Neb.
Wynne, Hiram L.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Wynne, John B.	Nat. C.	United Gas Improvement Co.	Philadelphia, Pa.
Wynne, V. C.	I. E.	Con. E.	New York, N. Y.
Xylander, Peter	Nat. C.; *I. E.	Public Service Gas Co.	Hackensack, N. J.
Yard, W. S.	P. C.	A. S. g. dept., Pacific Gas & El. Co.	San Francisco, Cal.
Yardley, George	Nat. G.	Sec. to G. M., United Natural Gas Co.	Oak City, Pa.
Yardley, W. F.	Ill.	A. Div. S., Public Serv. Co. of No. Ill.	Oak Park, Ill.
Yates, H. James	Nat. C.	John Wright & Co., Ltd.	Birmingham, England.
Yeoman, B. B.	Nat. C.	Rochester Railway & Light Co.	Rochester, N. Y.
Yesionowski, John B.	Nat. C.		14 Van Buren St., Passaic, N. J.
Yetter, Louis N.	Nat. C.	Atlantic City Gas Co.	Atlantic City, N. J.
Yolo Dist., Pacific Gas & Elec. Co.	*P. C.		Woodland, Cal.
Yonkers El. Lt. & Pr. Co. Emp.			Yonkers, N. Y.
Yonts, Charles B.	Ill.; Nat. C.	G. Cont. Agt., Illinois Northern Util- ities Co.	Dixon, Ill.
York Gas Co.	Pa.		York, Pa.
York, Palmer	*N. E.; Nat. C.	Chas. H. Tenney & Co.	Boston, Mass.
Yorke, Patrick	Nat. G.	York Derrick Co.	Washington, Pa.
Yoshioka, Yashikatsu	*I. E.	Tokio Electric Co.	Kawasaki, Japan.
Young, A. W.	I. E.	Public Service Electric Co.	Camden, N. J.
Young, Alfred W.	A.; Sou.	G. M., Knoxville Gas Co.	Knoxville, Tenn.
Young, C. A.	N. J.	Sals., Geo. M. Clark & Co.	New York, N. Y.
Young, Conrad F.	Nat. C.	Brandeis Theatre Bldg.	Omaha, Neb.
Young, D. J.	P. C.	A. G. S., San Diego Cons. Gas & El. Co.	San Diego, Cal.

Superior Drop-Forgings
of "Grand Prize" Calibre



74 RICHARDS STREET BROOKLYN, N. Y. CITY

ASSOCIATION MEMBERS

MEMBER.	ASSOCIATION.	COMPANY.	CITY OR TOWN.
Young, Edwin S.....	I. E.; A.; Nat. A. Sec., N. Y. Mutual Gas Light Co.	New York, N. Y.	
Young, Dr. G. Elex.....	Nat. C.	Brandeis Theatre Bldg.....	Omaha, Neb.
Young, George J.....	*Ill.	Sals. M., Tropical Paint & Oil Co...	Chicago, Ill.
Young, H. A.....	Nat. C.		283 So. Ithan St., Philadelphia
Young, J. B.....	Nat. C.	Public Service Gas Co.....	Hackensack, N. J.
Young, J. W.....	I. E.		Box 308, Sheffield, Ala.
Young, John.....	Nat. G.	Field S., Am. Natural Gas Co.....	Apollo, Pa.
Young, John.....	Nat. C.	British Gas Light Co., Ltd.....	Hull, England.
Young, James Watts.....	I. E.		Box 308, Sheffield, Ala.
Young, James M. H.....	Can.; Nat. C.		
	Nat. G.	City Gas Co.....	London, Ontario, Canada.
Young, John T.....	A.	G. M., Grand Rapids Gas Lt. Co...	Grand Rapids, Mich.
Young, L. B.....	*A.; Nat. C.		
	*Mich.; *Ind.	G. M., Michigan Stove Co.....	Detroit, Mich.
Young, Leland N.....	Nat. C.		424 Widdicomb Bldg., Grand Rapids, Mich.
Young, N. A.....	*A.; Can.	Alpena Gas Co.....	Alpena, Mich.
Young, Percy S.....	A.; *I. E.; Nat. C.		
Young, Peter.....	A.; Nat. C.	Comp. and T., Public Service Gas Co.	Newark, N. J.
Young, R. R.....	A.; Nat. C.; N. J.; *I. E.	g. dept., Watertown Lt. & Fr. Co...	Watertown, N. Y.
Young, Robert.....	Wis.	N. B. Agt., Public Service Gas Co.	Newark, N. J.
Young, Robert W. H.....	A.	S. of Wks., Consolidated Gas Co...	Pittsburgh, Pa.
Young, W. H.....	Nat. G.	Pur. Agt., South Hills Oil & Gas Co.	Pittsburgh, Pa.
Young, William T.....	Nat. G.	M. E., United Natural Gas Co.....	Oil City, Pa.
Youngs, J. T.....	Mich.	M., Grand Rapids Gas Light Co...	Grand Rapids, Mich.
Youngstown Sheet & Tube Co.....	N. G. S.		Youngstown, Ohio.
Yule, Alexander.....	*Ill.	Sec., Pioneer Coal & Coke Co.....	St. Louis, Mo.
Zander, John.....	Ill.	Indus. E., Peo. Gas Light & Coke Co.	Chicago, Ill.
Zane, Allen H.....	*A.	S. A., Astoria Light, Heat & Power Co.	Astoria, N. Y.
Zahner, J. E.....	Nat. C.		61 So. 20th St., East Orange, N. J.
Zeek, Charles F.....	A.; Nat. C.; Sou. S.	Pensacola Gas Co.....	Pensacola, Fla.
Zeigler, Roy A.....	Ind.; Nat. G.	Aud., Central Indiana Gas Co.....	Anderson, Ind.
Zeller, S. E.....	Nat. G.	Fmn., East Ohio Gas Co.....	Canal Dover, Ohio.
Zimmerman, C. W.....	Nat. G.	Chf. Clk., Philadelphia Co.....	Pittsburgh, Pa.
Zimmerman, Geo. W.....	Nat. G.	Field S., Am. Natural Gas Co.....	New Kensington, Pa.
Zingg, Julius.....	Nat. C.	Public Service Gas Co.....	Newark, N. J.
Zingg, J. T.....	Nat. C.; N. J.	Agt. g. Dept., Public Service Gas Co.	Orange, N. J.
Zitzewitz, Hermann.....	*A.; *Ill.	P., National Machine Works.....	Chicago, Ill.
Zoller, Fred.....	*Ill.; Nat. G.	Sec. & T., National Machine Works..	Chicago, Ill.

ULCO LEAD WOOL FOR ECONOMY

IN ROPE FORM

UNITED LEAD COMPANY

111 BROADWAY, NEW YORK

CHEMICAL CONTROL OF GAS MANUFACTURE

By W. M. Russell, Mgr., and F. Wills, Gen'l Supt.

Emporia Gas Co., Emporia, Kansas.

PART I.—“Practical Application” deals with the retort house. PART II.—“Elementary Chemical Theory” provides the necessary fundamentals.

The Book has 140 pages with 47 illustrations and numerous reference tables and diagrams. Smallest possible use of technical language or formulæ is made, and every description of elementary principles is based on actual demonstration to workers, in the writers' experience.

THE GAS AGE

Price \$1.50 Postpaid
Lots of Five, \$6.00

52 VANDERBILT AVE., NEW YORK

Written for Practical Men
by Practical Men

ABBREVIATIONS

EXPRESS COMPANIES

Ad. Adams.
 A. Pac. Alaska Pacific.
 Am. American.
 E. L. Boston Local.
 C. G. & P. Cincinnati, Georgetown & Portsmouth R. R. Express.
 Can. Canadian.
 C. N. Canadian Northern.
 Con. Continental.
 D. & R. G. Denver & Rio Grande.
 Dom. Dominion.
 E. & P. Earle & Prew.
 Glo. Globe Express Co.
 G. N. Great Northern Express.
 H. & S. W. Halifax & Southwestern Ry. Express.

L. I. Long Island Ry. Express.
 Mar. Maritime.
 Mex. Net. Mexican National.
 Nat. National.
 N. Y. & B. New York & Boston Despatch.
 N. Y. L. New York Local.
 Nor. Northern.
 N. P. Northern Pacific.
 Pac. Pacific.
 So. Southern.
 W. F. Wells-Fargo.
 W. J. West Jersey (now Adams).
 West. Western.

RAILROAD AND STEAMBOAT COMPANIES

A. & B. Co. Augusta & Bath Steamboat Co.
 A. & B. Line. Ashland & Bayfield Line.
 A. & D. G. Packet. Atchafalaya & Des Glaizes Packet Co.
 A. & H. (El.) Albany & Hudson (Electric).
 A. & W. P. & W. Atlanta & West Point & Western Ry. of Ala.
 A. A. Ann Arbor.
 A. A. R. R. Steamer. Ann Arbor R. R. Steamer.
 A. B. & A. Atlanta, Birmingham & Atlantic.
 A. C. Atlantic City R. R.
 A. C. & Shore (El.) Atlantic City & Shore (Electric).
 A. C. L. Atlantic Coast Line.
 A. N. & S. Atlantic, Northern & Southern.
 A. T. & S. F. Atchison, Topeka & Santa Fe.
 Ala. Gt. So. Alabama Great Southern.
 Algo. Nav. Co. Algoma Navigation Co.
 Am.-H. S. S. American-Hawaiian Steamship Co.
 Anchor Line Erie & Western Transportation Co.
 Ark. Mid. Arkansas Midland.
 Ast. & Co. R. Astoria & Columbia River.
 Aug. So. Augusta Southern.
 Auro. & DeK. Aurora & DeKalb.
 B. & A. Short Line. Baltimore & Annapolis Short Line of Md. Electric Rys.
 B. & Aroos. Bangor & Aroostook.
 B. & B. Line. Bangor & Brookville Line.
 B. & B. H. Co. Bangor & Bar Harbor Steamboat Co.
 B. & C. Co. Baltimore & Carolina Steamship Co.
 B. & C. Line. Bucksport & Camden Steamboat Line.
 B. & Ham'port Bath & Hammondsport.
 B. & M. Beach & Miller Steamers.
 B. & O. Baltimore & Ohio.
 B. & O. So. W. Baltimore & Ohio Southwestern.
 B. & P. Co. Baltimore & Philadelphia Steamboat Co.
 B. & E. Sh. Trans. Baltimore & Eastern Shore Transportation Co.
 B. & P. J. S. B. Bridgeport & Port Jefferson Steamboat Co.
 B. & Susq. Buffalo & Susquehanna.
 E. A. & Pac. Butte, Anaconda & Pacific.
 E. C. & A. Ry. Lines. Baltimore, Chesapeake & Atlantic Railway Steamer Lines.
 B. C. & P. S. Route. British Columbia & Puget Sound Route.
 B. Ch. & At. Baltimore, Chesapeake & Atlantic.
 B. Co. Butte County.
 B. W. & N. W. Brockville, Westport & Northwestern.
 B. El. Ry. Brooklyn Electric Railway.
 B. R. B. & L. Boston, Revere Beach & Lynn.
 B. R. & P. Buffalo, Rochester & Pittsburg.
 P. Ry. & El. Bangor Railway & Electric Co.
 B. S. L. & West. Beaumont, Sour Lake & Western.

B. W. & N. W. Brockville, Westport & Northwestern.
 Bak. & Vent. Bakersfield & Ventura.
 Balt. Packet. Baltimore Steam Packet Co.
 Bell. Bay & B. C. Bellingham Bay & British Columbia.
 Bell. Bay Trans. Bellingham Bay Transportation Co.
 Belle. Cen. Bellefonte Central.
 Ben. Trans. Benton Transportation.
 Bes. & L. E. Bessemer & Lake Erie.
 Birm. & At. Birmingham & Atlantic.
 Black Dia. S. S. Black Diamond Steamship Co.
 Blooms. & Sul. Bloomsburg & Sullivan.
 Boise & Int. Boise & Inteurban (Electric).
 Bos. & Al. Boston & Albany.
 Bos. & Me. Boston & Maine.
 Bruns. & Fla. S. B. Brunswick & Florida Steamboat Co.
 Bruns. & Sat. R. Brunswick & Satilla River Route.
 Bruns. S. S. Brunswick Steamship Co.
 Bruns. St. S. & D. Brunswick, St. Simon & Darien Steamboat Co.
 C. & A. Chicago & Alton.
 C. & B. Trans. Cleveland & Buffalo Transit Co.
 C. & D. Trans. Chicago & Duluth Transportation.
 C. & E. Ill. Chicago & Eastern Illinois.
 C. & Ill. Mid. Chesapeake & Illinois Midland.
 C. & Ill. W. Chicago & Illinois Western.
 C. & L. Colusa & Lake.
 C. & M. El. Chicago & Milwaukee Electric.
 C. & No. W. Chicago & Northwestern.
 C. & O. Chesapeake & Ohio.
 C. & W. Indiana. Chicago & Western Indiana.
 C. A. & S. Ry. Centerville, Albion & Southern.
 C. B. & Q. Chicago, Burlington & Quincy.
 C. C. & L. Chicago, Cincinnati & Louisville.
 C. H. & D. Cincinnati, Hamilton & Dayton.
 C. I. & L. Chicago, Indianapolis & Louisville.
 C. I. & So. Chicago, Indiana & Southern.
 C. Gt. W. Chicago Great Western.
 C. Kal. & Sag. Chicago, Kalamazoo & Saginaw.
 C. M. & Cairo. Catskill Mountain & Cairo.
 C. M. & Gary. Chicago, Milwaukee & Gary.
 C. M. & St. P. Chicago, Milwaukee & St. Paul.
 C. P. & St. L. Chicago, Peoria & St. Louis of Illinois.
 C. P. & Ste. G. Chester, Perryville & Ste. Genevieve.
 C. R. & I. City. Cedar Rapids & Iowa City (Electric).
 C. R. I. & G. and
 C. R. I. & El P. Chicago, Rock Island & Gulf and Chicago, Rock Island & El Paso.
 C. R. I. & P. Chicago, Rock Island & Pacific.
 C. S. B. Chicago Steamboat.

ABBREVIATIONS

- J. S. S. Co. Charleston Steamship Co.
 C., So. B. & No. Ind. Chicago, South Bend & Northern Indiana (El.).
 C. So. H. Line. Chicago-South Haven Line.
 C. Term Tr. Chicago Terminal Transfer.
 C., So. W. & Col. (El.). Cleveland, Southwestern & Columbus (Elec.).
 Cal. & Ore. C. S. S. California & Oregon Coast S. S. Co.
 Cal. Nav. & Imp. California Navigation & Improvement Co.
 Can. At. Trans. Canadian Atlantic Transit Co.
 Can. Lake Trans. Canandaigua Lake Transportation Co.
 Can. No. Canadian Northern.
 Can. Pac. Canadian Pacific.
 Can. Pac. B. C. Coast Serv. Canadian Pacific Ry. British Columbia Coast Service.
 Can. Pac., B. C. L. & R. Serv. Canadian Pacific Railway, British Columbia Lake & River Service.
 Can. Pac. Ry. Isl. Br. Serv. Canadian Pacific Railway, Island Branch Service.
 Can. Pac. Upper Lake Serv. Canadian Pacific Railway, Upper Lake Service.
 Cats. & Al. Catskill & Albany Steamboat Co.
 Chat. Lake Trans. Cayuga Lake Transportation Co.
 Cen. of Ga. Central of Georgia.
 Cen. of Pa. Central of Pennsylvania.
 Cen. Hud. Central Hudson Steamboat Co.
 Cen. Ind. Central Indiana.
 Cen. of N. J. Central R. R. of New Jersey.
 Cen. Vt. Central Vermont.
 Champ. Trans. Champlain Transportation Co.
 Char. S. Nav. Charlottetown Steam Navigation Co.
 Chas. & West C. Charleston & Western Carolina.
 Chat. R. S. Bs. Chattahoochee River Steamboats.
 Chat. Packet Chattanooga Packet Co.
 Chat. So. Chattanooga Southern.
 Ches. & Ohio. Chesapeake & Ohio R. R. Steamer.
 Ches. Beach. Chesapeake Beach.
 Ches. Co. Chesapeake Steamship Co.
 Cin. & Col. (El.). Cincinnati & Columbus (Electric).
 Cin. & Musk. Val. Cincinnati & Muskingum Valley.
 Cin., Bluff & Chi. Cincinnati, Bluffton & Chicago.
 Cin., Leb. & No. Cincinnati, Lebanon & Northern.
 Cin. No. Cincinnati Northern.
 Cin., N. O. & Tex. Pac. Cincinnati, New Orleans & Texas Pacific.
 Cin., Pom. & Charles Packet Cincinnati, Pomeroy & Charleston Packet Co.
 Clar. & Pitts. Clarendon & Pittsford.
 Clay. & Ogd. Route. Clayton & Ogdensburg Route.
 Clev., Ak. & Col. Cleveland, Akron & Columbus.
 Clev. & Geo. Bay Line Cleveland & Georgian Bay Line.
 Clyde's St. J. R. L. Clyde's St. Johns River Line.
 Coastal. Coastal Steam Packet Co.
 Col. & P. S. Columbia & Puget Sound.
 Col., Del. & Mar. Columbus, Delaware & Marion (Electric).
 Tol., New. & Laurens. Columbia, Newberry & Laurens.
 Col. R. S. Bs. Colorado River Steamboats.
 Col. S. & C. C. Dist. Ry. Colorado Springs and Cripple Creek Dist. Ry.
 Coll. L. Collins Line.
 Colo. & So. Colorado & Southern.
 Colo. Mid. Colorado Midland.
 Colo. & Wyo. Colorado & Wyoming.
 Conn. Co. El. Connecticut Company Electric Lines.
 Coos B., R. & East. Coos Bay, Roseburg & Eastern.
 Corn. & Leb. Cornwall & Lebanon.
 Crosby Trans. Crosby Transportation Co.
 Cum. & Pa. Cumberland & Pennsylvania.
 Cum. Vy. Cumberland Valley.
 D. & B. Co. Detroit & Buffalo Steamboat Co.
 D. & H. Delaware & Hudson.
 D. & R. G. Denver & Rio Grande.
 D. & T. (El.). Dayton & Troy (Electric).
 D. & U. Detroit & Union.
 D., L. & W. Delaware, Lackawanna & Western.
 D., No. W. & Pac. Denver, Northwestern & Pacific.
 D., P. & A. Nav. Dalles, Portland & Astoria Navigation Co.
 D., T. & I. Detroit, Toledo & Ironton.
 Dan. & Western. Danville & Western.
 Dans. & M. M. Dansville & Mount Morris.
 Dav. & Bur. Packet. Davenport & Burlington Packet.
 Dav. & U. Dayton & Union.
 Day, Leb. & Cin. Dayton, Lebanon & Cincinnati.
 Del. Val. Delaware Valley.
 Den. & Rio G. Denver & Rio Grande.
 Des. Nav. Deseronto Navigation Co.
 Det. & Clev. Nav. Detroit & Cleveland Navigation Co.
 Det. & Mac. Detroit & Mackinac.
 Det. & Tol. Sh. Line. Detroit & Toledo Shore Line.
 Det., Monroe & Tol. Detroit, Monroe & Toledo Shore Sh. Line.
 Det. U. Detroit United.
 Dom. At. Dominion Atlantic.
 Dom. At. Ry. Lines. Dominion Atlantic Railway Steam-er Lines.
 Dul. & Iron R. Duluth & Iron Range.
 Dul., R. L. & W. Duluth, Rainy Lake & Winnipeg.
 Dul., So. Sh. & At. Duluth, South Shore & Atlantic.
 Dul., Mis. & No. Duluth, Missabe & Northern.
 Dur. & So. Durham & Southern.
 Dur. & So. Car. Durham & South Carolina.
 E. & B. G. Packet. Evansville & Bowling Green Pack-ets.
 E. & T. H. Evansville & Terre Haute.
 E. O. Trac. Eastern Ohio Traction Co.
 E. S. S. Co. Eastern Steamship Co.
 E. S. T. Eastern Shore Transportation Co.
 E., Sub. & New. Evansville, Suburban & Newburg.
 El. Jol. & E. Elgin, Joliet & Eastern.
 El. & Sen. L. Trac. (El.). Elmira & Seneca Lake Traction Co. (Electric).
 El P. & So. W. El Paso & Southwestern.
 Es. & Lake S. Escanaba & Lake Superior.
 Esc. & Glads. Trans. Escanaba & Gladstone Transporta-tion Co.
 Evans & E. Evans & Eastern (Electric).
 F. I. Nav. Fishers Island Navigation Co.
 F. J. & G. Fonda, Johnstown & Gloversville.
 Fkft. & Cin. Frankfort & Cincinnati.
 Fla. E. C. Florida East Coast.
 Flo. & C. C. Florence & Cripple Creek.
 Fr. & Ma. Line. Frankfort & Manistee Line.
 Frontier. Frontier Steamboat Co.
 Ft. C. & Corn. Line. Fort Covington & Cornwall Line.
 Ft. W. & Den. City. Fort Worth & Denver City.
 Ft. W. & Rio G. Fort Worth & Rio Grande.
 Ft. W. & Spg. Fort Wayne & Springfield (Elec-
 Ft. W. & Wab. Vy. Fort Wayne & Wabash Valley Trac. Fort Wayne & Wabash Valley Traction.
 G. & A. S. B. Georgia & Alabama Steamboat Co.
 G. & Knox. Greenville & Knoxville.
 G. & S. I. Gulf & Ship Island.
 G. B. & West. Green Bay & Western.
 G. B. Trans. Green Bay Transportation.
 G. Bay & L. S. Line. Georgian Bay & Lake Superior Steamship Line.
 G. Manan S. B. Grand Manan Steamboat Co.
 G. N. Great Northern.
 G. R., G. H. & Musk. (El.). Grand Rapids, Grand Haven & Muskegon (Electric).
 G. R., Hol. & Chi. Grand Rapids, Holland & Chicago (Electric).
 G., S. & R. R. Gulf, Sabine & Red River.
 G. V., Gl. & No. Gila Valley, Globe & Northern.
 Ga. & Fla. Georgia & Florida.
 Ga. Creek & C. Georgia Creek & Cumberland.
 Ga., Fla. & Ala. Georgia, Florida & Alabama.
 Ga. R. R. Georgia Railroad.
 Ga. So. & Fla. Georgia Southern & Florida.
 Gaines. Mid. Gainesville Midland.
 Gal., Hous. & Hend. Galveston, Houston & Henderson.
 Gales. & Kew. (El.). Galesburg & Kewanee (Electric).
 Galt., P. & H., P. & B. (El.). Galt, Preston & Hespeler & Pres-ton & Berlin (Electric).
 Goodrich Trans. Goodrich Transit Co.
 Gr. Rap. & Ind. Grand Rapids & Indiana.
 Gr. Trunk. Grand Trunk.
 Gr. Trunk Pac. Grand Trunk Pacific.
 Graham & M. Trans. Graham & Morton Transportation.
 Griffon Co. Griffon Transportation Co.
 H. & N. Y. Trans. Huntington & N. Y. Transporta-tion Co.
 H., G. & B. (El.). Hamilton, Grimsby & Beamsville (Electric).
 H. R. Hudson River Day Line.
 Hal. & Canso Co. Halifax & Canso Steamship Co.
 Hal. & So. W. Halifax & Southwestern.

ABBREVIATIONS

899

Hart Line Ocklawaha & St. John's Navigation Co.
Hock. Val. Hocking Valley.
Hous. & Tex. Cen. Houston & Texas Central.
Hous., E. & W. Tex. Houston, East & West Texas.
Hud. Val. Hudson Valley.
Hunt. & B. T. Mt. Huntingdon & Broad Top Mountain.
Hunt., N. Y. & N. Line Huntington, New York & Norwalk Line.
I. & E. Ione & Eastern.
Il. Ilwaco.
Ill. Cen. Illinois Central.
Ill. Trac. Illinois Traction.
Ill. So. Illinois Southern.
Ill. Term. Illinois Terminal.
Ind. Har. Belt. Indiana Harbor Belt.
Ind. L. Independent Line.
Ind. So. Indianapolis Southern.
Inland Nav. Inland Navigation Co.
Int. (El.) International (Electric).
Int. & G. N. International & Great Northern.
Int. S. S. International Steamship Co.
Int. Nav. & Trad. Co. International Navigation & Trading Co.
Inter-M. Inter-Mountain.
Iowa & Ill. Iowa & Illinois (Electric).
Iowa Cen. Iowa Central.
Jack. & May. S. B. L. Jacksonville & Mayport Steamboat Line.
James. & N. Ferry. Jamestown & Newport Ferry Co.
K. & Q. Packet. Keokuk & Quincy Packet.
K. C. & S. Kansas City, Clinton & Springfield.
K. C. So. Kansas City Southern.
K. C. Trans. & S. B. Co. Kansas City Transportation & Steamboat Co.
Kal., L. S. & Chi. Kalamazoo, Lake Shore & Chicago.
Kings. & Pem. Kingston & Pembroke.
Knox. & Dandridge Line Tennessee & French Broad Navigation Co.
Knox. & Kingston Line Tennessee & French Broad Navigation Co.
Ko., Mar. & W. Trac. Kokomo, Marion & Western Traction Co. (Electric).
Ky. & Ind. Br. Co. Kentucky & Indiana Bridge Co.
L. & At. Louisville and Atlantic.
L. & C. Packet. Louisville & Cincinnati Packet Co.
L. & E. Packet. Louisville & Evansville Packet Co.
L. & N. Louisville & Nashville.
L. A. & S. D. Beach. Los Angeles & San Diego Beach.
L. E., Al. & Wh. Lake Erie, Alliance and Wheeling.
L. E. & W. Lake Erie & Western.
L., H. & St. L. Louisville, Henderson & St. Louis.
L. I. Long Island.
L. R. & H. S. W. Little Rock & Hot Springs Western.
L. S. (El.) Lake Shore (Electric).
L. S. & M. So. Lake Shore & Michigan Southern.
L. S. & Ishp. Lake Superior and Ishpeming.
L. V. Trans. Lehigh Valley Transportation Co.
La C. & So. E. La Crosse & Southeastern.
Lack. & Wyo. Vy. Lackawanna & Wyoming Valley.
Lack. Trans. Lackawanna Transportation Line.
Lake C. & M. Lake Champlain & Moriah.
Lake O. & Bay of Q. Co. Lake Ontario & Bay of Quinte Steamboat Co.
Lake K. Nav. Lake Keuka Navigation Co.
Lake Ont. Nav. Lake Ontario Navigation Co.
Lan. Ox. & So. Lancaster, Oxford & Southern.
La. Ry. & Nav. Louisiana Railway & Navigation Co.
La. So. Louisiana Southern.
La S. & Peor. Packet. La Salle & Peoria Packet.
Lake O. & St. L. Riv. Day Line Lake Ontario & St. Lawrence River Day Line.
Le. & H. Riv. Lehigh & Hudson River.
Le. & N. E. Lehigh & New England.
Le. Canal Line. Lehigh Canal Line.
Le. Val. Lehigh Valley.
Litch. & Mad. Litchfield & Madison.
Lo'ville (El.) Louisville (Electric).
M. & A. C. Packet. Memphis & Arkansas City Packet.
M. & A. R. Ss. Mobile & Alabama River Steamboats.
M. & G. S. S. Mobile & Gulf Steamship Co.
M. & O. Mobile & Ohio.

M. & P. & P. & E. Maricopa & Phoenix and Phoenix & Eastern.
M. & R. Trans. Maloney & Roulette Transportation Co.
M., J. & K. C. Mobile, Jackson & Kansas City.
M. S. S. Mallory Steamship Co.
M. Valley R. & S. Co. Maumee Valley R. & S. Co.
Mac. & W. Ill. Macomb & Western Illinois (Electric).
Macon & Birm. Macon & Birmingham.
Macon, Dub. & Sav. Macon, Dublin & Savannah.
Man. & G. R. Manistee & Grand Rapids.
Man. & N. E. Manistee & North-Eastern.
Marq. & S. E. Marquette & Southeastern.
Md. & Pa. Maryland & Pennsylvania.
Md., Del. & Va. Ry. Maryland, Delaware & Virginia Ry. Steamer Lines.
Me. Cen. Maine Central.
Me. Cen. R. R. Lines. Maine Central R. R. Steamboat Lines.
Me. Coast Co. Maine Coast Co.
Me. S. S. Maine Steamship Co.
Mer. & Min. Trans. Merchants & Miners Transportation Co.
Mer. Mont. Line. Merchants Montreal Line.
Merchants Merchants Steamboat Co.
Met. Co. Metropolitan Steamship Co.
Mich. Cen. Michigan Central.
Mich. U. (El.) Michigan United (Electric).
Mid. Term. Midland Terminal.
Milt. & Pens. S. B. Milton & Pensacola Steamboat Co.
Minn. & St. L. Minneapolis & St. Louis.
Minn., St. P. & S. S. M. Minneapolis, St. Paul & Saulte Ste. Marie.
Min. Range Mineral Range.
Miss. Cen. & N. & E. Mississippi Central & Natches & Eastern.
Miss. Packet Mississippi Packet Co.
Mo. & N. Ark. Missouri & North Arkansas.
Mo., Kan. & Tex. Missouri, Kansas & Texas.
Mo. Pac. Missouri Pacific.
Mo. Riv. & No. W. Missouri River & Northwestern.
Mon. Montauk Steamboat Co.
Mon. & Ohio Packet. Monongahela & Ohio Packet Co.
Monc. & Buct. Moncton & Buctouche.
Mont. & Wells Riv. Montpelier & Wells River.
Mont. S. S. Monticello Steamship Co.
Mor. & Erie. Morristown & Erie.
Mt. V. & M. H. S. B. Mount Vernon & Marshall Hall Steamboat Co.
Musc., N. & S. Muscatine, North & South.
Musk. & O. R. Trans. Muskingum & Ohio River Trans. Co.
Musk. & W. L. Line. Muskegon & White Lake Line.
N. & Bay. Sara Packet Natchez & Bayou Sara Packet.
N. & N. Y. Prop. Norwich & New York Propeller.
N. & No. W. & Ft. D., D. M. & So. Newton & Northwestern and Ft. Dodge, Des Moines & Southern.
N. & Ports. Trac. Norfolk & Portsmouth Traction Co. (Electric) & Steamboat Lines.
N. & W. Norfolk & Western.
N. & W. Co. Newport & Wickford R. R. & Steamboat Co.
N. B., M. V. & N. New Bedford, Martha's Vineyard & Nantucket Steamboat Co.
N. B. So. New Brunswick Southern.
N., C. & St. L. Nashville, Chattanooga & St. Louis.
N. E. Nav. New England Navigation Co.
N. J. & N. Y. New Jersey & New York.
N. J. & Wilm. Fy. New Jersey & Wilmington Ferry.
N. J., Ind. & Ill. New Jersey, Indiana & Illinois.
N. J. & Pa. New Jersey & Pennsylvania.
N. Line. Norwalk Line.
N. N. & O. P. Newport News & Old Point (Electric).
N. O. & G. I. Packet. New Orleans & Grand Island Packet.
N. O. & No. E. New Orleans & Northeastern.
N. O. & No. W. New Orleans & Northwestern.
N. O. G. N. New Orleans Great Northern.
N. O., M. & C. New Orleans, Mobile & Chicago.
N. O., N., V. & B. Packet New Orleans, Natchez, Vicksburg & Bends Packet.
N. O. So. New Orleans Southern.
N. O. Term. New Orleans Terminal.
N. P. Northern Pacific.
N. W. of So. Car. Northwestern of South Carolina.

ABBREVIATIONS

N. Y., A. & L. (El.)	New York, Auburn & Lansing (Electric).	P. F. R. & N.	Providence, Fall River & Newport Steamboat Co.
N. Y. & B. Trans.	New York & Baltimore Transportation Line.	P. H. & Dul. Line.	Port Huron & Duluth Line.
N. Y. & L. B.	New York & Long Branch.	P. M. Car Ferry.	Pere Marquette R. R. Car Ferry.
N. Y. & O.	New York & Ottawa.	P., St. A. & G. S.S.	Pensacola, St. Andrew & Gulf S. P. Y., K. P. & B. S. Co.
N. Y. C. & H. R.	New York Central & Hudson River.	(El.)	Penn Yan, Keuka Park & Branchport (Electric).
N. Y., C. & St. L.	New York, Chicago & St. Louis.	Pac. C. Co.	Pacific Coast Co.
N. Y., Col. & Geo. Co.	New York, Columbia & Georgetown S. S. Co.	Pac. Des.	Pacific Despatch.
N. Y. Dock Co.	New York Dock Co. Terminal Ry.	Pac. Nav. Co.	Pacific Navigation Co.
N. Y., N. H. & H.	New York, New Haven & Hartford.	Pan. R. R. S. S. Line.	Panama Railroad Steamship Line.
N. Y., Ont. & W.	New York, Ontario & Western.	Penna.	Pennsylvania.
N. Y., Phila. & Norf.	New York, Philadelphia & Norfolk.	Pens., Ala. & Tenn.	Pensacola, Alabama & Tennessee.
N. Y., Susq. & W.	New York, Susquehanna & Western.	Peo. & Pek. U.	Peoria & Pekin Union.
N. Yak. & Val.	North Yakima & Valley.	Perre Marq.	Pere Marquette.
Nan. Beach Co.	Nantasket Beach Steamboat Co.	Pere Marq. L. S.	Pere Marquette Line Steamers.
Nat. Cen.	Nantasket Central.	Perk.	Perkiomen.
Narr. Pier	Narragansett Pier.	Phila., New. & N.Y.	Petaluma & Santa Rosa.
Narr. Pier Nav.	Narragansett Pier Navigation Co.		Philadelphia, Baltimore & Washington.
Nat'z & Vicks. Packet.	Natchez & Vicksburg Packet.	Pitts. & But. St. Ry.	Philadelphia, Newtown & New York.
Nev.-Cal.-Ore.	Nevada-California-Oregon.	(El.)	
Nev. Co. N. G.	Nevada County Narrow Gauge.	Pitts. & Cin. Packet.	Pittsburg & Butler St. Ry. (Electric).
New. & Al.	Newburg & Albany Line.	Pet. & S. R.	Pittsburg & Cincinnati Packet Line.
New. & Mar.	Newark & Marion.	Phila., Balt. & Wash.	Pittsburg & Cincinnati Packet Line.
New In. Route.	New Inland Route.	Pitts. & Kan. R. Line.	Pittsburg & Kanawha River Packet Line.
New W. & C. St. Route	New Westminster & Chilliwack Steamer Route.	Pitts. & L. E.	Pittsburg & Lake Erie.
Niag. Nav.	Niagara Navigation Co.	Pitts. & M. R.	Pittsburg & Moon Run.
Niag., St. C. & T. (El.)	Niagara, St. Catharines & Toronto (Electric).	Pitts. & Parkers.	Pittsburg & Moon Run.
Niag., St. C. & T. Nav.	Niagara, St. Catharines & Toronto Navigation Co.	Line	Pittsburg & Parkersburg Line.
No. Cen.	Northern Central.	Pitts., C. & Y.	Pittsburg, Chartiers & Youghiogheny.
No. El.	Northern Electric.	Pitts. Rys. Co.	Pittsburg Railways Co.
No. Mich. Trans.	Northern Michigan Transportation Co.	Pon., Ox. & No.	Pontiac, Oxford & Northern.
No. Nav. Co.	Northern Navigation Co.	Port. Ry., Lt. & Pow. Co. (El.)	Portland Railway, Light & Power Co. (Electric).
No. Nav. Lines.	Northern Navigation Company Lines.	Port T. So.	Port Townsend Southern.
No. O. Trac.	Northern Ohio Traction Co. (Electric).	Pot., Fred. & Pied.	Potomac, Fredericksburg & Piedmont.
No. Pac.	Northern Pacific.	Prov. & Dan.	Providence & Danielson (Electric).
No. Pac. S. S.	North Pacific Steamship Co.	Q., O. & K. C.	Quincy, Omaha & Kansas City.
No. Sh. S. S. Line.	North Shore Steamship Line.	Que. & Lake St. J.	Quebec & Lake St. John.
No. W. O. Ry.	Northwestern Ohio Railway & Power Co.	Que. Cen.	Quebec Central.
Pwr.	Power Co.	Que. Co.	Quebec Steamship Co.
No. W. Pac.	Northwestern Pacific.	Que., Mont. & So.	Quebec, Montreal & Southern.
Norf. & So.	Norfolk & Southern.	Que. Ry., Lt. & P.	Quebec Railway, Light & Power Co.
Norf. & So. Lines.	Norfolk & Southern R. R. Steamboat Lines.	R. & M. Line.	Rockland & Martinicus Line.
Norf. & Wash.	Norfolk & Washington Steamboat Co.	R. B. Line & R. D. Packet	Riddell Barge Line & Inman-Decker Packet Co.
Northport	Northport Steamboat Co.	R., T. & C.	Rockland, Thomaston & Camden (Electric).
O. City Trans.	Oregon City Transportation Co.	Ral. & So'pt.	Raleigh & Southport.
O. & Q. Nav. Co.	Ontario & Quebec Navigation Co.	Randall Pot. R. L.	Randall Potomac River Line.
O. Co. Trac. (El.)	Orange County Traction Co. (Electric).	Rar. R.	Raritan River.
O. R. & Col.	Ohio River & Columbus.	Rich. & O. Nav. Co.	Richelieu & Ontario Navigation Co.
O. R. & West.	Ohio River & Western.	Rich., Fred. & Pot.	Richmond, Fredericksburg & Potomac.
O.-W. R. R. & Nav.	Oregon-Washington R. R. & Nav. Co.	S. & E. Nav.	Seattle & Everett Navigation Co.
O.-W. R. R. & Nav. Co.	Oregon-Washington R. R. & Nav. Co. Steamer L.	S. & M. Lumber Line.	Sands & Maxwell Lumber Co. Line.
O. R. Trans.	Ohio River Transit Co.	S. A. & A. Pass.	San Antonio & Arkansas Pass.
Ocean Sh.	Ocean Shore.	S. A. U. & G.	San Antonio, Uvalde & Gulf.
Ogd. & Alex. Bay Route	Ogdensburg & Alexandria Bay Route.	S. A. L.	Seaboard Air Line.
Ohio El. Ry.	Ohio Electric Railway.	S. D., Cuy. & E.	San Diego, Cuyamaca & Eastern.
Okla. Cen.	Oklahoma Central.	S. F. & Pet. Line.	San Francisco & Petaluma Line.
Old Dom.	Old Dominion Steamship Co.	S. F. & Port. S. S.	San Francisco & Portland Steamship Co.
Oneo. & Mo. Val. (El.)	Oneonta & Mohawk Valley (Electric).	S. F., Cal. & Mare Isl.	San Francisco, Vallejo & Mare Island Line.
Ore. Coal & Nav.	Oregon Coal & Navigation Co.	S. I. R. T.	Staten Island Rapid Transit.
Ore. El.	Oregon Electric.	S., N. & M. (El.)	Sandusky, Norfolk & Mansfield (Electric).
Ore. Short L.	Oregon Short Line.	S. L. & L. A.	Salt Lake & Los Angeles.
Os. & Sy. Line.	Oswego & Syracuse Lines.	S. P., L. A. & S. L.	San Pedro, Los Angeles & Salt Lake.
Ott. Forwarding Co.	Ottawa Forwarding Co.	S. T. & O. Route.	Seattle, Tacoma & Olympia Route.
Ott. Riv. Nav. Co.	Ottawa River Navigation Co.	Sac. Trans.	Sacramento Transportation Co.
P. & B. Co.	Portland & Boothbay Steamboat Co.	San D. So.	San Diego Southern.
P. & G. N.	Paris & Great Northern.	Saug.	Saugerties Line.
P. & R.	Philadelphia & Reading.	Sav. & Beau. L.	Savannah & Beaufort Line.
P. B. & W.	Pine Bluff & Western.	Sav. & Bluff. S. B.	Savannah & Bluffton Steamboat Co.
P. B. Co.	Popham Beach Steamboat Co.	Sav. & States	Savannah & Statesboro.
P. C. S. S.	Pacific Steamship Co.	Sea. Co.	Seaconnet Co.

Sh., L., P. & Ry. Co. (El.)	Sheboygan Light, Power & Ry. Co. (Electric).	Tol., Fos. & Find. Ry.	Toledo, Fostoria & Findley Ry.
Sid. & Nan. Trans.	Sidney & Nanaimo Transportation Co.	Tol., O. B. & No. Ry.	Toledo, Ottawa Beach & No. Ry.
So.	Southern Railway.	Tol., Peo. & W.	Toledo, Peoria & Western.
So. Buf.	South Buffalo.	Tol., Port C. & L.	Toledo, Port Clinton & Lakeside (Electric).
So. Dak. Cen.	South Dakota Central.	Tol. Ry. & Term.	Toledo Railway & Terminal.
So. Sh. Line.	South Shore Line.	Tol., St. L. & W.	Toledo, St. Louis & Western.
So. Ind.	Southern Indiana.	Tol. U. & Interu.	Toledo, Urban & Interurban (Electric).
So. Mich. (El.)	Southern Michigan (Electric).	Tolc. Co.	Tolchester Steamboat Co.
So. P.	Southern Pacific.	Ton. & Gold.	Tonopah & Goldfield.
So. Pac. Lines.	Southern Pacific Lines.	Tor. Nav.	Toronto Navigation Co.
So. Pac. S. S.	Southern Pacific Co. Steamer Lines.	Trav. Bay Line.	Traverse Bay Line.
So. W. Trac. (El.)	Southwestern Traction Co. (Electric).	Tren. Trans.	Trenton Transportation Co.
Spok. & In. Emp.	Spokane & Inland Empire.	Trin. El.	Trinidad Electric.
Spok. Int.	Spokane International.	Trinity & B. Val.	Trinity & Brazos Valley.
Spok., Port. & Seat.	Spokane, Portland & Seattle.	Troy & N. E. (El.)	Troy & New England (Electric).
Spring. El.	Springfield Electric.	U. P.	Union Pacific.
Spring., Troy & Piqua (El.)	Springfield, Troy & Piqua (Electric).	U. S. & Dom. Co.	United States & Dominion Transportation Co.
St. C. Riv.	St. Clair River Line.	U. S. B.	Union Steamboat Line.
St. J. & G. I.	St. Joseph & Grand Island.	U. Trans.	Union Transportation.
St. J. & Lake C.	St. Johnsbury & Lake Champlain.	Ulster & Del.	Ulster & Delaware.
St. L. & Cal. Packet.	St. Louis & Calhoun Packet Co.	Union Co. of B. C.	Union Steamship Co. of British Columbia.
St. L. & Cape G. Line	St. Louis & Cape Girardeau Line.	V. & R. Co.	Vinalhaven and Rockland Steamboat Co.
St. L. & Han.	St. Louis & Hannibal.	Va. & So. W.	Virginia & Southwestern.
St. L. & S. F.	St. Louis & San Francisco.	Va. & Truckee.	Virginia & Truckee.
St. L. & T. R. Pack.	St. Louis & Tennessee River Packet.	Va. Nav.	Virginia Navigation.
St. L., B. & Mex.	St. Louis, Brownsville & Mexico.	Van. Trans.	Vancouver Transportation Co.
St. L. Can. Nav.	St. Lawrence Canadian Navigation Co.	Vanceboro Co.	Vanceboro Steamboat Co.
St. L., El. R. & W.	St. Louis, El Reno & Western.	Vand.	Vandalia.
St. L. Mer. Br. Term.	St. Louis Merchants Bridge Terminal and Terminal R. R. Assn. of St. Louis.	Vic. & Sid.	Victoria & Sidney.
St. L. Riv. Co.	St. Lawrence River Steamboat Co.	Vicks. & D. B. Line.	Vicksburg & Davis Bend Line.
St. L., S. F. & Tex.	St. Louis, San Francisco & Texas.	Vicks. & Green. Pkt.	Vicksburg & Greenville Packet Co.
St. L. S. S.	St. Lawrence Steamship Co.	Vir. Ry.	Virginian Ry.
St. L. So. W.	St. Louis Southwestern.	W. & L. E.	Wheeling & Lake Erie.
St. L., T. & East.	St. Louis, Troy & Eastern.	W.-B. & H. (El.)	Wilkes-Barre & Hazelton (Electric).
St. P. & D. M.	St. Paul & Des Moines.	W., C. F. & No.	Waterloo, Cedar Falls & Northern (Electric).
Star. L.	Starlin Line.	W. J. & S. S.	West Jersey & Sea Shore.
Sumpt. Val.	Sumpter Valley.	W., M. W. & N. W.	Weatherford, Mineral Wells & Northwestern.
Susq. & N. Y.	Susquehanna & New York.	W. Md.	Western Maryland.
Susq., Blooms. & Ber.	Susquehanna, Bloomsburg & Berwick.	W. Pac.	Western Pacific.
T. & B. W. R. Sbs.	Tombigbee & Black Warrior River Steamboats.	W. Riv. Line.	West River Steamboat Line.
T. & P.	Texas & Pacific.	W., S. & Lake W.	Winnipeg, Selkirk & Lake Winnipeg.
T. & Y. Radial (El.)	Toronto & York Radial (Electric).	W. Sh.	West Shore.
T. B.	Twin Buttes.	W. Trac. Co. (El.)	Wheeling Traction Co. (Electric).
T. H. & B.	Toronto, Hamilton & Buffalo.	W. Trans.	Western Transit Co.
T. H., Ind. & E. Trac.	Terre Haute, Indianapolis & Eastern Traction.	Wab., Ch. & W.	Wabash, Chester & Western.
Tacoma E.	Tacoma Eastern.	Wabash Pitts. Term.	Wabash, Pittsburg Terminal.
Tampa & Jack.	Tampa & Jacksonville.	Wall. Val.	Wallkill Valley.
Tampa, H. Pt. & S. B.	Tampa, Hunters Point & Sarasota Steamboat Line.	Wash. & Van.	Washington & Vandemere.
Tenn. & O. R. Trans.	Tennessee & Ohio River Transportation Co.	Wash., A. & F. C.	Washington, Arlington & Falls Church (El.).
Tenn. Cen.	Tennessee Central.	Wash., Alex. & Mt. Ver.	Washington, Alexandria & Mt. Vernon.
Tenn. Riv. Nav.	Tennessee River Navigation Co.	W. B. & A. (El.)	Washington, Baltimore & Annapolis (El.).
Tex. Cen.	Texas Central.	Wash. Co.	Washington County.
Tex. Mid.	Texas Midland.	Wash. So.	Washington Southern.
Tol. & C. Int.	Toledo & Chicago Interurban.	West. Ohio (El.)	Western Ohio (Electric).
Tol. & Ind. Ry.	Toledo & Indiana Ry. Co.	Wich. Val.	Wichita Valley.
Tol. & O. Cen.	Toledo & Ohio Central.	Wilm. & L. R.	Wilmington & Little River Line.
Tol. & West.	Toledo & Western (Electric).	Wilm. & So.	Wilmington & Southport Line.
Tol., A. & W.	Toledo, Angola & Western.	Wilm. Trans.	Wilmington Transportation Co.
		Win. Inter.	Winona Interurban (Electric).
		Wis. & Mich.	Wisconsin & Michigan.
		Wis. Cen.	Wisconsin Central.
		Y. & M. V.	Yazoo & Mississippi Valley.
		Y. & S. (El.)	Youngstown & Southern (Electric).
		Y. H. & B.	York Harbor & Beach.
		Yazoo Trans.	Yazoo City Transportation Co.
		Yos. Val.	Yosemite Valley.
		Zanes. & West.	Zanesville & Western.

We Finance Extensions and Improvements

to Gas, Electric Light and Power and Street Railway Properties having established earnings.

If prevented from improving or extending your plant because no more bonds can be issued or sold, or for any other reason, correspond with us.

Electric Bond and Share Company

Paid-up Capital and Surplus \$21,000,000

71 Broadway, New York

Dealers in Proven Gas, Electric Light, Power and
Street Railway Bonds and Stocks

COMPANY INDEX

	PAGE		PAGE
Abbott, P. J. & Co., Wilton, N. H.	441	American Oil & Refining Co., Oklahoma City, Okla.	466
Aberdeen (So. Dak.) Gas Co.	291	American Oil Co., Providence, R. I.	469
Abilene (Tex.) Gas & Electric Co.	418	American Oilfields Co., Fellows, Cal.	456
Acetylene Construction Co., Ltd., Inwood, Ont.	447	American Petroleum Products Co., Cleveland, O.	480
Acetylene Construction Co., Ltd., Montreal, Can.	521	American Petroleum Co., Coalinga, Cal.	456
Acetylene Gas Association, Utica, Neb.	441	American Petroleum Co., Wichita, Kan.	461
Acmé Natural Gas Co., Leechburg, Pa.	408	American Pipe & Construction Co., Philadelphia	515
Ada (O.) Natural Gas & Fuel Co.	383	American Pipe Line Co., Caney, Kan.	363
Adams (Mass.) Gas Light Co.	125	American Power & Light Co., New York City, and (Appendix)	505
Adams Oil Co., Wichita Falls, Tex.	470	American Public Service Co., Abilene, Tex.	741
Addison (N. Y.) Gas & Power Co.	377	American Public Utilities Co., Grand Rapids, Mich.	615
Adirondack Electric Power Corporation, Saratoga Springs, N. Y.	235	American Railways Co. (See United National Utilities Co., Philadelphia.)	
Adirondack Electric Power Corp., Oneida, N. Y.	228	American Steel and Wire Co., Cleveland, Ohio.	250
Adrian (Mich.) Gas Co. (See Lenawee County Gas & El. Co.)	684	American Utilities Co., Philadelphia.	725
Aetna Refining Co., Louisville, Ky.	477	Americus (Ga.) Public Service Co.	48
Aguers & Josey, Shreveport, La.	374	Amesbury (Mass.) & Salisbury Gas Co.	126
Akin Gasoline Co., Tulsa, Okla.	484	Amesville (Ohio) Gas Co.	383
Akron (N. Y.) Natural Gas Co.	377	Amherst (Mass.) Gas Co.	126
Akin Oil Co., The, Tulsa, Okla.	467	Anderson County Lt. & Ht. Co., Colony, Kan.	365
Alabama Power Co., Anniston, Ala.	1	Anderson City (S. C.) Gas Co.	288
Alabama Power Co., Attalla, Ala. (Appendix)	774	Annapolis (Md.) Public Utilities Co.	121
Alabama Power Co., Decatur, Ala.	2	Ann Arbor (Mich.) Gas Co. (See Washtenaw Gas Co.)	
Alabama Pub. Service Com'n, Montgomery, Ala.	522	Anniston (Ala.) Electric & Gas Co. (See Alabama Power Co.)	
Alabama Traction, Lt. & Pr. Co., Montreal, Que., Can. (Parent) 521; (Appendix)	773	Annville & Palmyra (Pa.) Gas & Fuel Co.	277
Alamo Petroleum Corp., Tulsa, Okla.	467	Antigo (Wis.) City Gas Co.	317
Albany (Ga.) Gas Works.	48	Appleby-Wagner Co., Saginaw, Mich.	502
Albany (N. Y.) Municipal Gas Co.	206 & 641	Arcadia (Ind.) Home Gas Co.	354
Albany Southern Railroad Co., Rensselaer, N. Y.	233	Archbold & Stryker Gas Co., Archbold, Ohio.	249
Albany Southern Railroad Co., Hudson, N. Y.	218	Ardmore (Okla.) City Gas Co.	394
Alberta (Can.) Public Utilities Commission.	526	Arizona Corporation Commission, Phoenix, Ariz.	522
Albia (Iowa) Light & Railway Co.	92	Arizona Gas & Electric Co., Nogales, Ariz.	7
Albion (Mich.) Gas Light Co.	147	Arkansas Natural Gas Co., Little Rock, Ark.	350 & 533
Albuquerque (N. M.) Gas & Electric Co.	206	Arkansas Valley Gas Co., Arkansas City, Kan.	362
Alden-Batavia Natural Gas Co., Batavia, N. Y.	377	Arlington (Ind.) Natural Gas Co.	355
Alexandria (Va.) Gas Works.	306	Arlington (Mass.) Gas Light Co.	127
Alexandria (La.) Lighting & Water Dept.	115	Armstrong Co. Gas & Oil Co. (See Dewey Trust Estate.)	
Algoma Steel Corp., Ltd., Sault Ste. Marie, Ont., Can.	340	Asheville (N. C.) Power & Light Co.	241 & 692
Allegan County Gas Co., Otsego, Mich.	158	Ashland (Pa.) Gas Light Co.	262
Allegheny Pipe Line Co., Wellsville, N. Y.	463	Ashland (Wis.) Light, Power & Street Ry. Co.	318
Allegheny By-Product Coke Co., McKeesport, Pa.	274	Ashtabula (Ohio) Gas Co.	383
Allegheny Heating Co., Pittsburgh, Pa.	411	Ashton (Ill.) Gas Plant.	449
Allen County Supply Co., The, Bassett, Kan.	363	Associated Gas & Electric Co., New York, N. Y. (Parent) 505; (Appendix) 649 & 777	
Allentown-Bethlehem Gas Co., Allentown, Pa.	261	Associated Oil Co., Avon, Cal.	472
Allentown-Bethlehem Gas Co., Bethlehem, Pa.	264	Associated Oil Co., Gaviota, Cal.	472
Allentown-Bethlehem Gas Co., Catasauqua Dist.	265	Associated Oil Co., San Francisco, Cal.	492
Allentown-Bethlehem Gas Co. (Appendix)	718	Associated Producers Co., New York City.	463
Alterton (Ill.) Gas Co.	435	Astoria (N. Y.) Light, Heat & Power Co.	208
Alliance (Ohio) Gas & Power Co.	383 & 697	Astoria (Ore.) Electric Co. (See Pacific Power & Light Co.)	
Allied Refining Co., Okmulgee, Okla.	483	Astra Oil & Gas Corp., Tulsa, Okla.	467
Alpena (Mich.) Gas Co.	148	Atchison (Kan.) Railway, Light & Power Co.	363
Alpha Oil & Gas Co., New York, N. Y.	463	Athens (Pa.) & Sayre Gas Co.	262
Alta District Gas Co., Dinuba, Cal.	10	Athens (Ga.) Gas Light & Fuel Co.	48
Altimo Gas Co., The, Canfield, Ohio. (See Canfield Gas & Electric Co.)		Athens (Ohio) Gas Light & Electric Co.	383
Alton (Ill.) Gas & Electric Co.	54	Athol (Mass.) Gas & Electric Co.	127 & 604
Altoona (Pa.) Gas Light & Fuel Co.	261	Atlanta (Ga.) Gas Light Co.	49 & 562
Alum Rock Gas Co., Oil City, Pa.	410	Atlanta (Tex.) Gas Co.	418
Alumbrado Compania de, Iquique, Chili, S. A.	347	Atlantic & Gulf Petroleum Co., Houston, Tex.	469
Alumbrado de Guayaquil, Compania de, Guayaquil, Ecuador, S. A.	347	Atlantic City (N. J.) Gas Co.	192 & 632
Amalgamated Oil Co., San Francisco, Cal.	492	Atlantic City Suburban Gas & Fuel Co., Pleasantville, N. J.	203
Amarillo (Tex.) Gas Co.	296	Atlantic (Iowa) Gas Co.	92
Ambraw Gas Co., Bridgeport, Ill.	354	Atlantic Highlands (N. J.) Gas Co. (See Standard Gas Co., Atlantic Highlands, N. J.)	
Ambridge (Pa.) Gas Co.	402	Atlantic Refining Co., Philadelphia, Pa.	487
Amenia (N. Y.) Acetylene Gas Co.	445	Atlas Chemical Co., Toledo, O.	254
American-Canadian Oil & Gas Co., Wellandport, Ont., Canada	433	Atlas Petroleum Co., Jennings, Okla.	466
American Cities Co., New Orleans, La. (Parent) (Appendix)	449	Attica (N. Y.) Natural Gas Co.	377
Amer. Coal & By-Product Coke Co., Chicago, Ill.	495	Attleboro (Mass.) Gas Light Corp.	127
American Gas Co., The, Carrollton, Ohio.	384	Atwood Refining Co., Oklahoma City, Okla.	483
American Gas Co., Galena, Kan.	360	Augusta Gas Works, Augusta, Kan.	363
American Gas Co., Philadelphia. (Parent) (Appendix)	515	Augusta (Ga.) Gas Light Co., The.	49
American Light & Traction Co., Jersey City, N. J. (Parent) 505 and (Appendix)	652	Austin (Minn.) Gas Co.	162
American Natural Gas Co., Pittsburgh, Pa.	411		

COMPANY INDEX

	PAGE		PAGE
Austin (Tex.) Gas Light Co.....	296	Bethlehem Steel Co., Lebanon, Pa.....	271
Avis Refining Co., Jacksboro, Tex.....	489	Bethlehem Steel Co., Sparrows Point, Md.....	125
		Bethlehem Steel Co., Steelton, Pa.....	283
Bahia Blanca Gas Co., Ltd., Bahia Blanca, Argentina, South America.....	344	Beverly (Mass.) Gas & Electric Co.....	127
Bahia (Brazil) Tramway, Light & Power Co., S. A.....	345	Big Beaver Gas Co., Pittsburgh, Pa.....	411
Bakersfield (Cal.) Gas & Elec. Light Co. (See San Joaquin Light & Power Corp.)		Big 4 Fuel & Light Co. of Daleville, Daleville, Ind.....	355
Baldwin (Kan.) Gas Co.....	363	Bigheart Petroleum Refining Co., Bigheart, Okla.....	481
Baldwinsville (N. Y.) Light & Heat Co.....	377	Big Rapids (Mich.) Gas Co.....	149
Bancroft (Iowa) Gas Co.....	449	Bills Oil & Gas Co., Parkersburg, W. Va.....	426
Bancroft (Neb.) Acetylene Gas Co.....	440	Billings (Mont.) Gas Co.....	180
Bangor (Me.) Gas Light Co.....	117	Bingham Estate, Mt. Alton, Pa.....	409
Bangor (Pa.) Gas Co.....	263	Binghamton (N. Y.) Gas Works.....	209 & 641
Bankers Oil Co., Arkansas City, Kan.....	460	Birmingham (Ala.) Railway, Light & Power Co. 2 & 531	
Bankers Oil Co., Bakersfield, Cal.....	456	Birtle (Man., Can.) Gas Plant.....	446
Banning (Cal.) Gas Lighting Co.....	9	Bisbee (Ariz.) Improvement Co.....	6
Baraboo (Wis.) Gas & Electric Co. (See Wis. Power, Light & Heat Co.)		Bismarck (N. D.) Gas Co.....	247
Barbourville (Ky.) Supply Co.....	371	Black Bear Oil & Gas Co., Center, Colo.....	460
Barnett Oil & Gas Co., Blue Island, Ill.....	474	Blackstone (Mass.) Gas & Electric Co.....	128
Barnett Oil & Gas Co., Wheeling, W. Va.....	471	Blackstone Valley Gas & Electric Co., Pawtucket, R. I. (Parent) 519 and (Appendix) socket, R. I.....	739
Barnhart, B. L., Kaylor, Pa.....	407	Blackstone Valley Gas & Electric Co., Woonsocket, R. I.....	288
Barre (Vt.) Gas Co.....	303	Blackwell (Okla.) Oil & Gas Co.....	395
Barrie (Ont.) Gas Co., Ltd.....	334	Blair (Neb.) Gas Co.....	182
Barstow, W. S., Management Assn., Inc., New York, N. Y.....	506	Bliss Oil & Refining Co., Augusta, Kan.....	475
Bartlesville (Okla.) Gas & Oil Co.....	394	Bluefield (W. Va.) Gas & Power Co.....	315
Batesville (Ind.) Gas Co.....	355	Blue Grass Natural Gas Co., Winchester, Ky.....	373
Bath (Me.) & Brunswick Light & Power Co. 117 & 598		Blue River Natural Gas Co., Gwynneville, Ind.....	336
Bath (N. Y.) Electric & Gas Light Co.....	209	Boardman, W. F., Co., San Francisco, Cal.....	492
Bathgate (N. D.) Acetylene Gas Co.....	444	Boise (Idaho) Gas Light & Coke Co.....	53
Baton Rouge (La.) Electric Co.....	115	Bolckow (Mo.) Gas Co.....	440
Battle Creek (Mich.) Gas Co. (See Calhoun Gas Co.)		Bole Bros. Gas Co., Leechburg, Pa.....	408
Battle Creek (Iowa) City Gas Plant.....	449	Bond County Gas Co., Greenville, Ill.....	354
Baur Gas Co., Eaton, Ind.....	355	Bonner Springs (Kan.) Oil & Gas Co.....	363
Baxter (Ia.) Lighting Plant.....	449	Boone (Iowa) Gas Co.....	93
Bay City (Mich.) Gas Co. (See Michigan Light Co.)		Boonton (N. J.) Gas Light & Improvement Co.....	193
Bay City Oil Co., Pasadena, Cal.....	458	Boonville Lt., Ht. & Pr. Co., Boonville, Mo.....	172
Bayerson Oil Works, Erie, Pa.....	486	Border Gas Co., Laredo, Tex.....	420
Bayou Gasoline Co., Inc., Shreveport, La.....	478	Boro Oil & Gas Co., Collins, N. Y.....	378
Beach, E. L., & Co. (See Gas & Elec. Improvement Co.)		Boston (Mass.) Consolidated Gas Co. (Appendix)	128
Beach Haven (N. J.) Gas Works.....	441	Bow Island (Alberta, Can.) Gas Plant.....	605
Beardstown (Ill.) Electric Light & Power Co. (See Central Illinois Public Service Co.)		Bowling Green (Ky.) Gas Light Co. (See Kentucky Public Service Co.)	429
Beaumont (Cal.) Gas & Power Co.....	9	Bowman (S. C.) Acetylene Plant.....	445
Beaumont (Tex.) Gas Light Co.....	297	Boyd Fuel Co., and Valley Gas Co., Mount Jewett, Pa.....	410
Beaver-Bufler Gas Co., Rochester, Pa.....	415	Boyertown (Pa.) Gas Co.....	264
Beaver Dam (Wis.) Fuel & Light Co.....	318	Boynton (Okla.) Gas & Electric Co.....	395
Beaver Natural Gas Co., Johnsonburg, Pa.....	407	Boynton (Okla.) Oil & Gas Co.....	395
Beaver Oil & Gas Co., Kingsville, Ont., Can.....	43	Boynton (Okla.) Oil, Gas & Fuel Co.....	395
Beaver Refining Co., Pittsburgh, Pa.....	487	Bradford (Pa.) Gas & Power Corp., City of.....	402
Beaver Refining Co., Washington, Pa.....	488	Bradford (Pa.) Gas Co.....	402
Beaverville (Ill.) Lt. & Utility Co.....	435	Bradford Oil & Gasoline Co., Bradford, Pa.....	485
Bedford (Ind.) Light, Heat & Power Co. (See Interstate Public Service Co., Bedford, Ind.)		Brainerd (Minn.) Gas & Elec. Co.....	162
Beggs (Okla.) Gas Co.....	395	Brandon (Man., Can.) Gas & Power Co., Ltd. (Appendix)	332
Belding (Mich.) Gas Works.....	148	Brandon (Wis.) Gas Plant.....	455
Bellefontaine (Ohio) City Gas Works.....	249	Brantford (Ont., Can.) Gas Co.....	430
Bellefonte (Pa.) Gas & Steam Heating Co.....	263	Brazil (Ind.) Gas Co.....	80
Belle Plaine (Iowa) Gas Co.....	93	Brazilian Trac., Lt. & Pr. Co., Ltd., Toronto, Can.....	772
Belleville (Ont., Can.) Gas Dept.....	334	Bricelyn (Minn.) Gas Plant.....	452
Bellevue (Ohio) Gas Co.....	383	Bridgeport (Conn.) Gas Light Co.....	33 & 553
Bellevue Gas & Oil Co., Mounds, Okla.....	398	Bridgeport (W. Va.) Natural Gas & Oil Co.....	422
Bellwood & Monongahela Natural Gas Co., Monongahela City, Pa.....	409	Bridgeton (N. J.) Gas Light Co.....	193
Beloit (Wis.) Water Gas & Electric Co.....	319 & 761	Brier Hill Steel Co., Youngstown, Ohio.....	256
Belt Gas Co., Deadwood, S. D. (See Peoples Gas Co., Deadwood, S. D.)		Brighton (Iowa) Gas Plant.....	449
Belverd Oil & Gas Co., Wayne, W. Va.....	428	Bristol & Plainville Tramway Co., Bristol, Conn.....	33
Bemidji Gas Co., Bemidji, Minn.....	162	Bristol County Gas & Electric Co., Bristol, R. I.....	286
Bennett Gasoline & Oil Co., Salt Lake City, Utah.....	489	Bristol (Pa.) Gas Light Co. (See East Penna. Gas & Electric Co.)	
Bennington (Vt.) Gas Light Co. (See Twin States Gas & Electric Co.)		Bristol (Tenn.-Va.) Gas & Electric Co.....	294
Benton Harbor-St. Joseph (Mich.) Gas & Fuel Co.....	149	Bristow (Okla.) Gas Co.....	395
Berea (W. Va.) Heat & Light Co.....	431	British Columbia El. Ry., Ltd., Vancouver, B. C.....	520
Berea (Ohio) Pipe Line Co.....	384	Brockport (N. Y.) Gas Light Co.....	210
Berlin (Wis.) Public Service Co. (See Wisconsin Power, Light & Heat Co.)		Brockton (Mass.) Gas Light Co.....	139
Berry, R. J., Bowerstown, Ohio.....	384	Brockville (Ont., Can.) Public Utilities Com.....	334
Bertie Natural Gas Co., Ridgeway, Ont., Can.....	432	Brocton Gas & Fuel Co., Fredonia, N. Y.....	379
Berwick (Pa.) Gas Co.....	263	Broken Arrow (Okla.) Gas Co.....	395
Bessemer (Ala.) Gas Co.....	2	Broken Bow (Neb.) Gas Co.....	182
Bethlehem (Pa.) Consolidated Gas Co. (See Allentown-Bethlehem Gas Co., Bethlehem Dist., Pa.)		Bronx Gas & Electric Co., Westchester, N. Y. 240 & 692	
		Brookfield (Mo.) Gas, Electric & Heating Co.....	173
		Brooklyn Borough Gas Co. (Coney Island), Brooklyn, N. Y.....	210 & 642
		Brooklyn (Iowa) Gas Plant.....	449
		Brooklyn (N. Y.) Union Gas Co., The.....	210, 506 & 643
		Brooks, P. W., & Co. (See Ohio & Western Utilities Co.)	
		Brookshire Oil Co., San Luis Obispo, Cal.....	459

COMPANY INDEX

905

	PAGE
Broussard (La.) Municipal Plant.....	438
Brown Oil & Gas Co., Sheffield, Pa.....	416
Browns Valley (Ind.) Gas Co.....	436
Brownwood (Tex.) Gas & Electric Co. (See Texas Power & Light Co.)	
Buckeye Gas Co., Circleville, Ohio.....	385
Buckeye State Gas & Fuel Co., Coshocton, O....	386
Buckhannon (W. Va.) Relief Oil & Gas Co....	422
Buckhead (Ga.) Acetylene Light Co.....	435
Bucks County Public Service Co., Newtown, Pa..	276
Bucks County Southern Gas Co., Newtown, Pa..	276
Buffalo (N. Y.) Gas Co. (Artificial).....	211
(Appendix)	644
Burlington (Colo.) Gas & Electric Co.....	434
Burlington Gas Co., Burlington, Kan.....	363
Burlington (Iowa) Gas Light Co.....93 & 585	
Burlington Gas Co., Burlington, N. C.....	242
Burlington (Iowa) Railway & Light Co....93 & 585	
Burlington (N. J.) Gas Light Co. (See Public Service Gas Co.—Appendix.)	
Burlington (Vt.) Gas Light Co.....	304
Burning Fork Development Co., Salyersville, Ky.	373
Burning Springs (Ky.) Gas & Fuel Co.....	372
Burr Oak Oil Co., Bartlesville, Okla.....	464
Burroughs Land Co., Linton, Ind.....	86
Burwell (Neb.) Heat & Light Co.....	440
Butler County Oil Refining Co., Bruin, Pa....	485
Butte (Mont.) Gas Light & Fuel Co. (See Montana Power Co.)	
Bylesby, H. M., & Co., Chicago.....	495
Cabot, Godfrey L., Cabot, Pa.....	404
Caddo Oil & Refining Co. of Louisiana, Shreveport, La.....	462, 478
Cadillac (Mich.) Gas Light Co.....	149
Cadiz (Ohio) Gas Co.....	384
Cadogan (Pa.) Gas Co.....	404
Cairo City Gas Co., Cairo, Ill.....	56
Caledonia (N. Y.) Natural Gas Co.....	378
Calgary (Alberta, Can.) Gas Co., Ltd.....	429
Calhoun Gas Co., Battle Creek, Mich.....	148
California Central Gas & Electric Co. (See Pacific Gas & Electric Co.)	
California Coast Oil Co., Los Angeles, Cal.....	457
California Gas & Electric Corp. (See Pacific Gas & Electric Co.)	
California Light & Fuel Co., San Francisco, Cal.	492
California Oil & Asphalt Co., Los Angeles, Cal..	472
California Petroleum Corp., Los Angeles, Cal.457 & 491	
California R. R. Commission, San Francisco, Cal.	522
Callao, Compania del Gas, Peru, S. A.....	347
Callicoon Gas Plant, Callicoon Depot, N. Y....	453
Calmar (Iowa) Gas Department.....	449
Calumet Gas Co., Chicago. (See Peoples Gas Light & Coke Co.)	
Calumet Gas & Coke Co., Laurium, Mich.....	154
Cambria (Wis.) Gas Co.....	455
Cambria Steel Co., Johnstown, Pa.....	271
Cambridge (Md.) Gas, El. Light & Power Co..	122
Cambridge (Mass.) Gas Light Co.....130 & 611	
Cambridge Natural Gas Co., Cambridge City, Ind.	355
Camden (N. J.) Coke Co.....	193
Canadian Gasoline Corp., Ltd., Toronto, Ont., Can.....	490
Canadian Western Natural Gas, Light, Heat & Power Co., Ltd., Calgary, Alberta, Can.....	429
Canadian Western Pr. & Fuel Co., Redcliff, Can.	429
Caney (Kan.) Gas Co.....	363
Caney (Kan.) Gas, Oil & Mining Co.....	364
Caney (Kan.) Pipe Line Co.....	364
Caney River Gas Co., Claremore, Okla.....	396
Canfield (Ohio) Gas & Electric Co.....	384
Canfield Oil Co., The, Cleveland, Ohio.....	480
Canisteo (N. Y.) Gas Co.....	378
Canon Gas Co., Canon City, Colo.....	29
Canton (Ill.) Gas & Electric Co.....	57
Cape Girardeau (Mo.) Water Works, Electric Light & Gas Co. (See Missouri Public Utilities Co., Cape Girardeau, Mo.)	
Cape May (N. J.) Illuminating Co.....	194
Capital City Gas Co., Montpelier, Vt.....	305
Capital Gas & Electric Light Co., Frankfort, Ky. (See Kentucky Public Service Co.)	
Capitol Crude Oil Co., Los Angeles, Cal.....	472
Capouse Gas Co., Scranton, Pa.....	281
Carberry (Man., Can.) Gas Co., Ltd.....	446
Carbondale (Pa.) Gas Co.....	265
Carlinville (Ill.) Utilities Co. (See Madison County Light & Power Co.)	
Carlisle (Ind.) Gas Co.....	436
Carlisle (Pa.) Gas & Water Co.....	265

	PAGE
Carl Junction (Mo.) Gas Co.....	375
Carnegie Natural Gas Co., Pittsburgh, Pa.....	411
Carnegie Steel Co., Clairton, Pa.....	266
Carnegie Steel Co., Farrell, Pa.....	268
Carnegie Steel Co., Sharon, Pa.....	282
Carolina Power & Light Co., Durham, N. C....	242
Carolina Power & Light Co., Raleigh, N. C. (Artificial) 245; (Parent) 513; (Appendix)	694
Carrolltown (Pa.) Gas Co.....	404
Carroll-Winget Gas & Oil Co., Pennville, Ind....	360
Carson City (Nev.) Coal Gas Co.....	187
Carter Oil Co., The, New York, N. Y.....	463
Cartersville (Ga.) Gas Works.....	50
Carthage (Ind.) Natural Gas Co.....	355
Carthage (Mo.) Gas Co.....	375
Casey (Iowa) Municipal Gas Plant.....	449
Castine (Me.) Light, Power & Heat Co.....	438
Casto Oil Co., St. Marys, W. Va.....	470
Castle Rock (Colo.) Light, Heat & Power Co..	434
Catskill (N. Y.) Illuminating & Power Co. (See Upper Hudson Elec. & Ry. Co.)	
Catskill Mountain Gas Co., Fleischmanns, N. Y.	442
Ceara (Brazil) Gas Co., Ltd., S. A.....	345
Cedar Rapids (Iowa) Gas Co.....	94
Celina (Ohio) Gas Co.....	364
Centerville (Iowa) Light & Traction Co. (See Iowa Southern Utilities Co.)	
Centerville (W. Va.) Pipe Line & Gas Co.....	422
Central California Gas Co., Visalia, Cal.....	27
Central City (Neb.) Gas Co.....	183
Central Fuel Co., Rushville, Ind.....	360
Central Gas Co., Central City, Ky.....	372
Central Gas Co., Mt. Pleasant, Mich.....	157
Central Gas Co., The, Woodfield, Ohio.....	393
Central Hudson Gas & Electric Co., Poughkeepsie, N. Y..... (Artificial) 232; (Appendix)	686
Central Hudson Gas & Electric Co., Newburg, N. Y.....	224
Central Illinois Light Co., Pekin, Ill.....	74
Central Illinois Light Co., Peoria, Ill.....	74
(Parent) 498; (Appendix)	678
Central Ill. Public Service Co., Beardstown, Ill..	55
Central Ill. Public Service Co., Charleston, Ill..	59
Central Ill. Public Service Co., Macomb, Ill....	68
Central Ill. Public Service Co., Mattoon, Ill. (Parent) 497; (Appendix)	580
Central Ill. Public Service Co., Paris, Ill.....	73
Central Ill. Public Service Co., Taylorville, Ill..	77
Central Indiana Gas Co., Anderson, Ind.....79 & 354	
Central Indiana Gas Co., Marion, Ind.....	87
Central Indiana Gas Co., Muncie, Ind.....	87
(Natural) 359; (Appendix)	583
Central Indiana Lighting Co., Bloomington, Ind.	80
Central Iron & Coal Co., Holt, Ala.....	4
Central Kentucky Nat'l. Gas Co., Lexington, Ky.	372
Central Light & Fuel Co., Sapulpa, Okla.....	401
Central Maine Power Co., Augusta, Me.....	116
Central Mississippi Valley Electric Properties, Keokuk, Iowa.....	588
Central Natural Gas Co., Stockton, Cal.....	353
Central New York Gas & Electric Co., Newark, N. Y. (See Empire Gas & Electric Co., Newark, N. Y.)	
Central New York Power Co., Canastota, N. Y....	212
Central Ohio Gas & Elec. Co., New York, N. Y....	692
Central Oil & Gasoline Co., Inc., Vivian, La....	478
Central Oil Co., Los Angeles, Cal.....	457
Central Oil Co., Baltimore, Md.....	478
Central Oil Co., St. Louis, Mo.....	463
Central States Gas Co., Vincennes, Ind.....	91
Central Union Gas Co., New York, N. Y.....225 & 644	
Central Washington Gas Co., Wenatchee, Wash..	315
Central Wayne Oil & Gas Co., Wayne, W. Va....	428
Centralia (Wash.) & Chehalis Gas Co. (See North Pacific Public Service Co.)	
Centralia (Ill.) Gas & Electric Co.....	58
Chalmers Oil & Gas Co., Baltimore, Md.....	462
Chambersburg (Pa.) Gas Co.....	265
Champlin Refining Co., Enid, Okla.....	482
Channel Oil Co., Oklahoma City, Okla.....	466
Chanute (Kan.), City of, Gas Plant.....	364
Chapman Oil & Gas Co., Parkersburg, W. Va....	426
Charles City (Iowa) Gas Co.....	95
Charleston & Clendenin Oil & Gas Co., Clendenin, W. Va.....	423
Charleston (S. C.) Consolidated Railway & Lighting Co.....	289
Charleston (Ill.) Illuminating Co. (See Central Illinois Public Service Co.)	
Charleston (W. Va.) Dunbar Natural Gas Co..	423

COMPANY INDEX

907

PAGE	PAGE
Iron-ton-Solvay Coke Co., Iron-ton, O.....	252
Kentucky Solvay Coke Co., Inc., Ashland, Ky..	112
La Belle Iron Works, Steubenville, O.....	254
Lackawanna (N. Y.) Steel Co.....	220
Laclede Gas Light Co., St. Louis, Mo.....	178
Lehigh Coke Co., South Bethlehem, Pa.....	283
Milwaukee (Wis.) Coke and Gas Co.....	324
Minnesota By-product Coke Co., St. Paul, Minn.	167
Minnesota Steel Co., Duluth, Minn.....	163
New England Fuel and Transportation Co., Bos- ton, Mass.....	129
North Shore Gas Co., Waukegan, Ill.....	78
Philadelphia Suburban Gas & Elec. Co., Chester, Pa.....	265
Portsmouth (O.) Solvay Coke Co.....	254
River Furnace Co., The, Cleveland, O.....	251
Seaboard By-Product Coke Co., Jersey City, N. J.	197
Seattle (Wash.) Lighting Co.....	313
Semet-Solvay Co., Ensley, Ala.....	3
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.....	2
Toledo (O.) Furnace Co.....	254
United Furnace Co., The, Canton, O.....	250
Woodward (Ala.) Iron Co.....	6
Youngstown (O.) Sheet and Tube Co.....	257
Zenith Furnace Co., Duluth, Minn.....	163
Coldwater (Mich.) Gas Light & Fuel Co.....	150
Colfax (Ind.) Gas Co.....	436
Coline Oil Co., Ardmore, Okla.....	464
Collegeville (Pa.) Gas Co.....	444
Colinsville (Okla.) Gas Co.....	396
Colon Gas Co., Colon, Panama.....	344
Colorado Fuel & Iron Co., Pueblo, Colo.....	31
Colorado Public Utilities Commission, Denver..	522
Colorado Springs (Colo.) Light, Heat & Power Co..... (Artif.) 30, (Appendix)	552
Columbia & Montour Electric Co. of Blooms- burg, Bloomsburg Dist., Pa.....	264
Columbia & Montour Electric Co., Danville Dist., Pa.....	267
Columbia & Montour Electric Co. (Appendix)	719
Columbia City (Ind.) Gas Works.....	80
Columbia Gas & Electric Co., Huntington, W. Va..... (Parent) 520, (Appendix)	698
Columbia (Pa.) Gas Co.....	266 & 720
Columbia (S. C.) Gas Light Co.....	289
Columbia (Mo.) Gas Works.....	174
Columbia Oil Co., Roslyn, Va.....	489
Columbia Oil Producing Co., Fullerton, Cal.....	457
Columbia Power, Light & Railways Co., Blooms- burg, Pa. (See Columbia & Montour El. Co.)	
Columbia (S. C.) Railway, Gas & Elec. Co.....	740
Columbus (Ohio) Gas & Fuel Co. (Natural).....	385
Columbus (Ga.) Electric Co.....	494
Columbus (Ga.) Gas Light Co.....	50
Columbus (Ind.) Gas Light Co.....	80
Columbus Natural Gas Co., St. Marys, Ohio.....	391
Columbus (Miss.) Ry., Light & Power Co.....	170
Columbus (Neb.) Gas Co.....	153
Combined Oil Co., San Francisco, Cal.....	459
Comet Oil Co., Lexington, Ky.....	461
Comet Oil & Gas Co., Pruntytown, W. Va.....	427
Commercial Gas & Oil Co., Shreveport, La.....	374
Commercial Gas Co., Port Norris, N. J. (See Cumberland County Gas Co.)	
Commercial Oil & Gas Co., The, Ashtabula, O.....	383
Commonwealth Gas & Elec. Co., Boston, Mass.....	499 & 604
Commonwealth Oil & Gas Co., Spiro, Okla.....	401
Commonwealth Oil & Refining Co., Moran, Kan.....	476
Commonwealth Power, Railway & Light Co., Danville, Ky.....	112
Commonwealth Power, Ry. & Lt. Co., New York (Parent) 507, and (Appendix).....	658
Community Oil Co., Houston, Tex.....	470
Concepcion Compania de Gas de Concepcion, Chili.....	346
Concord (N. C.) Kannapolis Gas Co.....	242
Concord (N. H.) Light & Power Co.....	188
Concordia (Kan.) Gas Co.....	110
Conewago Gas Co., Hanover, Pa.....	269 & 721
Connecticut Light & Power Co., E. Portchester Dist. (Conn.).....	34
Connecticut Light & Power Co., Naugatuck Dist. (Conn.).....	35
Connecticut Light & Power Co., Norwalk Dist. (Conn.).....	36
Connecticut Light & Power Co., Waterbury, Conn.....	493
Connecticut Power Co., New London, Conn.....	36 & 554
Connecticut Public Utilities Commission.....	522
Conservation Department of Louisiana, New Orleans, La.....	523
Conshohocken (Pa.) Gas Co. (See Counties Gas & Electric Co.)	
Consolidated Cities Light, Power & Traction Co., New York City. (See Cities Service Co.)	
Consolidated Gas & Oil Co., Ridgeville, Ind....	360
Consolidated Gas Co., Newcomerstown, O., The..	390
Consolidated Gas Co. of New Jersey, Long Branch.....	198 & 634
Consolidated Gas Co. of New York, New York City..... 225; (Parent) 507, and (Appendix)	660
Consolidated Gas Co. of the City of Pittsburgh, Pittsburgh, Pa.....	279
Consolidated Gas, Electric Light & Power Co. of Baltimore, Md..... 121 and (Appendix)	599
Consolidated Gas, Electric & Water Co., Clevel- and, O.....	513
Consolidated Heat, Light & Power Co., Visalia, Cal. (See Central California Gas Co.)	
Consolidated Light & Power Co., Kewanee, Ill....	67
Consolidated Oil & Refining Co., E. St. Louis, Ill	474
Consolidated Pub. Utilities Co., Westminster, Md.	125
Consolidated Rys., Light & Power Co., Wilming- ton, N. C. (See Tidewater Power Co.)	
Consolidated Schuylkill Gas Co., Phoenixville, Pa. (See Phila. Suburban Gas & El. Co.)	
Consumers Gas & Fuel Co., Mineral Wells, Tex..	420
Constantin Refining Co., Tulsa, Okla.....	484
Consumers Gas & Fuel Co., Weatherford, Tex.	302
Consumers Gas & Heat Co., Johnsonburg, Pa....	407
Consumers Gas Co., Bartlesville, Okla.....	394
Consumers Gas Co., Chetopa, Kan.....	364
Consumers Gas Co., Chicago. (See Peoples Gas Light & Coke Co.)	
Consumers Gas Co., Johnstown, Pa. (See Citi- zens Light, Heat & Power Co., Johnstown.)	
Consumers Gas Co., Hopedale, O.....	387
Consumers Gas Co., Hot Springs, Ark.....	350
Consumers Gas Co., Knightstown, Ind.....	357
Consumers Gas Co., Middlebourne, W. Va.....	425
Consumers Gas Co., Princeton, Ind.....	89
Consumers Gas Co., Reading, Pa.....	280
Consumers Gas Co. of Toronto, Ont., Can.....	340
(Appendix)	772
Consumers Gas Co., Ltd., Wallaceburg, Ont., Can. (See Wallaceburg Gas Co., Ltd.)	
Consumers Gas & Coke Co., Waycross, Ga.....	52
Consumers Gas, Oil & Water Co., Lewisville, Ind.	358
Consumers Lt., Heat & Pr. Co., Topeka, Kan....	370
Consumers Natural Gas Co., St. Paul, Ind.....	361
Consumers Natural Gas Co., Watkins, N. Y....	382
Consumers Oil & Refining Co., Tulsa, Okla.....	484
Consumers Oil Co., Louisville, Ky.....	477
Consumers Power Co., Minneapolis, Minn. (See Northern States Power Co. of Minn.)	
Consumers Refining Co., Chicago, Ill.....	474
Consumers Service Co., Muskogee, Okla.....	398
Consumidores de Gas de Chilian, Chilian, Chili, South America.....	346
Consumidores de Gas de Santiago, Compania de Santiago, Chili, South America.....	347
Consumidores de Gas de Talca, Compania de Talca, Chili, South America.....	347
Continental Gas & El. Corp., Cleveland, O.....	513 & 701
Continental Oil & Ref. Co., Independence, Kan.	461
Contra Costa Gas Co., Pittsburg, Cal.....	19
Continental Refining Co., Oil City, Pa.....	487
Copiapo Fabrica de Gas de Copiapo, Chili.....	346
Corning (N. Y.) Lt. & Pr. Corp.....	213 & 645
Cornwall (Ont., Can.) Gas Works. (See Stor- mont Electric Light & Power Co.)	
Corporation of the City of Nelson, Gas Dept., Dominion of Canada.....	331
Corporation Commission of Arizona, Phoenix..	522
Corporation Commission of North Carolina, Raleigh, N. C.....	525
Corporation Commission of Oklahoma.....	525
Corporation Commission of Virginia, Richmond.	525
Corpus Christi (Texas) Gas Co.....	298
Coshocton (Ohio) Gas Co.....	386
Counties Gas & Electric Co. (Main Line Dis- trict), Ardmore, Pa.....	262
Counties Gas & Electric Co., Philadelphia, Pa..	776
Counties Gas & Electric Co. (Schuylkill Dist.) Norristown, Pa.....	276
County Gas Co., Dallas, Texas.....	418
County Oil & Gas Co., Parkersburg, W. Va....	426
Cowley County Gas Co., The, Winfield, Kan....	371
Craig Oil Co., Toledo, Ohio.....	481
Cranford (N. J.) Gas Light Co.....	205

	PAGE		PAGE
Crawford Oil & Gas Co., The, Friendly, W. Va.	470	Delphos (Ohio) Gas Co., The.....	251
Crawford County Pipe Line Co., Robinson, Ill.	354	Del Ray Oil Co., Pasadena, Cal.....	459
Crawfordsville (Ind.) Water & Gas Co. (See General Service Co., Crawfordsville, Ind.)		Dempseytown Gas Co., Oil City, Pa.....	411
Creek County Gas Co., Cushing, Okla.....	396	Denison (Tex.) Light & Power Co. (See Texas Power & Light Co., Denison, Tex.)	
Crescent Oil & Gas Co., Monaca, Pa.....	409	Denver (Colo.) Gas & Electric Light Co.....	30
Crescent Refining Co., Newkirk, Okla.....	483	(Appendix)	532
Crestline (O.) Oil & Gas Co.....	386	Depew & Lancaster Light, Power & Conduit Co., Lancaster, N. Y.....	380
Creston (Iowa) Gas & Electric Co.....	96	Derby (Conn.) Gas Co.....	34
Crew Levick Co. (Del.), Philadelphia, Pa.....	487	DeTuyter (N. Y.) Gas Co.....	453
Crishfield (Md.) Light & Power Co.....	122 & 425	Deseronto (Ont., Can.) Gas Works.....	335
Criss Oil & Gas Co., Mannington, W. Va.....	603	Desmet (S. D.) Gas Plant.....	454
Crooks, G. A., Shinglehouse, Pa.....	416	Des Moines (Iowa) Gas Co.....	97
Crookston (Minn.) Gas Co.....	162	Devonian Oil Co., Tulsa, Okla.....	467
Crystal City Gas Co., Corning, N. Y.....	379	Detroit & Suburban Gas Co., Detroit, Mich. (See Detroit City Gas Co.)	
Crystal Ice Co. (See Consumers Gas & Fuel Co., Weatherford, Tex.)		Detroit City Gas Co., Detroit, Mich.....	150 & 614
Crystal (N. D.) Lighting Plant.....	444	Dewey Trust Estate, Bradys Bend, Pa.....	403
Crystal Oil Works, Rouseville, Pa.....	488	Dexter (Ia.) Gas Works.....	98
Cumberland County Gas Co. (Fairfield Dist.), Fairton, N. J.....	195	Diamond Gasoline Co., Delaware, Okla.....	482
Cumberland County Gas Co. (Landis Township (N. J.) Dist.).....	198	District of Columbia Public Utilities Com.....	522
Cumberland County Gas Co. (Lawrence Dist.), Cedarville, N. J.....	194	Dixie Gas Co., Birmingham, Ala.....	349
Cumberland County Gas Co. (Maurice River Dist.), Leesburg, N. J.....	198	Dixie Oil & Gas Co., Wichita, Kan.....	461
Cumberland County Gas Co., Millville, N. J. (Artificial) 199; (Parent)	504	Doherty Organization, New York City.....	507
Cumberland County Gas Co. (Buena Vista Dist.), Minotola, N. J.....	199	Dolley Gas Co., Port Allegheny, Pa.....	415
Cumberland County Gas Co. (Downe Twp. Dist.), Newport, N. J.....	201	Dominion Gas Co., Hamilton, Ont., Can. (Parent) 520; (Appendix)	769 333
Cumberland County Gas Co. (Pittsgrove Dist.) Norma, N. J.....	202	Dominion Iron & Steel Co., Sydney, N. S.....	333
Cumberland County Gas Co. (Commercial Dist.), Port Norris, N. J.....	203	Dominion Natural Gas Co., Ltd., Hamilton, Ont., Can.....	430
Cumberland County Gas Co. (Deerfield Dist.), Rosenhayn, N. J.....	204	Dominion Oil Co., McKittick, Cal.....	458
Cumberland County Gas Co. (Vineland (N. J.) Dist.)	205	Dominion Trac. & Ltg. Co., Ltd., Windsor, Ont.....	773
Cumberland County Power & Light Co., Port- land, Me.....	598	Donaldson, F. N., Cadiz, Ohio.....	384
Cumberland Gas Co., Freeport, Pa.....	405	Donegal Gas Co., Mount Joy, Pa.....	275
Cumberland Natural Gas Co., Barboursville, Ky. (See Barboursville (Ky.) Supply Co.)		Dothan (Ala.) Gas Co.....	2
Cumberland Petroleum & Refining Co., Wichita, Kan.....	477	Douglas (Ariz.) Gas Corporation.....	6
Cumberland Pipe Line Co., Oil City, Pa.....	487	Dover (Minn.) Acetylene Gas Plant.....	439
Currie (Minn.) Gas Plant.....	452	Dover Coke & By-Product Co., Canal Dover, O.....	250
Cushing (Okla.) Gas Co.....	396	Dover (Del.) Gas Light Co.....	41
		Dover (N. J.) Rockaway and Port Oram Gas Co. (See New Jersey Gas & Elec. Co.)	
Dakota-Wyoming Oil & Gas Co., Casper, Wyo..	471	Dowagiac (Mich.) Light & Power Co.....	151
Dale (Ind.) Gas Co.....	436	Downe Township Gas Co. (See Cumberland County Gas Co.)	
Dallas (Texas) Gas Co.....	419 & 742	Doyletown (Pa.) Gas Co.....	267
Dalton (Ga.) Water, Light & Sinking Fund Com.	50	Draper Mfg. & Gas Co., The, Ltd., Dana, Ind.....	436
Daly Gas Co., Gibsonton, Pa.....	405	Driscoll Pipe Line Co., Wortham, Texas.....	421
Danbury (Conn.) & Bethel Gas & El. Light Co. 33 & 553		Drumright Oil Co., Drumright, Okla.....	466
Danciger Oil & Refining Co., Drumright, Okla.	482	Dryden (N. Y.) Municipal Acetylene Gas Plant	442
Danielson (Conn.) & Plainfield Gas & El. Co.	34	Duff City Gas Co., Ingomar, Pa.....	406
Dansville (N. Y.) Gas & Electric Co.....	213	Duluth-Augusta Petroleum Co., Tulsa, Okla.....	484
Danville (Ill.) Champaign & Decatur Ry. & Light Co.....	577	Duluth (Minn.) Water & Light Dept., City of..	163
Danville (Va.) Gas Dept., City of.....	307	Dunbar (Pa.) Furnace Co.....	267
Danville (Ill.) Street Railway & Light Co....	60	Dunlap (Iowa) Light, Heat & Power Co.....	449
Darlington (Ind.) Gas Plant.....	436	Dunlap Natural Gas & Oil Co., Brownsville, Pa.	403
Daugherty, W. H., & Son Refining Co., Petrolia, Pa.....	487	Dunn Station Oil & Gas Co., Aleppo, Pa.....	402
Davenport Gas & Electric Co. (See Tri-City Railway & Light Co.)		DuQuoin (Ill.) Light, Heat & Power Co.....	62
Dawes Bros., Chicago, Ill.....	495	Durant (Iowa), Town of, Gas Plant.....	450
Day & Gibson, Altoona, Kan.....	362	Eagle District Gas Co., Clarksburg, W. Va....	423
Daytona (Fla.) Public Service Co.....	43	Eagle Refining Co., Cushing, Okla.....	482
Dayton (O.) Gas Co.....	386	East Boston (Mass.) Gas Co.....	129
(Appendix)	706	(Appendix)	605
Deaverton (O.) Oil & Gas Co.....	386	Eastern Light & Fuel Co., Philadelphia.....	515
Decatur Light, Power & Fuel Co., New Decatur, Ala. (See Alabama Power Co.)		Eastern Montana Oil & Gas Co., Glendive, Mont.	376
Decatur (Ill.) Railway & Light Co.....	61	Eastern Oil Co., Buffalo, N. Y.....	504
Decorah (Iowa) Gas Co.....	97	Eastern Oklahoma Gas Co., Dustin, Okla.....	396
Dedham & Hyde Park (Mass.) Gas & Electric Light Co.....	134	Eastern Oregon Lt. & Pr. Co., Baker City, Ore..	258
Deerfield Gas Co. (See Cumberland County Gas Co.)		Eastern Pennsylvania Light, Heat & Power Co., Tamaqua, Pa.....	283
Deer Isle (Me.) Acetylene Co.....	438	Eastern Pennsylvania Rys. Co., Pottsville, Pa..	736
Defiance (Ohio) Gas & Electric Co.....	251	Eastern Power & Light Corp., New York City..	666
DeKalb County Gas Co. (See Illinois Northern Utilities Co.)		Eastern Shore Gas & El. Co., Salisbury, Md.....	603
Delaware (Ohio) Gas Co.....	386	Eastern States Public Service Co., New York City.....	507 & 667
Del Rapids (S. D.) City Gas & Water Works..	292	Eastern Wisconsin Electric Co., Fond du Lac, Wis.....	320
Deloraine (Man., Can.) Gas Co., Ltd.....	446	Eastern Wisconsin Electric Co., Sheboygan, Wis.	762
		Eastern Wisconsin Railway & Light Co., Fond du Lac, Wis. (See Eastern Wisconsin Electric Co.)	
		Easthampton (Mass.) Gas Co.....	131
		East Idaho Gas Co., Idaho Falls, Idaho.....	53
		East Newark Gas Light Co. (See Public Service Gas Co., Newark.)	
		East Ohio Gas Co., Cleveland, O. (Artificial) (Natural) 385; (Appendix)	250 703
		Easton (Md.) Light & Fuel Co.....	123
		Easton (Pa.) Gas Works.....	267 & 721
		Easton Gas Works, Phillipsburg, Pa. (See Easton (Pa.) Gas Works.)	

COMPANY INDEX

909

	PAGE		PAGE
East Penn Gas & Electric Co., Bristol, Pa....	264	Equality Refining Co., Oilton, Okla.....	483
East Penn Gas Light Co., Emaus, Pa.....	268	Equitable Gas Co., Pittsburgh, Pa.....	412
East Quogue (N. Y.) Light Co.....	442	Equitable Gas Light & Fuel Co. (See Peoples Gas Light & Coke Co.)	
East St. Louis & Suburban Co. Phila., Pa.....	726	Equitable Illuminating Gas Light Co., Philadelphia, Pa.....	278 & 725
Eau Claire (Wis.) Gas Light Co. (See Wis.-Minn. Light & Power Co.)		Escanaba (Mich.) City Lighting Plant.....	451
Economic Gas Co., Los Angeles, Cal. (Artificial) (Natural) 352; (Appendix)	13	Essex & Hudson Gas Co. (See Public Service Gas Co., Newark, N. J.)	
Economic Gas Co., Milroy, Ind.....	359	Eufaula (Ala.) City of (Water & Light Dept.)	3
Eden (N. Y.) Gas & Fuel Co.....	379	Eureka (Kan.) Gas Co.....	365
Edenburg Oil & Gas Co., Knox, Pa.....	408	Eureka Natural Gas Co., Leechburg, Pa.....	408
Edgerton (Kan.) Gas Co.....	365	Eureka Pipe Line Co., The, Oil City, Pa.....	487
Edison Electric Illuminating Co. of Brockton-Stoughton, Mass. (See Brockton (Mass.) Gas Light Co.)		Evans-Thwing Refining Co., Kansas City, Mo..	479
Edmeston (N. Y.) Light, Heat & Power Co....	442	Evansville (Ind.) Public Utilities Co.....	82 & 679
Edmonds Midway Oil Co., Taft, Cal.....	459	Everett Co., Edward H., Newark, Ohio.....	390
Elby Oil & Gas Co., Tulsa, Okla.....	467	Everett (Wash.) Gas Co. (See Puget Sound Gas Co.)	
El Dorado Refining Co., The, El Dorado, Kan..	476	Excelsior Brick Co., Fredonia, N. Y.....	366
Eldred-Home Gas & Fuel Co., Eldred, Pa.....	405	Excelsior (Minn.) Gas Co.....	164
Electric Bond & Share Co., New York City...	507 & 667	Excelsior Springs (Mo.) Water, Gas & El. Co..	174
Electric Bond Deposit Co., New York City....	669	Exeter (N. H.) Gas Light Co.....	189
Electric Power Co., Ltd., Toronto, Ont., Can. (See Hydro-Electric Power Commission, Toronto, Can.)			
Elgin-American Gas Co. (See Western United Gas & Electric Co.)		Fairbury (Neb.) Gas Co.....	183
Elizabeth Oil Co., Pittsburgh, Pa.....	469	Fairfield (Ia.) Gas & Electrical El. Co. (See Fairfield (Iowa) Public Service.)	
Elizabethtown Gas Lt. Co., Elizabeth, N. J. 195 & 633		Fairfield Gas Co. (See Cumberland County Gas Co.)	
Elizabethville (Pa.) Gas Co.....	444	Fairmount & Grafton Gas Co. (See Pittsburgh & West Va. Gas Co.)	
Elk & Jefferson Gas Co., Brockport, Pa.....	403	Fairmount (Ill.) Gas Co.....	435
Elk City (Kan.) Gas & Oil Co.....	365	Fairmount (W. Va.) Gas Co. (See Monongahela Valley Traction Co.)	
Elk Falls (Kan.) Gas Oil & Development Co..	365	Fairview (Pa.) Gas Co.....	405
Elk Natural Gas Co., Pittsburgh, Pa.....	411	Fall River (Mass.) Gas Works Co.....	131 & 612
Elk Oil & Gas Co., Knox, Pa.....	408	Farley (Iowa) Gas Works.....	450
Elk Refining Co., Falling Rock, W. Va.....	490	Farmers Gas Co., Spiceland, Ind.....	361
Elkhart (Ind.) Gas & Fuel Co.....	81	Farmers Natural Gas & Oil Co., Arlington, Ind.	355
Elkton (Md.) Gas Light Works.....	123	Fayette (Ala.) Light & Fuel Co.....	349
Elkton (Va.) Acetylene Light Co.....	445	Fayette County Gas Co., Uniontown, Pa.....	417
Elmer Patterson, Elmer, Mo.....	440	Fayetteville (N. C.) Light & Power Co.....	243
Elmira (N. Y.) Water, Light & R. R. Co. (Artificial) 214; (Natural) 379; (Appendix)	645	Federal Gas Co., Boulder, Colo.....	29
Elmore Oil Co., Sycamore, Ill.....	475	Federal Gas Co., The, Titusville, Pa. (See Crawford County Gas Co., Titusville, Pa.)	
El Paso (Texas) Gas Co.....	298	Federal Gas & Fuel Co., Columbus, O.....	385
El Reno (Okla.) Gas & Electric Co. (See Oklahoma Gas & Electric Co.)		Federal Light & Traction Co., New York, N. Y. (Parent) 508; (Appendix)	669
Elsmore (Kan.) Oil & Gas Co.....	365	Federal Oil & Gas Co., Akron, O.....	464
Elston & Co., Chicago, Ill. (See Union Utilities Co., Chicago.)		Federal Oil & Gas Co., The, Stewart, Ohio....	392
Emaus (Pa.) Gas & Fuel Co. (See East Penn. Gas Light Co., Emaus, Pa.)		Federal Utilities, Inc., New York City.....	671
Emery Mfg. Co., Bradford, Pa.....	485	Fidelity Gas & Oil Co., Elkins, W. Va.....	424
Emblenton (Pa.) Ref. Co.....	486	Fidelity Gas Co., Hoosick Falls, N. Y.....	218
Empire Coke Co., Geneva, N. Y.....	216, 505 & 648	59 Osage Oil Co., Bartlesville, Okla.....	464
Empire District Electric Co., Joplin, Mo.....	624	Fisher Oil Co., Pittsburgh, Pa.....	469
Empire Gas & Electric Co., Auburn, N. Y.....	208	Fitchburg (Mass.) Gas & El. Light Co.....	131 & 612
Empire Gas & Electric Co., Geneva, N. Y. (Artificial) 216; (Parent) 505; (Appendix)	648	Flatbush Gas Co., Brooklyn, N. Y.....	211
Empire Gas & Electric Co., Lyons, N. Y.....	221	Flemington (N. J.) Gas Light Co. (See New Jersey Northern Gas Co.)	
Empire Gas & Electric Co., Newark, N. Y.....	224	Flint (Mich.) Gas Co. (See Michigan Light Co.)	
Empire Gas & Electric Co., Owego, N. Y.....	230	Florence (S. C.) Gas Co.....	289
Empire Gas & Electric Co., Palmyra, N. Y.....	230	Florida Utilities Co., Trenton, N. J.....	504
Empire Gas & Electric Co., Phelps, N. Y.....	231	Foco Oil Co., Franklin, Pa.....	486
Empire Gas & Electric Co., Seneca Falls, N. Y.	236	Ford Motor Co., Detroit, Mich.....	150
Empire Gas & Electric Co., Waterloo, N. Y....	239	Forest (Ohio) Gas & Oil Co.....	386
Empire Gas & Fuel Co., Bakersfield, Cal.....	351	Fort Atkinson (Wis.) Gas Co.....	321
Empire Gas & Fuel Co., Denver, Colo.....	354	Fort Dodge (Iowa) Gas & Electric Co.....	99
Empire Gas & Fuel Co., New York City.....	508 & 669	Fort Madison (Iowa) Gaslight Co.....	99
Empire Gas & Fuel Co., Ltd., Wellsville, N. Y..	382	Fort Plain (N. Y.) Gas & Electric Light, Heat & Power Co.....	215
Empire Gas Co., Tionesta, Pa.....	416	Fort Scott & Nevada Light, Heat, Water & Power Co.....	365
Empire Oil & Gas Co., Winchester, Ky.....	374	Fort Scott (Kan.) Gas & Electric Co.....	365
Empire Gasoline Co., Bartlesville, Okla.....	481	Fort Smith (Ark.) Light & Traction Co....	349 & 533
Empire Oil & Gas Co., Inc., Wichita, Kan.....	461	Fortville (Ind.) Gas Co.....	355
Empire Oil Works, Reno, Pa.....	488	Fortuna Oil Co., Oklahoma City, Okla.....	466
Empire Petroleum Co., Bartlesville, Okla.....	481	Fort Worth (Texas) Gas Co.....	419
Empire Pipe Line Co., Bartlesville, Okla.....	464	Forty-five Oil Co., Bartlesville, Okla.....	464
Empire Refineries, Inc., Bartlesville, Okla. 481 & 514		Forty-sixth Star Refining Co., Healdton, Okla.	482
Empire Refining Co., Bartlesville, Okla....	514	Foster & Davis, Osage, Okla.....	467
Emporia (Kan.) Gas Co.....	110	Foster Brook Gas Co., Gilman, Pa.....	405
Empresa de Gas, Tacna, Chili, S. A.....	347	Fountaintown (Ind.) Natural Gas Co.....	356
Empresa del Gas de Lima, Peru, S. A.....	347	Fourth Ward Gas Co., Greensburg, Ind.....	356
Empresa del Gas del Rosario, Argentina, S. A..	345	Fowler (Cal.) Gas Co.....	11
Enalpae Oil & Gas Co., Casper, Wyo.....	471	Fox Lake (Wis.) Gas Plant.....	455
Endicott (N. Y.) Gas Co.....	442	Framingham (Mass.) Gas, Fuel & Power Co....	132
Enid (Okla.) Electric & Gas Co. (See Oklahoma Gas & Electric Co.)		Franco Wyoming Oil Co., Casper, Wyo.....	471
Ennis-Bayard Petroleum Co., Chicago, Ill.....	460	Frankfort (Ky.) Natural Gas Co.....	372
Enterprise Gas Co., Egg Harbor City, N. J....	194	Franklin County Pipe Line Co., Ottawa, Kan..	369
Enterprise Milling Co., Milroy, Ind.....	359	Franklin Light & Fuel Co., Paola, Kan.....	369
Enterprise Natural Gas Co., New Castle, Ind. (See Interstate Public Service Co.)		Franklin Lt. & Pr. Co., Franklin Falls, N. H..	189
		Franklin Oil Works, Franklin, Pa.....	486

	PAGE		PAGE
Franklin (Ind.) Water, Light & Power Co.....	82	Golden Rule Refining Co., Wichita, Kan.....	477
Frederick (Md.) Gas & Electric Co.....	123	Golden State Oil Co., Los Angeles, Cal.....	473
Fredericksburg (Va.) City Gas Works.....	307	Goldsboro (N. C.) Gas & Fuel Co.....	243
Fredonia (Kan.) Gas Co., The.....	366	Good Luck Gas Co., Leechburg, Pa.....	408
Freedom Oil Works Co., The, Freedom, Pa....	486	Gordon (Pa.) Borough Gas Co.....	444
Freeport (Ill.) Gas Co.....	63 & 579	Gorham (N. Y.) Marl. & Natural Gas Co.....	379
Freeport (Ind.) Gas Co.....	356	Goshen (Ind.) Gas Co.....	83
Fremont (Neb.) Gas, El. Lt. & Pr. Co.....	183	Goshen (N. Y.) Illuminating Co.....	217
Fremont (Ohio) Gas, El. Lt. & Pr. Co.....	387	Gowanda (N. Y.) Natural Gas Co.....	379
Fresno Gas & Electric Light Co. (See Pacific Gas & Electric Co.)		Graeff, Peter & Co., Worthington, Pa.....	418
Frost Gas Co., Fredonia, N. Y.....	379	Graettinger (Iowa) Gas Plant.....	438
Frost Gas Co., Smyrna, Del.....	42	Grafeman Crude Oil & Gas Co. of St. Louis, Mo., Tulsa, Okla.....	401
Fryburg (Pa.) Gas Co.....	405	Granby & Hemenway Gas Co., Inc., Naples, N. Y.	380
Fulton (N. Y.) Fuel & Light Co.....	215	Grand Haven (Mich.) Gas Co.....	151
Fulton County Gas & El. Co., Gloversville, N. Y.	217 & 649	Grand Island (Neb.) Gas Co.....	184
		Grand Junction (Colo.) Elec. Gas & Mfg. Co..	31
Gage County Gas Lt. & Pr. Co., Beatrice, Neb..	182	Grand Ledge (Mich.) Gas Co.....	151
Gainesville (Tex.) Gas & Electric Co.....	419	Grand Rapids (Mich.) Gas Light Co.....	152 & 616
Gainesville (Fla.) Gas Co.....	44	Grand River Gas Co., Muskogee, Okla.....	398
Galena (Ill.) Gas Light Co.....	63	Grand Valley Nat'l Gas Co., Grand Valley, Pa..	406
Galena Signal Oil Co., Franklin, Pa.....	486	Granite City (Ill.) Gas Light & Fuel Co.....	65
Galesburg (Ill.) Railway, Light & Power Co..	64	Grant City Natural Gas Co., Shirley, Ind.....	361
Gallatin Valley Gas Co., Bozeman, Mont.....	181	Granville (N. Y.) Electric & Gas Co.....	218
Galveston (Texas) Gas Co.....	298	Granville (Ohio) Fuel & Light Co., The.....	387
Garden City Oil Co., Chicago, Ill.....	474	Grasselli Chemical Co., Clarksburg, W. Va.....	423
Gardner (Kan.) Gas Co.....	366	Gratiot County Gas Co., Alma, Mich.....	147
Gardner (Mass.) Gas, Fuel & Light Co.....	132	Grays Harbor Gas Co. (See North Pacific Public Service Co.)	
Garnett (Kan.) Light & Fuel Co., The.....	366	Great American Refining Co., Tulsa, Okla.....	484
Gary (Ind.) Heat, Light & Water Co.....	82 & 581	Great Bend (Kan.) Gas Co.....	110
Gas & Electric Co. of Bergen County. (See Public Service Gas Co., Hackensack, N. J.)		Greater New York City Companies.....	224
Gas & Electric Improvement Co., Boston, Mass.	499	Great Falls (Mont.) Gas Co.....	181
Gas & Electric Improvement Co., Chicago, Ill..	495	Great State Oil & Refining Co., Humble, Tex...	488
Gas & Electric Securities Co., New York City..	671	Great Western Oil Co., Cleveland, Ohio.....	480
Gas Co. of Montgomery County. (See Counties Gas & Electric Co.)		Great Western Oil Refining Co., Erie, Kan....	476
Gas Construction Co., Omaha, Neb.....	503	Great Western Petroleum Corp., Erie, Kan....	476
Gas Light Co. of Augusta, Ga.....	49	Greeley (Colo.) Gas & Fuel Co.....	31
Gas Light Co. of Columbus, Ga.....	50	Greeley (Kan.) Gas Co.....	366
Gas Light Co. of Galena, Ill.....	63	Greeley (Neb.) Heat & Light Co.....	440
Gas Light Co. of the City of New Brunswick. (See Public Service Gas Co., New Brunswick, N. J.)		Green Bay (Wis.) Gas & Electric Co. (See Wisconsin Public Service Co.)	
Gas Light Co. of Waverly, N. Y., The.....	240	Greencastle (Ind.) Gas & Electric Light Co....	83
Gas Oil Co., Chicago, Ill.....	474	Greenfield (Mass.) Gas Light Co.....	133
Gas Pipe Line Corp., Independence, Kan.....	367	Greensboro Gas Co., Pittsburgh, Pa.....	412
Gassaway (W. Va.) Gas Co.....	424	Greensburg (Ind.) Gas & Electric Co.....	357
Gas Securities Co., New York.....	671	Greensburg (Ind.) Nat'l Gas, Oil & Water Co.	357
Gaston County Gas Co., Gastonia, N. C.....	243	Greenville (Texas) Gas Co.....	299
Gastonia (N. C.) Suburban Gas Co.....	243	Greenville (Miss.) Gas Co.....	170
Gates Oil Co., Ardmore, Okla.....	464	Greenville (Pa.) Natural Gas Co.....	406
Geist Co., The C. H., Philadelphia, Pa.....	515	Greenville (S. C.) Gas & Electric Light & Power Co. (See Southern Public Utilities Co., Greenville, S. C.)	
General Gas & El. Co. of Maine, New York, N. Y.....	508 & 672	Gregory, J. D., Princeton, Mass.....	439
General Petroleum Corp., San Francisco, Cal.	459 & 492	Greis Oil Co., Independence, Kan.....	461
General Petroleum Corp., Vernon, Cal.....	474	Gretna (La.) Gas Light & Fuel Co.....	115
General Refining Co., Kansas City, Kan.....	476	Griffin (Ga.) Gas, Ice & Cold Storage Co.....	50
General Utilities & Operating Co., Baltimore, Md.	602	Grubb, Mrs. Sarah J., Waldron, Ind.....	362
Genesee (Ill.) Gas Co. (See Illinois Northern Utilities Co.)		Guadalajara (Mex.) Gas Co.....	348
Genesee (N. Y.) Gas Light Co.....	216	Guelph (Ont., Can.) Light & Heat Commrs....	336
Georgetown (Del.) Gas Co.....	41	Gulf Cities Gas Co., Biloxi, Miss.....	169
Georgetown Gas Light Co., Washington, D. C..	42	Gulf Development Co., New Orleans, La.....	462
Georgetown (Ky.) Water, Gas, El. & Pr. Co....	112	Gulf Oil Corp., Pittsburgh, Pa.....	517
Georgia Light, Power & Railways, Macon, Ga..	562	Gulf Pipe Line Co., Houston, Tex.....	470
Georgia Railway & Electric Co., Atlanta, Ga..	561	Gulf Pipe Line Co. of Oklahoma, Tulsa, Okla..	467
Georgia Railway & Power Co., Atlanta, Ga.....	494 & 559	Gulf Production Co., Pittsburgh, Pa.....	469
Georgia R. R. Commission, Atlanta, Ga.....	523	Gulf Refining Co. of Louisiana, New Orleans, La.	478
Gettysburg (Pa.) Gas Co.....	268	Gulf Refining Co., Port Arthur, Tex.....	489
Gettysburg (S. Dak.) Gas Co.....	454	Gulf States Oil Co., Houston, Tex.....	470
Gilmore Co., A. F., Los Angeles, Cal.....	472	Gulf States Steel Co., Alabama City, Ala.....	1
Gilmore, B. F., Greenwood, W. Va.....	424	Gunn Pipe Line Co., Ft. Scott, Kan. (See Ft. Scott & Nevada Light, Heat, Water & Pr. Co.)	
Gilroy (Cal.) Gas Works, Inc. (See Coast Counties Gas & Electric Co.)		Guthrie (Okla.) Gas Light, Fuel & Improvement Co.....	397
Girardville (Pa.) Gas Co.....	268	Gwynneville (Ind.) Natural Gas Co.....	357
Girard (Pa.) Gas & Power Co.....	405		
Gladstone (Man., Can.) Gas Co.....	446	Hackensack (N. J.) Gas Lt. Co. (See Public Service Gas Co., Appendix.)	
Glen Hazel (Pa.) Gas Co.....	406	Hagerstown & Frederick Railway Co., The, Frederick, Md. (See Frederick Gas & El. Co.)	
Glenrock Oil Co., Casper, Wyo.....	520	Hagerstown (Md.) Light & Heat Co.....	124
Glens Falls (N. Y.) Gas & Electric Light Co..	217	Hagerstown (Ind.) Natural Gas Co.....	357
Glenshaw (Pa.) Natural Gas Co.....	406	Hale Gas Co. and Cherryvale Gas Light & Power Co., Neodesha, Kan.....	368
Glenville (W. Va.) Natural Gas Co.....	424	Hale Petroleum Co., The, Kansas City, Mo.....	502
Glenwood Nat. Gas Co., Ltd., Glenwood, Ont..	430	Halfmoon Light, Heat & Power Co., Mechanicsville, N. Y.....	222
Globe Gas Co. of Nevada, Goldfield, Nev.....	453	Halifax (N. S., Can.) El. Tramway Co., Ltd. (See Nova Scotia Tramways & Power Co., Ltd., Halifax.)	
Globe (Ariz.) Light & Power Co.....	7	Hamburg (Pa.) Gas & El. Co.....	269
Globe Fuel Co., Morgantown, W. Va.....	426		
Globe Oil & Refining Co., The, Blackwell, Okla.	481		
Gloucester (Mass.) Gas Light Co.....	133		

COMPANY INDEX

911

	PAGE		PAGE
Hamilton (Ohio) City Gas Works.....	387	Hornell (N. Y.) Gas Light Co.....	380
Hamilton (Ont., Can.) Gas Light Co. (See United Gas & Fuel Co., Ltd.)		Horner, Boyd E., and Associates, Clarksburg, W. Va.	520
Hamilton, Otto, Coke Co., Hamilton, Ohio.....	252	Horner Gas Supply Co., Lumberport, W. Va....	425
Hamilton (Ohio) Utilities Co.....	252	Hortonville (Ind.) Gas Exploring Co.....	357
Hamiota (Man., Can.) Gas Co.....	447	Hot Springs (Ark.) Gas Co. (See Consumers Gas Co.)	
Hammonont (N. J.) & Egg Harbor City Gas Co.	196	Houghton County Gas & Coke Co. (See Michigan Gas & Electric Co.)	
Hampton (Iowa) Gas Co.....	100	Houston (Minn.) Gas Plant.....	452
Hampton (Va.), Phoebus & Fort Monroe Gas Corp. (See Newport News & Hampton Ry., Gas & Electric Co.)		Houston (Tex.) Gas & Fuel Co.....	299 & 744
Hanford (Cal.) Gas & Power Co.....	12	Hoyt Oil & Gas Co., Pemberville, Ohio.....	391
Hanover (Pa.) Gas Co. (See Conewago Gas Co.)		Hudson County Gas Co. (See Public Service Gas Co.)	
Hardin-Wyandot Lighting Co., Kenton, Ohio.....	388	Humble Oil & Refining Co., Houston, Texas....	480
Hardman, L. & Sons, Richburg, N. Y.....	381	Humboldt (Kan.) Brick Mfg. Co.....	366
Hardman Natural Gas Co., Markleville, Ind.....	358	Humboldt (Kan.) Gas Co.....	366
Harrisburg (Pa.) Gas Co.....	269 & 721	Humphreys & Miller, Inc., New York, N. Y....	508
Harris Oil & Gas Co., Hominy, Okla.....	397	Humphreys Petroleum Co., Tulsa, Okla.....	467
Harrison (Ont., Can.) Gas Co.....	447	Huntington Beach Municipal Gas Dept., Cal....	352
Harshbarger Oil & Gas Co., Milton, W. Va....	426	Huntington (W. Va.) Development & Gas Co....	425
Hartford City Gas Lt. Co., Hartford, Conn. 34 & 554			(Appendix) 759
Hartington (Neb.) Gas Plant, The.....	452	Huntington (N. Y.) Gas Co.....	219
Hastings (Neb.) Gas Co.....	184	Huntington (Ind.) Light & Fuel Co.....	84
Hattiesburg (Miss.) Traction Co.....	170 & 623	Huntsville (Ala.) Consolidated Gas Co. (Artificial) 4; (Natural)	340
Havana (Cuba) Elec. Ry., Light & Pr. Co. 347 & 776		Huntsville (O.) Gas Co., The.....	387
Haverhill (Mass.) Gaslight Co.....	133	Hurley (Wis.) Gas Co.....	322
Havre de Grace (Md.) Gas Co.....	124	Huron (S. D.) Light & Power Co.....	292
Havre Natural Gas Co., Havre, Mont.....	377	Hutchinson (Kan.) Gas & Fuel Co.....	367
Havre Oil & Gas Co., Havre, Mont.....	377	Hyattsville (Md.) Gas & Electric Co.....	124
Hawthorne (Fla.) Acetylene Gas Plant.....	434	Hyde Park Gas Co., Chicago. (See Peoples Gas Light & Coke Co.)	
Hazelwood Oil Co., Pittsburgh, Pa.....	469	Hyde Park Gas Co., Scranton, Pa.....	281
Hazelhurst (Pa.) Gas Co.....	406	Hydro-Electric Light & Power Co., Connerville, Ind.....	82
Heard & Jennings Oil & Gas Co., Isletta, Ohio.	387	Hydro-Electric Power Com., Cobourg, Ont., Can.	335
Heinmann Gas Co., Crosby, Pa.....	405	Hydro-Electric Power Com., Napanee, Ont., Can.	338
Helen (Ark.) Gas & Electric Co.....	9	Hydro-Electric Power Com., Oshawa, Ont., Can.	338
Helen (Mont.) Light & Railway Co.....	181 & 629	Hydro-Electric Power Com., Toronto, Ont., Can.	521
Hemet-San Jacinto Gas Co. (See Southwestern Gas Co., Hemet, Cal.)			
Hendee Gas Co., Cayuga, Can.....	430	Idaho Public Utilities Commission, Boise, Idaho	522
Henderson Gas Co., Brookville, Pa.....	403	Illinois Crude Oil Co., Bakersfield, Cal.....	456
Henderson (Ky.) Gas Works.....	112	Illinois Gas Co., Lawrenceville, Ill.....	68
Hennaghan & Hanlon, Harrisville, W. Va.....	424	Illinois Light, Heat & Power Co. (See Peoples Gas Light & Coke Co.)	
Henrietta Oil & Gas Co., Henrietta, Tex.....	420	Illinois Northern Utilities Co., Belvidere, Ill....	55
Henrico County Gas Co., Richmond, Va.....	309	Illinois Northern Utilities Co., DeKalb, Ill.....	61
Henry Gas Co., Bartlesville, Okla., The.....	394	Illinois Northern Utilities Co., Dixon, Ill.....	578
Henryetta Oil & Refining Co., Henryetta, Okla.	482		(Artificial) 62; (Parent) 497; (Appendix)
Henry Oil Co., The, Chicago, Ill.....	460	Illinois Northern Utilities Co., Geneseo, Ill....	64
Herring Oil & Gas Co., Grosbeck, Texas.....	419	Illinois Northern Utilities Co., Mendota, Ill....	69
High Gravity Oil Co., Lexington, Ky.....	461	Illinois Northern Utilities Co., Morrison, Ill....	70
Highland Gas Co., Quakertown, Pa.....	280	Illinois Northern Utilities Co., Sterling, Ill....	76
Hilbert (Wis.) Gas Plant.....	455	Illinois Oil Co. of Rock Island, Cushing, Okla.	466 & 482
Hillman Oil & Gas Co., Cushing, Okla.....	482	Illinois Pipe Line Co., Findlay, O.....	464
Hillsboro (Ind.) Gas Co.....	437	Illinois Public Utilities Commission, Springfield, Ill.....	523
Hillsboro (Ohio) Light & Fuel Co.....	252	Illinois Steel Co., Joliet, Ill.....	66
Hillsdale (Mich.) Gas Light Co.....	153	Illinois Steel Co., Gary, Ind.....	83
Hilo (Hawaii) Gas Co., Ltd.....	52	Illinois Traction Co., Champaign, Ill.....	494
Hock Brothers Natural Gas Co., Chicora, Pa.....	404	Illinois Valley Gas & Electric Co. (See Public Service Gas Co. of Northern Illinois.)	
Hodenpyl, Hardy & Co., Inc., N. Y. City. (See Commonwealth Pr., Ry. & Lt. Co.)		Illuminating & Power Securities Corp., Richmond, Va.	751
Hoffman Natural Gas Co., Bradford, Pa.....	403	Imperial Oil & Gas Products Co., Pittsburgh, Pa.	412
Hoffman Oil & Refining Corp., Port Huron, Tex.	489	Imperial Refining Co., Ardmore, Okla.....	481
Holland (Mich.) City Gas Co.....	153	Imperial Valley Gas Co., El Centro, Cal.....	11
Holland (Va.) Gas Co.....	446	Independence (Iowa) Gas Co.....	100
Hollister (Cal.) Light & Power Co. (See Coast Counties Gas & Electric Co.)		Independent Natural Gas Co., Butler, Pa.....	403
Holyoke (Mass.), City of, Gas & Elec. Dept....	134	Independent Natural Gas Co., Ltd., Dunnville, Ont.	430
Home Gas Co., The, Abilene, Kan.....	109	Indian Gas Co., Brookville, Pa.....	403
Home Gas Co., Ceres, N. Y.....	378	Indian Petroleum Co., Cedar Rapids, Ia.....	475
Home Gas Co., Clarion, Pa.....	404	Indian Refining Co., Lawrenceville, Ill.....	475
Home Gas Co. of Cushing, Cushing, Okla.....	466	Indian Territory Illuminating Co., Bartlesville, Okla. (See Osage Producers Gas Co.)	
Home Gas Co., Mt. Morris, Pa.....	410	Indian Ter. Illum. Oil Co., Bartlesville, Okla....	464
Home Gas Co., New Washington, Ohio.....	444	Indiana Coke & Gas Co., Terre Haute, Ind....	90
Home Oil Refining Co., Yale, Okla.....	485	Indiana Fuel & Light Co., Auburn, Ind.....	79
Home Petroleum & Natural Gas Co., Shinnston, W. Va.....	427	Indiana Gas Light Co., Noblesville, Ind.....	88 & 584
Homer & Cortland (N. Y.) Gas Light Co....	213 & 645	Indiana Lighting Co., Lafayette, Ind. (See Northern Indiana Gas & Electric Co., Lafayette, Ind.)	
Homer (Ind.) Gas Co.....	357	Indiana Natural Gas & Oil Co., The, Kokomo, Ind.....	358
Hominy (Okla.) Light & Gas Co.....	397	Indiana Operating Co. (See Middle West Utilities Co.)	
Homokola Oil Co., Tulsa, Okla.....	467	Indiana Pipe Line Co., Huntington, Ind.....	400
Hondo Oil Co., Los Angeles, Cal.....	457		
Honesdale (Pa.) Consolidated Light, Heat & Power Co.	270		
Honey Creek (Ind.) Natural Gas Co.....	357		
Honolulu Consolidated Oil Co., Taft, Cal.....	460		
Honolulu (Hawaii) Gas Co., Ltd.....	53		
Hoopston (Ill.) Gas & Electric Co.....	65		
Hope Natural Gas Co., Pittsburgh, Pa.....	412		
Hopkins (Minn.) Municipal Gas Plant. (See West Minneapolis Gas Works.)			
Hopkinsville (Ky.) City Light Co. (See Kentucky Public Service Co.)			

	PAGE		PAGE
Indiana Public Service Commission, Indianapolis	523	Kansas Co-operative Refining Co., Chanute, Kan.	475
Indiana Public Service Co., Aurora, Ind.	79	Kansas Crude Refinery, Chanute, Kan.	364
Indiana Service Co., Shelbyville, Ind. (See Interstate Public Service Co., Shelbyville, Ind.)		Kansas Farmers Gas Co., The Kansas City, Kan.	367
Indianapolis (Ind.) Gas Co.	85	Kansas Gas & Cement Co., Strong City, Kan. (See Twin Cities Gas Co., Strong City, Kan.)	
Ingersoll (Ont., Can.) Gas Light Co.	431	Kansas Gas & Electric Co., Wichita, Kan.	370 & 589
Inland Steel Co., Indian Harbor, Ind.	84	Kansas Natural Gas Co., Independence, Kan.	367
International Gas Co., Nogales, Arizona. (See Arizona Gas & Elec. Co.)		Kansas Oil Refining Co., Coffeyville, Kan.	475
International Gas & Electric Co. (See United Chemical & Industrial Cos.)		Kansas Public Utilities Commission, Topeka, Kan.	523
Interstate Electric Corp., New York, N. Y.	508	Kasigan Oil, Gas & Power Co., Independence, Kan.	367
Interstate Light & Power Co., Hudson Div., Wis.	322	Kay County Gas Co., Ponca City, Okla.	400
Interstate Public Service Co., Bedford, Ind.	79	Keene (N. H.) Gas & Electric Co.	189
Interstate Public Service Co., Greenfield, Ind.	356	Keeners Oil, Natural Gas & Fuel Co., Weston, W. Va.	428
Interstate Public Service Co., Indianapolis, Ind.	498	Keesage Oil Co., Bartlesville, Okla.	464
Interstate Public Service Co., New Castle, Ind.	359	Keiser Gas Co., Yates Center, Kan.	371
Interstate Public Service Co., Seymour, Ind.	89	Kellettville Gas Co., Tionesta, Pa.	417
Interstate Public Service Co., Shelbyville, Ind.	89	Kendall Refining Co., Bradford, Pa.	485
Interurban Gas Co., Nazareth, Pa.	276	Kennebec Gas & Fuel Co., Waterville, Me.	120
Invincible Oil Co., Houston, Tex.	470	Kennebec Light & Heat Co. (See Central Maine Power Co.)	
Inwood (Ont., Can.) Acetylene Const. Co.	447	Kennett Gas Co., Avondale Pa.	263
Iola (Kan.) Dept. of Public Utilities, Gas Dept., City of	367	Kenosha (Wis.) Gas & Electric Co. (See Wisconsin Gas & Elec. Co.)	
Iokla Oil & Gas Co., Waurika, Okla.	468	Kentucky Coke Co., Louisville, Ky.	594
Ionia (Mich.) Gas Light & Coke Co.	153	Kentucky Heating Co. and Kentucky Fuel Gas Co., Louisville, Ky. (See Louisville Gas & Electric Co.)	
Iowa City (Iowa) Light & Power Co.	100	Kentucky Independent Oil Co., Inc., Covington, Ky.	477
Iowa Electric Co., Fairfield, Iowa.	98	Kentucky Oil & Refining Co., Dukehurst, Ky.	461
Iowa Gas & Electric Co., Washington, Ia.	108	Kentucky Petroleum Producing Co., Irvine, Ky.	461
Iowa Gas Co., Iowa Falls, Iowa.	101	Kentucky Pipe Line Co., Jeffersonton, Ky.	372 & 594
Iowa Public Service Co., Ames, Iowa.	92	Kentucky Public Service Co., Bowling Green, Ky.	112 & 590
Iowa Railway & Light Co., Marshalltown, Iowa	103	Kentucky Public Service Co., Frankfort, Ky.	112
Iowa Railway & Light Co., Cedar Rapids, Ia. (Parent) 498; (Appendix)	586	Kentucky Public Service Co., Hopkinsville, Ky.	113
Iowa Southern Utilities Co., Centerville, Ia.	94	Kentucky Public Service Co., Owensboro, Ky.	113
Ipswich (Mass.) Gas Light Co.	134	Kentucky River Oil Co., Inc., Philadelphia, Pa.	468
Ironton (O.) Solvay Coke Co.	252	Kentucky Solvay Coke Co., Inc., Ashland, Ky.	112
Iron Mountain (Mich.) Light & Fuel Co.	153	Kentucky Utilities Co., Louisville, Ky.	591
Ironwood (Mich.) Gas Co.	153	Kentucky Utilities Co., Shelbyville, Ky.	114
Iroquois Natural Gas Co., Buffalo, N. Y. (Natural) 377; (Parent)	504	Keokuk (Ia.) Gas & El. Co. (See Keokuk (Iowa) Electric Co.)	
Island Oil & Transport Corp., New York, N. Y.	509	Keokuk (Ia.) Electric Co.	101
Island Petroleum Co., The, Baltimore, Md.	478	Kewanee (Ill.) Light & Power Co. (See Consolidated Light & Power Co.)	
Ithaca (N. Y.) Gas & Electric Corp.	219	Key City Gas Co., Dubuque, Ia.	98
Jade Oil Co., Los Angeles, Cal.	457	Key City Lt. & Pr. Co., Port Townsend, Wash.	313
Jackson County Light, Heat & Power Co., Independence, Mo.	174	Keystone Gas Co., Olean, N. Y.	381
Jackson (Mich.) Gas Co. (See Michigan Light Co., Jackson, Mich.)		Keystone United Oil & Gas Co., Kane, Pa. (See Mountain Gas Co., Kane.)	
Jackson (Cal.) Gas Light Co.	13	Key West (Fla.) Gas Co.	44
Jackson (Miss.) Light & Traction Co.	171 & 623	Kiefer (Okla.) Light & Fuel Co.	398
Jacksonville (Fla.) Gas Co. (Appendix)	44	Killbuck & Millersburg Oil & Gas Co., Millersburg, O.	390
Jacksonville (Ill.) Railway & Light Co.	66	King & Davis Co., Milroy, Ind.	359
Jamaica (N. Y.) Gas Light Co.	220	King, Ross, East Brady, Pa.	405
James City Gas Co., Kane, Pa.	407	King Refining Co., Bakersfield, Cal.	472
Jamestown (N. D.) Gas Co.	249	Kings County Lighting Co., Brooklyn, N. Y.	211, 643 & 527
Jantha Light & Fuel Co., Greenville, O.	387	Kingsley (Iowa) Gas Light & Heating Co.	450
Jasper (Minn.) Gas Plant.	164	Kingston (N. Y.) Gas & Electric Co.	220 & 650
Jefferson City (Mo.) Light, Heat & Power Co.	175	Kingston (Jamaica) Gas Works.	348
Jefferson County Gas Co., Warren, Pa.	417	Kingston (Ont., Can.) Light, Heat & Power Depts.	337
Jeffersonville (N. Y.) Gas Plant.	453	Kingwood Oil Co., Okmulgee, Okla.	467
Jennings (La.) Gas & Electric Co.	115	Kirksville (Mo.) Gas, Heat & Electric Co.	175
Jennings (Okla.) Gas Co.	398	Kitchener (Ont., Can.) Light Commissioners.	337
Jersey Shore (Pa.) Gas Co.	270	Knightstown (Ind.) Natural Gas Co.	357
Jerseyville Illuminating Co. (See Natl. Lt., Heat & Power Co.)		Knoxville (Iowa) Gas Co.	101
Johnetta (Pa.) Gas Co.	406	Knoxville (Tenn.) Gas Co., The.	295
Johnson County Gas Co., Kansas City, Mo.	375	Kokomo (Ind.) Gas Co.	85
Johnstown Fuel Supply Co., Johnstown, Pa.	407	Kokomo (Ind.) Gas Fuel Co.	358
Joliet Gas Light Co. (See Western United Gas & Elec. Co.)		Koppers Co., H., Pittsburgh, Pa.	517
Jones & Hovey Co., Independence, Iowa.	498	Kramer & Drosch, Maria Stein, Ohio.	389
Joplin (Mo.) Gas Co.	375	Krotter, Wm., Co., Stuart, Neb.	441
Jordan Oil Co., Los Angeles, Cal.	473	La Belle Iron Works, Steubenville, O.	254
Junction City (Kan.) Gas Co.	111	Labette Gas Co. (See Consumers Gas Co., Chetopa, Kan.)	
Junction Oil & Gas Co., Blackwell, Okla.	395	La Cie de Gas, Electricite et Pouvier, St. Hyacinthe, Quebec, Canada.	342
Junction Oil Co., San Francisco, Cal.	459	Lackawanna Iron & Steel Co. (See Bethlehem Steel Co.)	
Kalamazoo (Mich.) Gas Co. (See Michigan Light Co.)		Lackawanna Steel Co., Buffalo, N. Y.	220
Kane (Pa.) Gas Light & Heating Co.	407	Laclede Gas Light Co., St. Louis, Mo. (Appendix)	626
Kane Gasoline Co., Kane, Pa.	486	Laconia (N. H.) Gas & Electric Co.	190
Kankakee (Ill.) Gas & Electric Co. (See Public Service Co. of Northern Illinois.)			
Kanola Oil Co., Tulsa, Okla.	467		
Kansas City (Mo.) Gas Co.	376		
Kansas City Missouri Gas Co., Kansas City, Mo.	503 & 625		

COMPANY INDEX

913

PAGE

La Crosse (Wis.) Gas & Electric Co. (See Wis.- Minn. Light & Power Co.)	
La Empresa del Gas del Rosario, Rosario, Ar- gentina, South America	345
La Grange Gas Co. (See Western United Gas & Elec. Co.)	
La Grange (Ga.) City of Gas Plant	51
Lake Charles Gas Co., Lake Charles, La.	116
Lake Gas Co., Chicago. (See Peoples Gas Light & Coke Co.)	
Lakeland (Fla.) Gas Co.	44
Lakeview Oil Co., Maricopa, Cal.	458
Lakewood (N. J.) Gas Co.	197 & 633
Lambertsville (N. J.) Gas Light Co. (See New Jersey Northern Gas Co.)	
Lancaster County Railway & Light Co.	515 & 675
Lancaster (La.) Gas Light & Fuel Co.	271 & 722
Lancaster (Ohio) City Natural Gas Works	388
Lansdowne (Conn.) Gas Plant	448
Lansing (Mich.) Fuel & Gas Co.	154
	Appendix 618
Latham Gas Co., Chanute, Kan.	364
La Plata, Compania de Gas de, La Plata, Argen- tina, South America	345
La Porte (Ind.) Gas & Electric Co.	85
Las Vegas Gas Co., Las Vegas, Nev.	187
Latimer County Gas Co., Red Oak, Okla.	400
Laurel (Neb.) Acetylene Gas Light Co.	440
Laurel Oil & Gas Co., Indiana, Pa.	406
Laurel Springs (N. J.) Magnolia & Clementon Gas Co. (See N. J. Gas Co.)	
Lawrence (Mass.) Gas Co.	184
Lawrence (Mich.) Gas Works	452
Lawrence Gas Co. (See Cumberland County Gas Co.)	
Lawrenceburg (Ind.) Gas Co.	86
Lawrence Park (Pa.) Realty Co.	408
Lawton (Okla.) Natural Gas Co.	398
Lawton Refining Co., Lawton, Okla.	483
Lead-Deadwood Gas Light & Fuel Co., Dead- wood, S. D. (See Belt Gas Co.)	
Leavenworth (Kan.) Light, Heat & Power Co.	365 & 589
Lebanon (Ohio) Gas Works	252
Lebanon (Pa.) Gas & Fuel Co.	272
Lee County Lighting Co., Dixon, Ill. (See Illi- nois Northern Utilities Co.)	
Leeper (Pa.) Gas & Oil Co.	408
Le Flore County Gas & El. Co., Poteau, Okla.	400
Lehigh Coke Co., South Bethlehem, Pa.	283
Lehigh and Northampton Light, Heat & Power Co., Catasauqua, Pa. (See Allentown-Bethle- hem Gas Co., Catasauqua Dist., Pa.)	
Lehigh Power Securities Corp., Williamsport, Pa. (Parent) 519; (Appendix)	739
Le Mars (Iowa) Gas Co.	102
Lenawee County Gas & Elec. Co., Adrian, Mich.	147
Leominster (Mass.) Gas Light Co.	135
Le Ray Light Co., Le Raysville, Pa.	444
Lesh Refining Co., The, Arkansas City, Kan.	475
Lester Prairie (Minn.) Gas Plant, The	452
Lett Gas Co., Letts, Ind.	358
Lewes (Del.) Gas Co.	41
Lewisburg (Pa.) Gas Co.	272
Lewis Oil Co., Bartlesville, Okla.	464
Lewiston (Me.) Gas Light Co.	119
Lewisville (Ohio) Fuel & Supply Co.	388
Lexington (Mass.) Gas Co.	135
Lexington (Mo.) Gas & Electric Co. (See Mis- souri Gas & Elec. Service Co., Lexington, Mo.)	
Liberal (Kan.) Oil & Gas Co.	368
Liberty (Ind.) Gas Light & Fuel Co.	86
Liberty Oil Co., Ltd., New Orleans, La.	478
Light & Development Co. of St. Louis, St. Louis, Mo.	503
Light, Fuel & Pr. Co. of W. Va., Sutton, W. Va.	427
Light, Heat & Power Corp., The, Boston, Mass.	499
Light, Heat & Pr. Dept., Kingston, Ont., Can.	337
Lima (Ohio) Gas Light Co.	253
Lima (Ohio) Natural Gas Co.	388
Lincoln (Neb.) Gas & Electric Light Co.	185 & 630
Lincoln (Ill.) City of, Gas Co. (See Logan County Gas Co., Lincoln, Ill.)	
Lindsey (Ohio) Gas Co.	388
Linton (Ind.) Gas Co.	86
Lititz (Pa.) Manheim & Ephrata Gas Co.	273 & 777
Little Falls (Minn.) Darling Gas Co.	164
Little Giant Oil & Gas Co., Mexia, Texas	420
Little Rock (Ark.) Gas & Fuel Co.	351
Livingston (Ala.) Acetylene Gas Plant	434
Locke (N. Y.) Gas Plant	442

PAGE

Lock Haven (Pa.) Gas Co.	273
Lockport (N. Y.) Light, Heat & Power Co.	221 & 656
Logan County Gas Co., Lincoln, Ill.	68
Logan Natural Gas & Fuel Co., Lancaster, Ohio	388
Lohrville (Iowa) Municipal Gas Plant	450
London (Ont., Can.) City Gas Co.	337
Lone Star Gas Co., Ft. Worth, Texas	419
Long Beach (Cal.) Consol. Gas Co. (See South- ern Counties Gas Co., Long Beach, Cal.)	
Long Beach (N. Y.) Gas Co.	221
Long Island Gas Corp., Sag Harbor, N. Y.	234
Long Island Lighting Co., Babylon, N. Y.	208
Long Island Lighting Co., Bay Shore, N. Y.	209
Long Island Lighting Co., New York, N. Y.	509 & 641
Long Run Fuel Co., New Bethlehem, Pa.	410
Loogootee (Ind.) Light & Fuel Co.	87
Los Angeles (Cal.) Gas & Electric Corporation	13
(Natural) 352, (Appendix)	534
Los Angeles Public Utilities Board, Los An- geles, Cal.	522
Lost Creek (W. Va.) Oil & Gas Co.	425
Lota (Brazil, S. A.) Fabrica de Gas de	347
Loudensville Oil & Gas Co., Cameron, W. Va.	422
Louisiana Arkansas Oil & Development Co.	462
Louisiana Dept. of Conservation, New Orleans, La.	522
Louisiana Gas & Fuel Co., Shreveport, La.	374
Louisiana Gas Co., Shreveport, La.	374
Louisiana Oil Refining Corp., Gas Center, La.	478
Louisiana (Mo.) Light, Power & Traction Co.	176
Louisville Gas & El. Co. of Del. (Appendix)	591
Louisville (Ky.) Gas & Electric Co.	113 & 593
Louisville (Ky.) Gas & Electric Co. (Natural)	372
Lovell (Wyo.) Gas & Electric Co.	429
Lowell (Mass.) Gas Light Co.	135 & 618
Lubric Oil Co., Cleveland, O.	486
Lucky Tiger Oil & Gas Co., Oklahoma City, Okla.	466
Ludington (Mich.) Gas Co.	155
Ludlow (Pa.) Gas & Elec. Co.	409
Lumberport (W. Va.) Gas Co.	425
Lund Gas Co., Colegrove, Pa.	404
Luzerne County Gas & El. Co., Hazleton, Pa.	269
Luzerne County Gas & El. Co., Nanticoke, Pa.	275
Luzerne County Gas & Elec. Co., Kingston, Pa.	271
(Appendix)	722
Luzerne County Gas & El. Co., Plymouth, Pa.	276
Lynchburg (Va.) Traction & Light Co.	307
Lynn (Mass.) Gas & Electric Co.	136
Macksburg Gas Co., Macksburg, Ohio	388
Macomb (Ill.) Electric Lt. & Gas Co. (See Cen- tral Illinois Public Service Co., Macomb, Ill.)	
Macon (Mo.) Gas & Electric Light Co.	176
Macon (Ga.) Gas Co.	51
MacThwaite Oil & Gas Co., Ada, Okla.	394
Madera (Cal.) Gas Co.	14
Madison County Gas & Electric Co., Oneida, N. Y. (See Adirondack Elec. Power Corp.)	
Madison County Light & Pr. Co., Carlisle, Ill.	57
Madison (Wis.) Gas & Electric Co.	323 & 764
Madison (Ind.) Light & Fuel Co.	87
Magnolia Petroleum Co., Dallas, Tex.	488
Mahoning & Shenango Railway & Light Co., Youngstown, O.	256
Mahoning Gas & Oil Co., Mt. Jewett, Pa.	410
Maine Public Utilities Commission, Augusta, Me.	522
Malden (Mass.) and Melrose Gas Light Co.	136 & 612
Malone (N. Y.) Light & Power Co.	222
Maloney Oil & Mfg. Co., Scranton, Pa.	488
Malta (Ohio) and McConnellsville Gas Co.	389
Manchester (Md.) Lighting & Heating Co.	439
Manchester (Conn.) Gas Co.	38
Manhattan (Kan.) Gas Co.	111
Manila (Philippine Islands) Gas Corporation	344
Manila (Ind.) Natural Gas Co.	358
Manistee (Mich.) Light & Traction Co. (See Manistee Power & Light Co.)	
Manitoba Public Utilities Commission, Winnipeg	526
Manitou (Man., Can.) Gas Co.	447
Manitowoc (Wis.) Gas Co.	323
Mansfield Gas Co., Fort Smith, Ark.	350
Mansfield (La.) Gas Co.	374
Mansfield (Ohio) Gas Light Co.	389
Manufacturers Gas & Electric Light Co., The	
Cameron, W. Va.	422
Manufacturers Gas Co., Bradford, Pa.	413
Manufacturers Light & Heat Co., Pittsburgh, Pa. (Natural) 412, (Parent) 518, (Appendix)	731
Mfrs. Light & Heat Co. (Oil Dept.), Pittsburgh, Pa.	109

	PAGE		PAGE
Manufacturers Natural Gas Co., The, of Armstrong County, Kittanning, Pa.....	408	Meter Gas Co., Oil City, Pa.....	411
Manufacturers Natural Gas Co., Ltd., Hamilton, Ont., Can.....	430	Metropolitan Gas & Electric Co., Chicago.....	496
Mapleton (Iowa) Gas Co.....	102	Metuchen (N. J.) Gas Light Co.....	199
Maquoketa (Iowa) Light & Heat Co.....	102	Mexia (Texas) Oil & Gas Co.....	420
Maranhao Obras Publicas Co., Maranhham, Brazil, South America.....	346	Mexican National Gas Co., Mexico, Federal District, Mexico.....	343
Marathon (Iowa) Gas Plant.....	450	Mexico (Mo.) Power Co.....	177
Marengo (Iowa) Gas Co.....	102	Miami County Gas Co., Osawatimie, Kan.....	369
Margaretville (N. Y.) Gas Light Co.....	454	Miami (Fla.) Gas Co.....	45
Marietta & Elizabethtown (Pa.) Gas Co.....	268	Maimi Valley Gas & Fuel Co., Columbus, Ohio..	385
Maria Stein (Ohio) Home Gas & Oil Co.....	389	Michigan City Gas & Electric Co. (See Northern Indiana Gas & Electric Co.)	
Marion (Ohio) Gas Co.....	389	Michigan Gas & Elec. Co., Chicago, Ill.....	496 & 577
Markleville (Ind.) Citizens Gas & Oil Co.....	358	Michigan Gas & Elec. Co., Hancock, Mich.....	152
Markleville (Ind.) Natural Gas Co.....	358	Michigan Gas & Elec. Co., Negaunee, Mich.....	157
Marland Refining Co., Ponca City, O.....	400	Michigan Gas & Elec. Co., Three Rivers, Mich.....	161
Marlboro-Hudson Gas Co., Marlboro, Mass.....	136 & 613	Michigan Light Co., Jackson, Mich.....	154
Marlton (N. J.) Light, Heat & Power Co.....	441	(Parent) 502; (Appendix) 660	
Marquette County Gas & Electric Co. (See Michigan Gas & Electric Co.)		Michigan R. R. Commission, Lansing, Mich.....	524
Marquette (Mich.) Gas Light Co.....	155 & 618	Mid-Co. Gasoline Co., Tulsa, Okla.....	484
Marshall (Mich.) Gas Light Co.....	155	Middleboro (Mass.) Gas & Electric Plant.....	137
Marshall (Texas) Gas Co.....	420	Middletown (Ind.) Gas Co.....	358
Marshall (Mo.) Heat, Light & Power Co. (See Missouri Gas & Electric Service Co.)		Middletown (Conn.) Gas Light Co.....	35
Marshalltown (Iowa) Light, Power & Railway Co. (See Iowa Railway & Light Co.)		Middle West Refining Co., Columbus, O.....	480
Mart (Texas) Gas Co.....	420	Middle West Utilities Co., Chicago.....	496 & 566
Martinsburg and Charles Town (W. Va.) Gas & Water Co.....	520	Midland Counties Public Serv. Corp., San Luis Obispo, Cal.....	(Artif.) 23; (Appendix) 535
Martinsburg (W. Va.) Gas Co.....	316	Midland Gas Co., Kane, Pa.....	407
Martinsville (Ind.) Gas & Electric Co.....	87	Midland Oil & Gas Co., Bartlesville, Okla.....	464
Martin, W. A., and Associates, La Porte, Ind.....	498	Midland Oil Co., Bartlesville, Okla.....	464
Maryland Public Service Com'n, Baltimore, Md.	523	Midland Oil Co., Fellows, Cal.....	456
Maryland Securities Co. (See Consolidated Gas, Electric Light & Power Co.)		Midway Gas Co., Los Angeles, Cal.....	352
Maryland Steel Co., Sparrows Point, Md. (See Bethlehem Steel Co.)		Midway Gas Co., Kearney, Neb.....	184
Mascot Oil Co., Taft, Cal.....	460	Midway Peerless Oil Co., Los Angeles, Cal.....	457
Masontown (Pa.) Gas Co.....	409	Midwest Oil Co., Denver, Col.....	460
Massachusetts Gas & Electric Light Commissioners, Boston, Mass.....	523	Midwest Refining Co., The Greybull, Wyo.....	490
Massachusetts Gas Companies, The, Boston, Mass.....	(Parent) 500 (Appendix) 604	Mileage Gasoline Co., Tulsa, Okla.....	484
Massachusetts Lighting Companies, Boston, Mass.....	(Parent) 500, (Appendix) 607	Miles Grove Gas Co., Ltd., North Girard, Pa.....	410
Mass-Okla Oil Co., Tulsa, Okla.....	467	Millford (Pa.) Gas Co.....	445
Massey (Ont., Can.) Light, Heat & Power Co.....	448	Millford (Mass.) Gas Light Co.....	137
Mattoon (Ill.) Gas Light & Coke Co.....	69	Milbrook (N. Y.) Gas & Electric Co.....	442
Mauch Chunk (Pa.) Gas Co.....	274	Miller Petroleum Refining Co., Humboldt, Kan.....	476
Maulter Bros. & Co., The, Woodville, Ohio.....	394	Millers, A. D., Sons Co., Pittsburgh, Pa.....	487
Maurice River Gas Co., Leesburg, N. J. (See Cumberland County Gas Co.)		Milliken Co., St. Louis, Mo.....	479
Maxwell Gas Co., Greenfield, Ind.....	356	Mill Fork Oil & Gas Co., Rosedale, W. Va.....	427
Maysville (Ky.) Gas Co.....	373	Millinocket (Me.) Light Co.....	438
Maysville (Ky.) Public Service Co.....	498	Millport Gas Co., Millport, Pa.....	409
McAlester (Okla.) Gas & Coke Co.....	398 & 711	Millville (N. J.) Gas Light Co. (See Cumberland County Gas Co.)	
McClain & Sons, Dr., Jeromeville, Ohio.....	387	Milton (Pa.) Gas Co. (See Northern Central Gas Co.)	
McCoy Natural Gas Co., Oil City, Pa.....	411	Milton (Wis.) Acetylene Gas Plant.....	446
McDade Gas Co., Kane, Pa.....	407	Milwaukee (Wis.) Coke & Gas Co.....	324
McDonald Gas Office, Joseph, Taft, Cal.....	353	Milwaukee (Wis.) Gas Light Co.....	324 & 764
McDonough Oil & Gas Co., Fort Smith, Ark.....	350	Mineral City (Ohio) Gas Co.....	390
McFarland, John, Hannibal, N. Y.....	442	Minneapolis (Minn.) Gas Light Co.....	165 & 619
McKeesport (Pa.) Gas Improvement Co. (See Allegheny By-Product Coke Co.)		Minnehaha Oil Co., Menasha, Wis.....	471
McMurray Bros., McMurray, Pa.....	409	Minnesota Gas & El. Co., Albert Lea, Minn.....	161
Mechanicsburg (Pa.) Gas & Water Co.....	274	Minnesota Steel Co., Duluth, Minn.....	163
Mechanicsburg (Ohio) Gas Light Co.....	253	Minnesota By-Product Coke Co., St. Paul, Minn.....	167
Medford (N. J.) Gas Co.....	198	Minot Gas Co., Minot, N. D. (See Peoples Gas Co.)	
Mediapolis (Iowa) Municipal Gas Plant.....	451	Mississippi Valley Gas & El. Co., Chicago, Ill.....	569
Medicine Hat (Alberta, Can.) Gas Dept., City of.	429	Missoula (Mont.) Gas Co.....	182
Medina Natural Gas Co., Ltd., Aylmer, Can.....	430	Missouri Gas & El. Service Co., Lexington, Mo. (Parent) 503; (Artificial) 175; (Appendix) 625	
Medina (Ohio) Gas & Fuel Co.....	389	Missouri Gas & El. Service Co., Marshall.....	176
Medina (N. Y.) Gas Co.....	222	Missouri Public Service Commission, Jefferson City, Mo.....	524
Memphis (Tenn.) Gas & Electric Co.....	296	Missouri Pub. Utilities Co., Cape Girardeau, Mo.....	173
Mendota (Ill.) Gas Co. (See Illinois Northern Utilities Co.)		Mitchell (S. D.) Power Co.....	292
Mendoza, Compania de Gas de, Mendoza, Argentina, South America.....	345	Moberly (Mo.) Light & Power Co.....	177
Menominee (Mich.) and Marinette (Wis.) Light & Traction Co.....	156 & 618	Mobile (Ala.) Gas Co.....	4 & 532
Menomonie (Wis.) Gas Co.....	324	Modern Refining Co., Blackwell, Okla.....	482
Mercer County Gas Co., Greenville, Pa.....	406	Modesto (Cal.) Gas Co.....	-15
Mercer (Pa.) Gas Light & Fuel Co.....	409	Modoc (Ind.) Natural Gas & Oil Co.....	359
Mercantile Crude Oil Co., Coalinga, Cal.....	456	Mohawk Gas Co., Schenectady, N. Y.....	236
Merchants Gas Co., South Otselic, N. Y.....	454	Monarch Gas Co., Huntington, W. Va. (See Sovereign Gas Co.)	
Meriden (Conn.) Gas Light Co., The.....	35	Monarch Gas Co., Winchester, Ind.....	362
Meridian (Miss.) Light & Railway Co.....	171	Moncton (N. B. Can.) Tramways, Electricity & Gas Co., Ltd.....	429
Merion & Radnor Gas & Electric Co., Ardmore, Pa. (See Counties Gas & Electric Co.)		Monmouth (Ill.) Public Service Co.....	70

COMPANY INDEX

915

	PAGE
Montana Petroleum Co., Baker, Mont.....	376
Montana Power Co., Butte, Mont.....	181 & 628
Montana Railroad & Public Service Commission- ers, Helena, Mont.....	524
Montebello Oil Co., Fillmore, Cal.....	457
Monterey County Gas & El. Co., Monterey, Cal. (See Coast Valleys Gas & Electric Co.)	
Monterey Railway, Light & Power Co., Mon- terey, Nuevo Leon, Mexico.....	343
Montevideo Gas Co., Montevideo, Uruguay, S. A.	347
Montezuma Oil & Gas Co., Clarksburg, W. Va....	423
Montgomery County Gas Co. (See Counties Gas & Electric Co.)	
Montgomery Gas Co., Shrewsbury, W. Va.....	427
Montgomery (Ala.) Light & Water Power Co..	4
Monticello (Ky.) Gas Co., Inc.....	373
Montreal (Que., Can.) Light, Heat & Power Co., and (Appendix)	341 775
Moore & Blanton Gas Co., Hortonville, Ind....	357
Moore Oil Co., Cincinnati, Ohio.....	480
Moosomin (Man., Can.) Gas Co., Ltd.....	447
Morehouse Oil & Development Co., Inc., Bastrop, La.....	374
Moran Oil & Gas Co., Baird, Tex.....	469
Morgan Oil & Refining Co., Rollins, Kan.....	477
Morris (Man., Can.) Gas Plant.....	447
Morris (N. Y.) Gas Co.....	454
Morrison (Ill.) Gas & Electric Co. (See Illinois Northern Utilities Co.)	
Morristown (N. J.) Gas Light Co. (See Pub- lic Service Gas Co., Newark, N. J.)	
Moscow (Pa.) Gas Co.....	445
Moss, W. E. & Co., Detroit, Mich.....	501
Mound City (Kan.) Brick & Gas Co.....	368
Mound Valley (Kan.) Natural Gas & Oil Co....	368
Mountain Gas Co., Kane, Pa.....	407
Mountain Gas Co., Roulette, Pa.....	415
Mt. Carmel (Ill.) Public Utility & Service Co..	71
Mt. Carmel (Pa.) Gas Light Co.....	274
Mt. Clemens (Mich.) Gas Light Co.....	156
Mt. Diablo Oil, Mining & Developing Co., Los Angeles, Cal.....	457
Mt. Jewett Gas Co., Kushhequa, Pa.....	408
Mt. Pleasant (Iowa) Gas Light Co.....	103
Muddy Fork Gas Co., Greenburg, Ind.....	356
Mullendore Gas Co., Stillwater, Okla.....	401
Muncie (Ind.) Heat, Light & Power Co. (See Central Indiana Gas Co.)	
Municipal Gas Co., Albany, N. Y.....	206 & 641
Municipal Gas Plants:	
Alexandria (Va.) Gas Works.....	306
Ashton (Ill.) Gas Plant.....	449
Augusta (Kan.) Gas Works.....	363
Bahia (Brazil) Tramway, Light & Power Co.	345
Bancroft (Ia.) Gas Co.....	449
Bathgate (N. Y.) Acetylene Co.....	444
Battle Creek (Ia.) Gas Plant.....	449
Baxter (Ill.) Lighting Plant.....	449
Beach Haven (N. J.) Gas Works.....	441
Belleville (Can.) Gas Dept.....	334
Birtle (Man., Can.) Gas Plant.....	446
Bow Island (Canada) Gas Plant.....	429
Bowman (S. C.) Acetylene Plant.....	445
Brandon (Wis.) Gas Plant.....	455
Bricelyn (Ia.) Gas Plant.....	452
Brighton (Ia.) Gas Plant.....	449
Brockville (Can.) Pub. Utilities Commission..	334
Brooklyn (Ia.) Gas Plant.....	449
Broussard (La.) Municipal Plant.....	438
Cambria (Wis.) Gas Co.....	455
Cartersville (Ga.) Gas Works.....	50
Casey (Ia.) Gas Plant.....	449
Chanute (Kan.) Gas Plant.....	364
Charlottesville (Va.) Gas Works.....	306
Clarence (Ia.) Gas Plant.....	450
Crystal City (N. D.) Lighting Plant.....	444
Currie (Ia.) Gas Plant.....	452
Dalton (Ga.) Water, Light & Sinking Fund Commission.....	50
Darlington (Ind.) Gas Plant.....	436
Danville (Va.) Gas Dept.....	307
Deseronto (Can.) Gas Works.....	335
Dell Rapids (S. D.) City Gas & Water Works	292
De Smet (S. D.) Gas Plant.....	454
Dexter (Ia.) Gas Works.....	98
Dover (Minn.) Acetylene Gas Plant.....	439
Dryden (N. Y.) Acetylene Gas Plant.....	442
Duluth (Minn.) Water & Light Dept.....	163
Durant (Ia.) Gas Plant.....	450
Escanaba (Mich.) Municipal Lighting Plants	151
Farley (Ia.) Gas Works.....	450

	PAGE
Fox Lake (S. D.) Gas Plant.....	455
Fredericksburg (Va.) City Gas Works.....	307
Gordon (Pa.) Borough Gas Plant.....	444
Graettinger (Ia.) Acetylene Gas Plant.....	438
Guelph (Ont., Can.) Light & Heat Commis..	336
Hamilton (Ohio) City Gas Works.....	387
Hartington (Neb.) Gas Plant.....	452
Hawthorn (Fla.) Acetylene Gas Plant.....	434
Hilbert (Wis.) Gas Plant.....	455
Holyoke (Mass.) Gas & Electric Dept.....	134
Houston (Ia.) Gas Plant.....	452
Huntington Beach (Cal.) Municipal Gas Dept..	352
Iola (Kan.) Dept. Pub. Utilities Gas Dept...	367
Jasper (Minn.) Gas Plant.....	164
Kingston (Can.) Light, Heat, Power & Water Dept.....	337
Kitchener (Can.) Light Commissioners.....	337
Lancaster (Ohio) Natural Gas Works.....	388
Lawrence (Mich.) Gas Works.....	452
Lester Prairie (Minn.) Gas Plant.....	452
Lohrville (Ia.) Gas Plant.....	450
Marathon (Ia.) Gas Plant.....	450
Mediapolis (Ia.) Municipal Plant.....	451
Medicine Hat (Can.) Gas Dept.....	429
Middleboro (Mass.) Gas & El. Plant.....	137
Monroe (Ia.) Gas Plant.....	451
Morris (Can.) Gas Plant.....	447
Nelson (B. C.) Corp. Gas Dept.....	331
Neodesha (Kan.) Gas Plant.....	368
Newell (Ia.) Gas Plant.....	451
Newport Beach (Cal.) Gas Plant.....	352
New Washington (Ohio) Home Gas Co.....	444
Norwich (Conn.) Gas & Elec. Dept.....	37
Norwood (Minn.) Acetylene Gas Plant.....	439
Oakland (Neb.) Gas Plant.....	453
Ochelata (Okla.) Water & Gas Dept.....	399
Owen Sound (Can.) Public Utilities Com....	339
Palo Alto (Cal.) Gas Plant.....	19
Parker (S. D.) Gas Co.....	455
Paulsboro (N. J.) Municipal Gas Plant.....	202
Pleasantville (Ia.) Gas Plant.....	451
Renville (Minn.) Gas Plant.....	166
Richmond (Va.) City Gas Works.....	309
Ripley (Ohio) Gas & Elec. Works.....	254
Rosedale (Ind.) Gas Co.....	437
Ryan (Ia.) Gas Works.....	451
Sacoca de Iluminacao a Gaz, Pelotas, Brazil	345
St. Bonifacius (Minn.) Gas Co.....	440
St. Catharines (Ont., Can.) Public Utilities Commission.....	432
St. Michael (Minn.) Acetylene Gas Plant....	440
St. Petersburg (Fla.) Gas Works.....	46
St. Thomas (Can.) Light, Heat & Power Dept..	339
Santa Clara (Cal.) Gas Works.....	25
Scottsville (Va.) Acetylene Plant.....	446
Shabonna (Ill.) Gas Plant.....	449
Shannon (Ga.) Gas Plant.....	435
Sherbrooke (Can.) Gas & Electric Dept.....	342
Sorel (Can.) Gas Dept. Corp.....	342
Spencerport (N. Y.) Gas Plant.....	443
Syracuse (Neb.) Heat & Light Plant.....	453
Tallahassee (Fla.) Bd. of Pub. Works.....	47
Talladega (Ala.) Light & Water Com.....	5
Taneytown (Md.) Gas Plant.....	439
Viriden (Man., Can.) Town Plant.....	447
Virginia (Minn.) Water & Light Dept.....	168
Wakefield (Mass.) Municipal Light Plant....	144
Waterloo (Ont., Can.) Water & Light Commis- sion.....	341
Westfield (Mass.) Gas & El. Light Works...	145
West Minneapolis (Minn.) Gas Works.....	169
Williamsburg (Ia.) Gas Plant.....	452
Municipal Gas Plant, Paulsboro, N. J.....	202
Municipal Light & Power Co., So. Portland, Me.	120
Murphysboro (Ill.) Water Works, Electric & Gas Light Co.....	72
Muscatine (Iowa) Lighting Co.....	104
Muskegon (Mich.) Traction & Lighting Co....	157
Muskegon Hts. Gas Co., Muskegon Hts., Mich..	157
Muskogee (Okla.) Gas & Electric Co.....	399 & 712
Muskogee Refining Co., Muskogee, Okla.....	483
Mussellman Oil & Gas Co., Muskogee, Okla....	399
Mutual Fuel Gas Co. (See Peoples Gas Light & Coke Co.)	
Mutual Gas Co. of Marianna, Pa., Zollarsville, Pa.....	418
Mutual Gas Co., St. John, Mich.....	159
Mutual Light & Water Co., Brunswick, Ga....	49
Mutual Oil Co., Kansas City, Mo.....	479
Mutual Refining Co., Warren, Pa.....	488
Myers, L. E., Co., The, Chicago.....	496

	PAGE		PAGE
Myerstown (Pa.) Gas & Fuel Co.....	275	Newport Beach (Cal.) Gas Plant.....	352
Mystic Power Co., The, Westerly, R. I.....	287	Newport (R. I.) Gas Light Co.....	286
Nanaimo (B. C., Can.) Gas Co., Ltd.....	331	Newport (Neb.) Heat & Light Co.....	441
Napa Valley Electric Co., St. Helena, Cal.....	21	Newport News (Va.) and Hampton (Va.) Ry., Gas & Electric Co.....	307 & 749
Napanee (Ont., Can.) Gas Co. (See Hydro-Elec- tric Power Commission.)		New Ross (Ind.) Light Co.....	487
Naphthiol Manufacturing Co., Oklahoma City, Okla.....	483	Newton (Iowa), City of, Gas & Electric Plant..	104
Nashua (N. H.) Light, Heat & Power Co.....	190	Newton (Kan.) Gas & Fuel Co.....	368
Nashville (Tenn.) Gas & Heating Co.....	296 & 741	Newton (N. J.) Electric & Gas Co.....	201 & 777
Nassau & Suffolk Ltg. Co., Freeport, N. Y.....	215 & 647	Newton (Mass.) & Watertown Gas Light Co....	139
Natick (Mass.) Gas Light Co.....	138	(Appendix)	605
National Enameling & Stamping Co. (See St. Louis Coke & Chemical Co.)		Newtown (N. Y.) Gas Co.....	224
National Fuel Gas Co., N. Y. City.....	509	New Ulm (Minn.) Gas Co.....	165
National Gas Co., Ltd., Hamilton, Ont., Can....	430	New Westminster (B. C., Can.) Gas Co.....	331
National Gas Co., Ltd., Ottawa, Ont., Can....	431	New Wilmington (Pa.) Gas Co.....	419
National Gas, Electric Light & Power Co., De- troit, Mich. (See United National Utilities Co., Philadelphia.)		New York & Queens Gas Co., Flushing, N. Y....	215
National Lt. Heat & Pr. Co., New York (Parent)	509	(Appendix)	647
National Oil & Gas Co., Marietta, Ohio.....	389	New York & Richmond Gas Co., Stapleton, S. I., N. Y.....	237 & 688
National Refining Co., Coffeyville, Kan.....	476	New York Central Gas Co., Buffalo, N. Y.....	378
National Union Oil & Gas Co., Blackwell, Okla.	465	New York Mutual Gas Light Co., N. Y. City.....	226 & 676
National Tube Co., Wheeling, W. Va.....	317	New York Public Service Comm., 1st Dist.....	524
National Utilities Co., New York, N. Y.....	509 & 777	New York Public Service Comm., 2d Dist.....	524
Natrona Pipe Line & Refining Co., Casper, Wyo.	490	New York State Nat. Gas Corp., Pavilion, N. Y.	381
Natural Gas Co. of W. Va., Wheeling, W. Va....	428	Niagara Coke Corp., Lackawanna, N. Y.....	221
Natural Gas Supply Co., Little Rock, Ark.....	350	Niagara Falls (N. Y.) Gas & Elec. Light Co....	226
Nazareth (Pa.) Illuminating Gas Co. (See Interurban Gas Co., Nazareth, Pa.)		Niagara Light, Heat & Power Co., Tonawanda, N. Y. (Artificial).....	238
Nebraska City (Neb.) Utilities Co.....	185	Nichols (N. Y.) Gas Co.....	443
Nebraska Lighting Co., Plattsmouth, Neb.....	186	Niles (Mich.) Gas Light Co.....	158
Nebraska Power Co., Omaha, Neb.....	503 & 630	Niles Lease Co., Los Angeles, Cal.....	498
Nebraska State Ry. Commission, Lincoln, Neb..	524	Noble Fuel Supply Co., Summerfield, O.....	392
Needles (Cal.) Gas & Electric Co.....	16	Noble Refining Co., Cleveland, O.....	480
Nehawka (Neb.) Acetylene Gas Plant.....	441	Noblesville (Ind.) Gas & Improvement Co. (See Indiana Gas Light Co.)	
Nelson (B. C., Can.) City Gas Dept.....	331	Norfolk (Va.) City Gas Co.....	308
Neodesha (Kan.) Gas Plant.....	368	Norfolk (Neb.) Light & Fuel Co.....	185
Nevada County Oil Co., Nevada City, Cal.....	458	North Adams (Mass.) Gas Light Co.....	139
Nevada Gas Co., Tonopah, Nev.....	188	North American Co., The, New York City.....	509 & 676
Nevada Petroleum Co., San Francisco, Cal.....	459	North American Lt. & Pr. Co., Chicago.....	496 & 569
Nevada Public Service Commission, Carson City	524	North American Oil & Gas Co., The, Newark, O.	390
New Albany (Pa.) Light & Heat Co.....	445	North American Oil & Refining Corp., Oklahoma City, Okla.....	483 & 514
New Amsterdam Gas Co., New York City.....	225 & 675	North American Refining Co. of Missouri, Kan- sas City, Mo.....	479
Newark (N. J.) Consolidated Gas Co. (See Public Service Gas Co., Newark, N. J.)		North American Refining Co., Rosedale, Kan..	477
Newark (Ohio) Consumers Gas Co., The.....	390	Northampton (Mass.) Gas Light Co.....	140
Newark (Ohio) Natural Gas & Fuel Co.....	390	North Attleboro (Mass.) Gas Light Co.....	140
New Bedford (Mass.) Gas & Edison Light Co..	138	North Boston Lighting Properties, Boston....	606
New Bern (N. C.) Gas & Fuel Co.....	244	North Buffalo Natl. Gas Fuel Co., Buffalo, N. Y.	378
New Bremen & Minster (Ohio) Gas Co.....	390	North Carolina Corporation Com., Raleigh....	525
New Britain (Conn.) Gas Light Co.....	35	North Carolina Gas Co. of Elizabeth City, Eliza- beth City, N. C. (See Southern Gas Im- provement Co.)	
New Brunswick (N. J.) Lt., Ht. & Power Co. (See Public Service Gas Co., Appendix.)		North Carolina Public Service Co., Greensboro, N. C. (Artif.) 243; (Parent) 513; (Appendix)	695
New Brunswick Commissioners of Public Utili- ties, St. John, N. B.....	526	North Carolina Pub. Serv. Co., High Point, N. C.	244
New Brunswick Power Co., St. John, N. B., Can.	333 & 767	North Collins (N. Y.) Fuel & Supply Co.....	380
Newburyport (Mass.) Gas & Electric Co.....	139	Northeastern Oil & Gas Co., Conneaut, Ohio....	385
Newell (Ia.) Gas Plant.....	451	Northern Alabama Gas Co., Florence, Ala.....	3
New Charlotte Gas Co., Charlotte, Mich.....	150	Northern Alberta Natural Gas Development Co., Edmonton, Can.....	429
New Citizens Natural Gas Co., Cowan, Ind.....	355	Northern California Power Co., Cons., Red Bluff and Redding, Cal.....	20
New Cumberland (W. Va.) Water & Gas Co....	426	Northern California Power Co., Cons., San Francisco..... (Parent) 492; (Appendix)	544
Newell (Iowa) Gas Plant.....	451	Northern California Power Co., Cons., Willows, Cal.....	28
New England Fuel & Transportation Co., Boston, Mass.....	129 & 605	Northern Central Gas Co., Milton, Pa.....	274
New Era Gas Co., Milroy, Ind.....	359	Northern Central Gas Co., Williamsport, Pa....	285
New Freeport (Pa.) Natural Gas Co.....	410	Northern Colorado Power Co., Boulder, Colo. (See Western Light & Power Co.)	
New Gas Light Co., Janesville, Wis.....	322 & 763	Northern Connecticut Light & Power Co., Wind- sor Locks, Conn.....	40
New Hampshire Public Service Commission....	524	Northern Idaho & Montana Power Co. (See H. M. Byllesby & Co.)	
New Hartford (Conn.) Gas Plant.....	36	Northern Indiana Gas & Electric Co., Hammond, Ind... (Artif.) 83; (Parent) 498; (Appendix)	581
New Haven (Conn.) Gas Light Co.....	36	Northern Iowa Gas & El. Co., Eagle Grove.....	98 & 587
New Jersey Consd. Gas Co., Philadelphia, Pa....	516	Northern Liberties Gas Co., Philadelphia, Pa....	278
New Jersey Gas & Electric Co., Dover, N. J.....	194 & 777	Northern Natural Gas Co., Oakland, Md.....	375
New Jersey Gas Co., Glassboro, N. J.....	195	Northern New York Utilities, Inc., Watertown, N. Y.....	239 & 600
New Jersey Gas Co., Philadelphia.....	728	Northern Ohio Fuel Co., Kansas, Ohio.....	387
New Jersey Northern Gas Co., Flemington, N. J.	195	Northern Oil & Gas Co., Blackwell, Okla.....	395
New Jersey Northern Gas Co., Lambertville. (See report under Flemington, N. J.)		Northern Pipe Line Co., Niagara Falls, Ont....	431
New Jersey Public Utility Commissioners.....	524	Northern States Power Co., Faribault, Minn....	164
New Knoxville (Ohio) Gas Co.....	390	Northern States Power Co., Mankato, Minn....	165
New London (Conn.) Gas & Electric Co. (See Connecticut Power Co.)		Northern States Power Co., Stillwater, Minn....	168
Newlove Oil Co., Los Angeles, Cal.....	457	Northern States Power Co., Minneapolis, Minn. (Parent) 502; (Appendix)	619
New Market (Ind.) Light Co.....	437		
New Mexico State Corp. Commission.....	524		
New Orleans (La.) Gas Light Co.....	116		
New Orleans (La.) Railway & Light Co.....	595		
New Parrville Consd. Gas Co., Leighton, Pa....	272		
New Penna. Petroleum Co., Orcutt, Cal.....	458		

COMPANY INDEX

917

	PAGE		PAGE
Northern States Power Co. of Delaware, Minn.	620	Olathe (Kan.) Gas Co.	368
Northern Union Gas Co., New York City	226 & 644	Old Colony Gas Co., Braintree, Mass.	130
Northern Utilities Co., Duluth, Minn.	163	(Appendix)	611
(Parent)	502	Ole Oil & Gas Co., Oklahoma City, Okla.	466
Northern Westchester Lighting Co., Ossining, N. Y.	229 & 685	Oliver Gas & Fuel Co., Tonawanda, N. Y.	382
North Lima (Ohio) Gas Co.	391	Olympia (Wash.) Gas Co.	313
North Mercer Natural Gas Co., Ft. Recovery, O.	387	Omaha (Neb.) Electric Light & Power Co. (See Nebraska Power Co.)	
North Pacific Public Service Co., Tacoma, Wash.	519	Omaha (Neb.) Gas Co.	186
North Pacific Pub. Serv. Co., Aberdeen, Wash.	311	Oneida Gas Co., Rhineland, Wis.	326
North Pacific Pub. Serv. Co., Centralia, Wash.	312	Oneta Refining Co., Oneta, Okla.	483
North Platte (Neb.) Light & Power Co.	186	Oncoota (N. Y.) Light & Power Co.	228
North Pool Oil Co., Oklahoma City, Okla.	466	Ontario Gas Co., Honeoye Falls, N. Y.	380
North Shore Gas Co., Waukegan, Ill.	78 & 570	Ontario Pipe Line Co., Ltd., Hamilton, Ont., Can. (See United Gas & Fuel Co., Ltd.)	
North Side Gas Co., Morristown, Ind.	359	Ontario Railway & Municipal Board, Toronto, Canada	526
North Texas Gas Co., Denison, Tex.	419	Ontario-Upland Gas Co., Ontario, Cal.	18
Northumberland County Gas & Electric Co., Sunbury, Pa.	283 & 737	Orange Co. Public Service Corp., Middletown, N. Y.	223
Northwestern Gas Light & Coke Co., Evanston, Ill. (See Public Service Co. of No. Ill.)	277	Orchard Park (N. Y.) Gas & Oil Co.	381
Northwestern Iron Co., Mayville, Wis.	323	Ord City (Neb.) Gas Works	186
Northwestern Ohio Natural Gas Co., Toledo, Ohio	392	Oregon Gas & Electric Co., Ashland, Ore.	257
Northwestern Oil Refining Co., Cowley, Wyo.	490	Oregon Gas & Electric Co., Grant's Pass, Ore.	258
Norwich (N. Y.) Gas & Electric Co.	227	Oregon Gas & Electric Co., Medford, Ore.	259
Norwich (Conn.) Gas & Electric Dept., City of	37	Oregon Gas & Electric Co., Roseburg, Ore.	260
Norwich (Pa.) Oil & Gas Co.	410	Oregon Gas & Electric Co., San Francisco, Cal.	492
Norwood (Mass.) Gas Co.	140	Oregon Power Co. (Coos Bay Division), Marshfield, Ore.	259
Norwood Gas Co., Clarksburg, W. Va.	423	Oregon Power Co., Springfield, Ore.	261
Nova Scotia Commissioners of Public Utilities, Halifax	526	Oregon Public Service Commission	525
Nova Scotia Tramways & Power Co., Ltd., Halifax, N. S., Can.	333 & 769	Orlando (Fla.) Water & Light Co.	45
Nowata County Gas Co., Nowata, Okla.	399	Oro Electric Corporation. (See Pacific Gas & Electric Co.)	
Oakdale (Cal.) Gas Co.	17	Oronogo (Mo.) Gas Co.	376
Oak Harbor (Ohio) Natural Gas Co.	391	Osage & Oklahoma Co., Tulsa, Okla.	402
Oakland City (Ind.) Light, Fuel & Power Co.	360	Osage Gasoline Co., Ochelata, Okla.	483
Oakland (Neb.) Gas Plant	453	Osage Natural Gas Co., Caney, Kan.	364
Oaklandon (Ind.) Gas & Oil Co.	360	Osage Producers Gas Co., Bartlesville, Okla.	394
Oaktown (Ind.) Gas Co.	437	Osceola (Iowa) Light, Heat & Power Co. (See Southern Iowa Electric Co.)	
Oakville (Ohio) Gas & Electric Co.	391	Oshkosh (Wis.) Gas Light Co.	325
Oakville (Ill.) Gas Co.	354	Oskaloosa (Iowa) Light & Fuel Co.	105
Ocala (Fla.) Gas Co.	45	Otego (N. Y.) Lighting Co.	454
Occidental Oil & Gas Co., Byron, Wyo.	428	Otero Gas Co., La Junta, Colo.	31
Ocean City (N. J.) Gas Light Co.	202	Ottawa (Kan.) Gas & Electric Co., The	369
Ocean County Gas Co., Toms River, N. J.	204	Ottawa (Ont., Can.) Gas Co.	338
Ochelata (Okla.) Water & Gas Dept.	399	Ottawa (Ont., Can.) Light, Heat & Power Co., Ltd. (Parent) 521; (Appendix)	771
Odebolt (Iowa) Lighting Co.	451	Otto Coking Co., Inc., N. Y. City	510
Oelwein (Iowa) Gas & Power Co.	105	Ottumwa (Iowa) Gas Co.	105
Ogden Gas Co., Chicago. (See Peoples Gas Light & Coke Co.)		Ouachita Natural Gas & Oil Co., Monroe, La.	374
Ogden (Ind.) Natural Gas Co.	360	Owen Sound (Ont., Can.) Gas Dept.	339
Ogdensburg (N. Y.) Gas Co.	227	Owensboro (Ky.) Gas Light Co. (See Kentucky Public Service Co.)	
Ohio & Western Utilities Co., N. Y. City	510 & 697	Owosso (Mich.) Gas Light Co.	158
Ohio Cities Gas Co., Columbus, O.		Ozark Refining Co., Fort Smith, Ark.	472
(Oil) 464; (Parent) 514; (Appendix)	703	Oxford Oil & Gas Co., Ltd., Oxford, Ont., Can.	432
Ohio Cities Gas Co., Ardmore, Okla.	481		
Ohio Cities Gas Co., Cabin Creek Junction, W. Va.	489	Pacific Gas & Electric Co., Alameda County Dist., Oakland, Cal.	17
Ohio Cities Gas Co., Cushing, Okla.	466	Pacific Gas & Electric Co., Chico Dist.	9
Ohio Cities Gas Co., (Illinois Div.)	460	Pacific Gas & Electric Co., Colusa Dist.	10
Ohio Cities Gas Co. (Marcus Hook), Philadelphia, Pa.	487	Pacific Gas & Electric Co., Fresno Dist.	12
Ohio Cities Gas Co. (W. Va. Division)	470	Pacific Gas & Electric Co., Grass Valley Dist.	12
Ohio Fuel Supply Co., Pittsburgh, Pa.		Pacific Gas & Electric Co., Los Gatos Dist.	14
(Natural) 413; (Parent)	518	Pacific Gas & Electric Co., Marysville Dist.	15
Ohio Gas Light & Coke Co., Napoleon, Ohio.		Pacific Gas & Electric Co., Napa Dist.	16
(Artificial) 253; (Parent) 514; (Appendix)	707	Pacific Gas & Electric Co., Nevada City Dist.	17
Ohio Public Utilities Commission	525	Pacific Gas & Electric Co., Oroville Dist., Cal.	18
Ohio Utilities Co., New York, N. Y.	510 & 677	Pacific Gas & Electric Co., Petaluma Dist.	19
Ohio Valley Refining Co., St. Marys, W. Va.	490	Pacific Gas & Electric Co., Phoenix, Ariz.	7
Oil Products & Chemical Co., New York, N. Y.	479	Pacific Gas & Electric Co., Redwood Dist.	20
Oil Springs (Ont., Can.) Oil & Gas Co., Ltd.	431	Pacific Gas & Electric Co., Sacramento Dist.	21
Oil State Refining Co., Enid, Okla.	482	Pacific Gas & Electric Co., San Francisco, Cal. (Artificial) 23; (Parent) 493; (Appendix)	547
Ojai Valley Petroleum Co., Los Angeles, Cal.	458	Pacific Gas & Electric Co., San Jose Dist.	23
Oklahoma Corporation Commission, Oklahoma City, Okla.	525	Pacific Gas & Electric Co., Marin Dist., San Rafael	24
Oklahoma Gas & El. Co., El Reno, Okla.	396	Pacific Gas & Electric Co., Santa Rosa Dist.	26
Oklahoma Gas & El. Co., Enid, Okla.	397 & 711	Pacific Gas & Electric Co., Vallejo Dist.	27
Oklahoma Gas & El. Co., Okla. City, Okla.	399 & 712	Pacific Gas & Electric Co., Yolo Dist., Woodland	29
Oklahoma-Kansas Refining Co., Niotaze, Kan.	477	Pacific Lighting Corporation, San Francisco, Cal.	493 & 549
Oklahoma Producing & Refining Co., New York, N. Y.	479	Pacific Midway Oil Co., San Francisco, Cal.	459
Oklahoma Natural Gas Co., Tulsa, Okla.	402	Pacific Power & Light Co., Astoria, Ore.	258
Oklamade Oil & Gas Co., Chelsea, Okla.	465	Pacific Power & Light Co., Lewiston, Idaho	53
Okmulgee (Okla.) Gas Co.	400	Pacific Power & Light Co., Pendleton, Ore.	259
Okmulgee Producing & Refining Co., Okmulgee, Okla.	483	Pacific Power & Light Co., Portland, Ore. (Parent) 514; (Appendix)	713
O. K. Refining Co., Niotaze, Kan.	477		

	PAGE		PAGE
Pacific Power & Light Co., Yakima Branch, North Yakima, Wash.....	315	Peoples Light Co., Davenport, Iowa.....	397
Pacific Power & Light Co., Vancouver, Wash....	314	People Light Co., Pittston, Pa.....	279
Pacific Power & Light Co., Walla Walla, Wash....	314	Peoples Lighting, Heating & Pr. Co., Barre, Vt. (See Barre Gas Co.)	
Paducah (Ky.) Light & Power Co.....	113	Peoples Natural Gas Co., Rushville, Ind.....	360
Paducah (Ky.) Traction & Light Co.....	499	Peoples Natural Gas Co. of Pittsburgh, Pa....	413
Painesville (Ohio) Gas Light & Coal Co.....	253	Peoples Natural Gas Co., West Seneca, N. Y....	382
Palatka (Fla.) Public Service Co.....	45	Peoples Power Co., Moline, Ill.....	69
Palestine (Tex.) Light, Heat & Power Co.....	300	Peoples Service Co., Connorsville, Ind. (Artif.)	81
Palo Alto (Cal.) Gas Co.....	19	Peoples Service Co., Muskogee, Okla.....	398
Panama Gas Co., Panama.....	344	Peoria (Ill.) Gas & Electric Co. (See Central Ill. Light Co.)	
Pan-American Petroleum & Transport Co., Los Angeles, Cal.....	491	Permian Oil & Gas Co., Marietta, Ohio, The..	389
Pan-American Refining Co., Tulsa, Okla.....	484	Pernambuco Gas Co., Ltd., Pernambuco, Brazil, South America	345
Panhandle Refining Co., Wichita Falls, Tex....	489	Perry (Iowa) Gas Co.....	106
Paraense, Cia de Gaz., Ltd., Para, Brazil, S. A..	345	Perth Amboy (N. J.) Gas Light Co.....	203
Paragon Refining Co., The, Toledo, Ohio.....	481	Peru (Ind.) Gas Co.....	88
Paramaribo Gas Co., Paramaribo, Dutch Guiana, South America	347	Peru (Kan.) Gas & Manufacturing Co.....	369
Paris (Ill.) City Gas & Electric Co. (See Cen- tral Illinois Public Service Co.)		Peterborough (Ont., Can.) Light & Pr. Co., Ltd.	339
Paris (Ky.) Gas & Electric Co.....	373	Petersburg (Neb.) Acetylene Gas Co.....	441
Paris (Tex.) Light & Power Co. (See Texas Power & Light Co.)		Petersburg (Va.) Gas Co.....	308
Parker (S. D.) Gas Co.....	455	Petosky (Mich.) & Bay Shore Gas Co.....	158
Parkesburg (Pa.) Gas Co.....	277	Petrolia (Ont., Can.) Gas Co., Ltd.....	432
Parsons (Kan.) Gas Co., The.....	369	Petrolia (Ont., Can.) Utilities Co., Ltd.....	432
Patchogue (N. Y.) Gas Co.....	230	Petroleum Midway Co., Fellows, Cal.....	457
Paterson & Passaic Gas & Electric Co. (See Public Service Gas Co., Paterson, N. J.)		Petroleum Producing & Refining Co., Tulsa, Okla	468 & 484
Patterson, Elmer, Elmer, Mo.....	440	Petroleum Refining Co., Houston, Tex.....	489
Paulding (Ohio) Gas Light & Fuel Co.....	254	Philadelphia Co., Pittsburgh, Pa. (Natural)....	413
Paulsboro (N. J.) Municipal Plant.....	202	Philadelphia Co., Pittsburgh, Pa. (Parent)....	518
Pavillon Natural Gas Co., Le Roy, N. Y.....	380	(Appendix)	733
Pawhuska (Okla.) Oil & Gas Co.....	400	Philadelphia Oil Co., Pittsburgh, Pa.....	469
Pawtucket (R. I.) Gas Co.....	286	Philadelphia Suburban Gas & Electric Co., Ches- ter, Pa.	265 & 728
Paxton (Ill.) Gas Co.....	73	Phila. Suburban Gas & El. Co., Coatsville, Pa....	266
Peak Island (Me.) Corporation.....	119	Phila. Suburban Gas & El. Co., Phoenixville, Pa.	278
Peekskill (N. Y.) Lighting & Railroad Co.....	231	Phila. Suburban Gas & El. Co., Pottstown, Pa....	279
Peerless Oil Co., Chicago, Ill.....	474	Phila. Suburban Gas & El. Co., Jenkintown Dist., Wyncote, Pa.	285
Pelican Oil Refining Co., New Orleans, La.....	478	Philippine Islands Public Utilities Commis- sion, Manila, P. I.....	526
Pemberton (N. J.) Township Water, Sewerage & Light Co.....	453	Phillips, T. W., Gas & Oil Co., Butler, Pa.....	403
Penn Argyll (Pa.) Gas Co.....	277	Phillips Petroleum Co., Bartlesville, Okla.....	465
Pendleton (Ind.) Natural Gas Co.....	360	Pierce Natural Gas Co., Hamburg, N. Y.....	379
Penn American Refining Co., Oil City, Pa.....	487	Pierce Oil Corporation, New York, N. Y....	463 & 479
Penn Central Light & Power Co., Altoona, Pa..	718	Pilgrim Oil Co., Bartlesville, Okla.....	465
Penn Central Light & Power Co. of Altoona, Huntingdon, Pa.	270	Pioneer Oil & Gas Co., Bainville, Mont.....	376
Penn Central Light & Power Co., Lewistown, Pa.	272	Pittsburgh & W. Va. Gas Co., Grafton, W. Va....	424
Penn Green Gas Co., E. Greenville, Pa.....	267	Pittsburgh (Pa.) By-Product Coke Co.....	518
Penn Oil Co., Bartlesville, Okla.....	465	Pittsburgh Gas & Coke Co., Glassport, Pa. (See Allegheny By-Product Coke Co.)	
Penn Public Service Co., Clearfield, Pa....	266 & 720	Pittsburgh Gas Co., McAlester, Okla. (See Mc- Alester (Okla.) Gas & Coke Co.)	
Pennora Natural Gas Co., Coraopolis, Pa.....	404	Pittsburgh Oil Refining Co., Coraopolis, Pa....	486
Pennsylvania Electric Co., N. Y. City.....	719	Pittsburgh Petroleum Co., The, Pittsburgh, Pa.	469
Pennsylvania Electric Co., Clearfield, Pa.....	514	Pittsburgh (Pa.) Pipe Line Construction Co....	469
Pennsylvania Fuel Supply Co., Pittsburgh, Pa..	413	Pittsfield (Mass.) Coal Gas Co.....	141
Pennsylvania Gas Co., Warren, Pa.....	417	Pittsfield (N. H.) Gas Co.....	453
Pennsylvania Gasoline Co., Bradford, Pa.....	485	Pittsfield Gas Co., Oberlin, Ohio.....	391
Pennsylvania Lighting Co., Shamokin, Pa. 281 &	737	Pittsford (N. Y.) Light & Heat Co.....	443
Pennsylvania Oil & Gas Co., Jasper, Ala.....	349	Pittsgrove Gas Co., Norma, N. J. (See Cumber- land County Gas Co.)	
Pennsylvania Oil Products & Refining Co., Eldred, Pa.	486	Plainfield (N. J.) Gas & El. Co. (See Public Service Gas Co.—Appendix.)	
Pennsylvania Public Service Com., Harrisburg..	525	Plains Oil & Gas Co., Ardmore, Okla.....	464
Pennsylvania Refining Co., Ltd., Karns City, Pa.	486	Platteville (Wis.) Gas Co.....	325
Pennsylvania Steel Co. (See Bethlehem Steel Co.)		Plattsburg (N. Y.) Gas & Electric Co.....	232
Pennsylvania Utilities Co., Nazareth, Pa.....	723	Pleasant Hill Oil Co., Tulsa, Okla.....	468
Penn Yan (N. Y.) Gas Light Co.....	231	Pleasanton (Kan.) Gas & Oil Co.....	369
Penobscot Bay Electric Co., Belfast, Me.....	117	Pleasantville (Iowa) Gas Plant.....	451
Pensacola (Fla.) Gas Co.....	46	Pleasantville (N. J.) Heat, Light & Power Co..	203
Pentress Gas Co., Morgantown, W. Va.....	426	Pluto Oil & Gas Co., The, Winchester, Ky....	462
Peoples Gas & Electric Co., Burlington, Iowa. (See Burlington Ry. & Light Co.)		Plymouth (Mass.) Gas Light Co.....	142
Peoples Gas & Electric Co., Chillicothe, Mo....	173	Plymouth (Mich.) and Northville Gas Co.....	159
Peoples Gas & Electric Co., Mason City, Iowa....	103	Plymouth Oil Co., Bartlesville, Okla.....	465
Peoples Gas & Electric Co., Oswego, N. Y....	229 & 685	Pocatello (Idaho) Gas & Power Co.....	53
Peoples Gas & Electric Co., Savanna, Ill.....	76	Point Marion Natural Gas Co., Pt. Marion, Pa..	415
Peoples Gas & Power Co., Chariton, Iowa.....	94	Point Pleasant (W. Va.) Natural Gas Co.....	427
Peoples Gas Co., Anamosa, Iowa.....	92	Ponce, City of, Gas Co., Ponce, Porto Rico, West Indies	348
Peoples Gas Co., Deadwood, S. D.....	291	Pontiac (Ill.) Light & Water Co. (See Public Service Co. of Northern Ill., Pontiac, Ill.)	
Peoples Gas Co., Pana, Ill.....	73	Pontiac (Mich.) Power Co. (See Michigan Light Co., Pontiac, Mich.)	
Peoples Gas Co., Milroy, Ind.....	359	Poor Oil & Gas Co., Leeper, Pa.....	408
Peoples Gas Co., Minot, N. D.....	249	Portage (Wis.) American Gas Co.....	325
Peoples Gas Co., North English, Iowa.....	104	Port Arthur (Texas) Gas & Power Co.....	300 & 777
Peoples Gas Co., Shenandoah, Iowa.....	107	Port Colburne (Can.) Welland Natural Gas & Oil Co.	432
Peoples Gas Light & Coke Co. of Buffalo, N.Y....	211		
Peoples Gas Light & Coke Co., Chicago, Ill....	59		
(Appendix)	570		
Peoples Gas Light Co., Manchester, N. H.....	190		
Peoples Light & Fuel Co., Grinnell, Iowa.....	100		

COMPANY INDEX

919

	PAGE		PAGE
Port Hope (Ont., Can.) Gas Co.....	339	Public Serv. Gas Co., Essex Div., Newark, N. J..	199
Port Huron (Mich.) Gas & Electric Co.....	159	Public Serv. Gas Co., Passaic Div., Paterson, N.J.	202
Port Jervis (N. Y.) Light & Power Co. (See Orange County Public Service Corp.)		Public Serv. Gas Co., So. Div., Camden, N.J....	193
Portland Gas & Coke Co., Portland, Ore.....	260	Public Service Investment Co., Boston.....	610
(Appendix)	715	Public Service Operating Co., Belvidere, Ill. (See Illinois Northern Utilities Co.)	
Portland (Me.) Gas Light Co.....	119	Public Service Operating Co., Owatonna, Minn.	166
Portland Ry., Lt. & Pr. Co., Salem, Ore....	260 & 716	Public Utilities Board of Los Angeles, Cal.....	522
Porto Rico Gas Co., San Juan, Porto Rico, West Indies	348 & 777	Public Utilities Commission, Alberta, Can.....	526
Porto Alegre City Gas Works, Porto Alegre, Bra- zil, South America	345	Public Utilities Commission, Boise, Ida.....	523
Port Royal (Pa.) Gas Co.....	445	Public Utilities Commission, Brockville, Ont., Can.	334
Portsmouth (N. H.) Gas Co.....	191 & 632	Public Utilities Commission, Denver, Colo.....	522
Portsmouth (Ohio) Gas Co.....	391	Public Utilities Commission, Augusta, Me.....	523
Portsmouth (Va.) Gas Co.....	300	Public Utilities Commission, Hartford, Conn.....	522
Portsmouth (O.) Solvay Coke Co.....	254	Public Utilities Commission, Manila, P. I.....	526
Potato Creek Gas Co., Colegrove, Pa.....	404	Public Utilities Commission, New Brunswick, Canada	526
Potter Gas Co., Pittsburgh, Pa.....	413	Public Utilities Commission, Nova Scotia, Hal- ifax	526
Portsville (Pa.) Gas Co.....	280	Public Utilities Commission of Ohio, Columbus, O.	525
Poudre Valley Gas Co., Ft. Collins, Colo.....	30	Public Utilities Commission, Springfield, Ill....	523
Premier Oil Co., Coalinga, Cal.....	456	Public Utilities Commission, Topeka, Kan.....	523
Prescott (Ariz.) Gas & Electric Co.....	8	Public Utilities Commission, Trenton, N. J.....	524
Pringhar (Iowa) Gas Co.....	451	Public Utilities Commission of Rhode Island, Providence, R. I.	525
Primitiva Gas Co. of Buenos Aires, Ltd., Buenos Aires, Argentina, South America.....	344	Public Utilities Commission, Quebec, Can.....	526
Princeton (Ill.) Gas Co.....	74	Public Utilities Commission, Gas Dept., Owen Sound, Canada	339
Princeton (N. J.) Light, Heat & Power Co. (See Public Service Gas Co., So. Div., Camden.)		Public Utilities Commission, Washington, D. C..	522
Producers & Refiners Corp., Blackwell, Okla....	465	Public Utilities Commission, Winnipeg, Man- itoba, Canada	526
Producers Refining Co., Bakersfield, Cal.....	472	Public Utilities Co., Danville, Ky. (See Com- monwealth Power, Ry. & Light Co.)	
Producers Refining Co., Bartlesville, Okla.....	481	Public Utilities Co. of Evansville, Ind.....	82 & 679
Producers Gas Co., Olean, N. Y.....	381	Public Utilities Co. of Philadelphia, Pa.....	516
Progressive Oil & Gas Co., Monroe, La.....	462	Public Utility Board of Commrs. of Wilm- ington, Del.	522
Proper Natural Gas Co., The, Tionesta, Pa....	417	Public Utility Commissioners of New Jersey, Trenton, N. J.	524
Providence (R. I.) Gas Co.....	287	Public Utility Commissioners, Manila, P. I....	526
Provincial Natural Gas & Fuel of Ontario, Ltd., Niagara Falls, Ont.....	431	Pueblo (Colo.) Gas & Fuel Co.....	32
Prudential Oil Corp., Baltimore, Md.....	478	Puget Sound Gas Co., Everett, Wash.....	312 & 756
Public Improvement Co., Minneapolis, Minn....	502	Puget Sound Traction, Lt. & Pr. Co., Belling- ham, Wash.	312
Public Service Commission of Alabama, Mont- gomery, Ala.	522	Puget Sound Traction, Light & Power Co., Seattle, Wash	757
Public Service Commission of Indiana, Indian- apolis, Ind.	523	Pulaski Gas Light Co., Little Rock, Ark. (See Little Rock Gas & Fuel Co.)	
Public Service Commission of Maryland, Balti- more, Md.	523	Pulaski (N. Y.) Gas & Oil Co., Ltd.....	381
Public Service Commission of Missouri, Jeffers- on City, Mo.....	524	Pullman Gas Co. (See Peoples Gas Light & Coke Co., Chicago.)	
Public Service Commission of Nevada, Carson City, Nev.	524	Pure Oil Co., Minneapolis, Minn.....	479
Public Service Commission of New Hampshire, Concord, N. H.....	524	Puritan Oil Co., Bartlesville, Okla.....	465
Public Service Commission of New York (First District), New York, N.Y.....	524	Putnam (Conn.) Light & Power Co.....	37
Public Service Commission of New York (Sec- ond District), Albany, N. Y.....	524		
Public Service Commission of Oregon, Salem, Ore.	525	Quapaw Gas Co., Bartlesville, Okla.....	394
Public Service Commission of Pennsylvania, Har- risburg, Pa.....	525	Quarryville (Pa.) Gas Plant.....	445
Public Service Commission of Vermont, Brat- tleboro, Vt.	525	Quebec (Can.) Public Utilities Commission....	526
Public Service Commission of Washington, Olympia, Wash.	525	Quebec (Can.) Railway, Light, Heat & Power Co., Ltd. (Artificial), 341; (Parent) (Appendix)	521 775
Public Service Commission of West Virginia, Charleston, W. Va.	525	Queen City Oil & Gas Co., Topeka, Kan.....	379
Public Service Commission, Cheyenne, Wyo....	526	Queens Borough Gas & Electric So., Far Rock- away, N. Y.	214 & 646
Public Service Companies, Philadelphia, Pa....	516	Quincy (Ill.) Gas, Electric & Heating Co.....	75
Public Service Co. of Northern Illinois, Chicago, (Parent) 496, (Appendix) 573	573	Quinton (Okla.) Oil & Gas Co.....	400
Public Service Co. of Northern Ill., Blue Island	56	Quito Gas Co., Quito, Ecuador, S. A.....	347
Public Service Co. of No. Illinois, Evanston....	63	Quogue (N. Y.) Gas Co.....	443
Public Service Co. of No. Illinois, Kankakee....	66		
Public Service Co. of No. Illinois, Oak Park....	72	Racine (Wis.) Gas Light Co. (See Wisconsin Gas & Electric Co.)	
Public Service Co. of No. Illinois, Ottawa.....	72	Rahway (N. J.) Gas Light Co.....	203
Public Service Co. of No. Illinois, Pontiac.....	74	Railroad & Public Service Commissioners of Montana, Helena, Mont.....	524
Public Service Co. of No. Illinois, Streator....	77	Railroad Commission of California, San Fran- cisco.	522
Public Service Co. of St. Cloud, Minn.....	167	Railroad Commission of Georgia, Atlanta, Ga....	523
Public Service Co., York, Neb.....	187	Railroad Commission, Lansing, Mich.....	524
Public Service Corporation of Long Island, Port Washington, N. Y.....	232	Railroad Commission of Wisconsin, Madison, Wis.	526
Public Service Corporation of New Jersey, New- ark, N. J.....	634	Railroad Men's Refining Co., El Dorado, Kan..	476
Public Serv. Gas Co., Bergen Div., Hackensack, N. J.	196	Railway & Light Securities Co., Boston, Mass..	610
Public Serv. Gas Co., Hudson Div., Jersey City, N. J.	197	Railway & Municipal Board, Toronto, Ont.....	526
Public Serv. Gas Co., Newark, N. J. (Parent)	504	Railway Commission of Nebraska, Lincoln, Neb.	524
Public Serv. Gas Co., Newark, N. J. (Appendix)	636	Raleigh (Ind.) Gas, Oil & Water Co.....	360
Public Serv. Gas Co., Central Div., New Bruns- wick, N. J.....	201	Randall Gas Co., Morgantown, W. Va.....	426
		Rantoul (Kan.) Gas Co.....	369
		Rantoul (Kan.) Heat & Light Co.....	369
		Rapid City (S. D.) Gas Light Co.....	293

	PAGE		PAGE
Redcliff (Albion, Can.) Light & Power Co. Ltd. (See Canadian Western Power & Fuel Co.)		Sacoa de Iluminacao a Gaz, Pelotas, Brazil...	345
Red Oak (Iowa) Gas Light Co.	106	Sachem Oil Co., Independence, Kan.	461
Red River Power Co., Grand Forks, N. D.	248	Sacramento (Cal.) Gas Co.	21 & 353
Red River Refining Co., Shreveport, La.	478	Saguache (Colo.) Gas & Electric Co.	434
Regal Oil & Gas Co., New York, N. Y.	463	Sag Harbor (N. Y.) Lighting Co. (See Long Island Gas Corp.)	
Red Wing (Minn.) Gas Light & Power Co. (See Wisconsin-Minnesota Light & Power Co.)		Saginaw City Gas Co., Saginaw, Mich. (See Michigan Light Co.)	
Reed & Burns, Greensburg, Ind.	356	St. Albans (Vt.) Gas Light Co.	305
Reed, J. C. & Co., Philadelphia, Pa.	516	St. Augustine (Fla.) Gas & Electric Light Co.	46
Rehoboth (Del.) Gas Co.	434	St. Bonifacius (Minn.) Gas Co.	440
Relief Gas Co., St. Catharines, Ont.	432	St. Catharines (Ont., Can.) Public Utilities Commission	432
Reno (Nev.) Power, Light & Water Co.	188	St. Charles (Mo.) Lighting Co.	178
Renovo (Pa.) Consolidated Gas Co.	281	St. Clair County Gas & Electric Co., East St. Louis, Ill.	62 & 579
Renville (Minn.) Gas Plant, City of.	166	St. Cloud (Minn.) Public Service Co.	167
Republic Oil & Gas Co., Charleston, W. Va.	470	St. Croix Gas Co., Hudson, Wis. (See Interstate Light & Power Co.)	
Republic Railway & Light Co., Youngstown, O.	709	St. Croix Gas Light Co., Calais, Me.	118
Reserve Gas Co., Oklahoma City, Okla.	400	St. Croix Power Co. (See American Light & Traction Co.)	
Reserve Natural Gas Co. of La., Shreveport, La.	374	St. Helena (Cal.) Gas & El. Co.	21
Rhode Island Public Utilities Com., Providence.	525	St. Hyacinthe (Cal.) Gas, Electric & Power Co.	342
Rice Ranch Oil Co., Orcutt, Cal.	473	St. Johns (N. B., Can.) Railway Co. (See New Brunswick Power Co.)	
Richburg (N. Y.) Gas Co.	381	St. John (Newfoundland) Gas Light Co.	343
Richfield Oil Co., Los Angeles, Cal.	473	St. Johnsbury (Vt.) Gas Co.	305
Richmond (Kan.) & Princeton Gas Co.	369	St. Joseph (Mo.) Gas Co.	178 376 & 625
Richmond (Va.) City Gas Works.	309	St. Joseph Viscosity Oil Co., St. Joseph, Mo.	479
Richmond Hill (N. Y.) & Queens County Gas Light Co.	233	St. Louis Coke & Chem. Co., Granite City, Ill.	65
Richmond (Ind.) Light, Heat & Power Co.	360 & 584	St. Louis County Gas Co., The Webster Groves, Mo., and St. Louis, Mo.	180 & 586
Richmond (Ky.) Water & Light Co.	114	St. Marys (Ohio) Gas Co.	391
Richter Oil Co., Hartley, W. Va.	470	St. Marys (Pa.) Gas Co.	415
Ridgewood Gas Co. (See Public Service Gas Co.—Appendix.)		St. Michael (Minn.) Acetylene Gas Plant.	440
Ridgway (Pa.) Light & Heat Co.	415	St. Paul (Minn.) Gas Light Co.	168 & 622
Rio de Janeiro (Brazil) Tramway, Light & Power Co., Ltd., S. A.	345; (Parent)	St. Paul (Ind.) Natural Gas & Oil Co.	361
Ripley (Ont., Can.) Acetylene Gas Co., Ltd.	448	St. Paul Cons. Oil Co., Coalinga, Cal.	456
Ripley (Ohio) Gas & Electric Works.	254	St. Petersburg (Fla.) Gas Works.	46
Ripon (Wis.) Light & Water Co.	326	St. Petersburg (Pa.) Speechly Oil & Gas Co.	415
River Bend Gas & Water Co., Parlier, Cal.	19	St. Thomas (Ont., Can.) Light, Heat & Power Dept., City of.	339
River Gas Co., The, Marietta, Ohio.	389	Salem (Mass.) Gas Light Co.	143
River Furnace Co., Cleveland, Ohio.	251	Salem (N. J.) Gas Light Co.	204
Riverside County Gas & Power Co., Beaumont, Cal.	9	Salem (W. Va.) Natural Gas Co.	427
Riverside Eastern Oil Co., Pittsburgh, Pa.	487	Salina (Kan.) Light, Power & Gas Co.	111
Riverside Western Oil Co., Pittsburgh, Pa.	488	Salisbury (N. C.) & Spencer Railway Co.	246
Roanoke (Va.) Gas Light Co.	310 & 756	Salversville (Ky.) Gas Co., Inc.	373
Robertson & Robertson. (See Santa Anna (Tex.) Gas Co.)		San Angelo (Tex.) Gas Co.	300
Robinson Oil Corp., Baltimore, Md.	499	San Antonio (Tex.) Public Service Co.	301
Robinson, Wm. C., Baltimore, Md.	479	San Bernardino (Cal.) Valley Gas Co. (See Citrus Belt Gas Co.)	
Rochelle (Ill.) Gas Co.	75	San Diego (Cal.) Consolidated Gas & Electric Co.	22 and (Appendix)
Rochester (Ind.) Gas & Fuel Co.	89	Sand Creek Gas & Oil Co., Greensburg, Ind.	356
Rochester (Minn.) Light, Heat & Power Co. (See Rochester Utility Co.)		Sand Springs (Okla.) Gas Co.	401
Rochester Oil Co., Suisun, Cal.	333	Sandusky (Ohio) Gas & Electric Co.	392, 707 & 527
Rochester (N. Y.) Railway & Light Co.	284 & 687	Sandy Creek (N. Y.) Oil & Gas Co., Ltd.	381
Rochester Utility Co., Rochester, Minn.	167	Sandy Oil & Gas Co., Shippensburg, Pa.	416
Rockford (Ill.) Gas Light & Coke Co.	75 & 580	Sandford (Fla.) Light & Fuel Co.	46
Rock Hill (S. C.) Gas Co.	290	San Francisco & McKittrick Oil Co., San Francisco, Cal.	459
Rockland Light & Power Co., Nyack, N. Y.	227 & 683	San Francisco (Cal.) Gas & Electric Co. (See Pacific Gas & Electric Co.)	
Rockland (Me.) Thomaston & Camden St. Ry.	120	San Joaquin Light & Power Co., Merced, Cal.	15
Rock Run Fuel Gas Co., Pittsburgh, Pa.	414	San Joaquin Light & Power Corp., Bakersfield, Cal.	351
Rockville-Willmantic Lighting Co., Rockville, Conn.	38	San Joaquin Light & Power Corp. of Fresno, Selma, Cal.	26
Rockville-Willmantic Lighting Co., Willmantic, Conn.	40	San Joaquin Light & Power Corp., Los Angeles, Cal.	541
Rockwell (Iowa) Gas Lighting Co.	431	San Luis Gas & Electric Co., San Luis Obispo, Cal. (See Midland Counties Gas & Elec. Co.)	
Rocky Mount (N. C.) City of, Gas Works.	245	Sao Paulo (Brazil) Gas Co., Ltd., S. A.	346
Rodney (Ont., Can.) Gas & Water Co., Ltd.	448	Santa Anna (Tex.) Gas Co.	420
Rome (N. Y.) Gas, Electric Light & Power Co.	234	Santa Barbara (Cal.) Gas & Electric Co. and (Appendix)	550
Rome (Ga.) Municipal Gas Co.	51	Santa Clara (Cal.) Municipal Gas Works.	25
Romney (W. Va.) Light & Heat Co.	446	Santa Maria (Cal.) Gas & Power Co.	353
Rosedale (Ind.) Gas Co.	437	Santos, City of, Improvement Co., Ltd., Santos, Brazil, S. A.	346
Roslyn (Va.) Gas Co.	310	Saranac Lake (N. Y.) Gas Co.	235
Rosthern (Sask., Can.) Light & Heat Co., Ltd.	448	Saratoga Gas, Electric Light & Power Co., Saratoga Springs, N. Y. (See Adirondacks Electric Power Corp.)	
Roswell (New Mex.) Gas & El. Co.	206	Sargeant Gas Co., Williamsport, Pa.	418
Rothsay (Minn.) Light & Heating Co.	440	Sarnia (Ont., Can.) Gas Co., Ltd.	423
Roulette (Pa.) Gas Co. (See Mountain Gas Co., Roulette, Pa.)		Saugerties (N. Y.) Gas Light Co.	235
Rowe, E. E., Gas Co., Early, Iowa.	450	Sault Ste. Marie (Mich.) Gas & Electric Co.	160
Roxana Petroleum Co., Tulsa, Okla.	468		
Roxbury (N. Y.) Gas Lighting Co.	454		
Royce, C. N., East Brady, Pa.	405		
Runner, R. K., and Associates, Charles City, Ia.	498		
Runyan, A. C. & C. A. (See Utilities Operating Co., Kalamazoo, Mich.)			
Rural Gas Co., Crawford, W. Va.	423		
Rushville (Ind.) Natural Gas Co.	361		
Rushville (Ind.) Supply Co.	361		
Rutland (Vt.) Railway, Light & Pr. Co.	305 & 748		
Ryan (Ia.) Gas Co.	451		

COMPANY INDEX

921

	PAGE		PAGE
Saunemin (Ill.) Gas Co.....	435	Snyder (N. Y.) Gas Co.....	382
Savannah (Ga.) Gas Co.....	52 & 565	Solar Refining Co., Lima, O.....	480
Savoy Oil Co., Tulsa, Okla.....	468	Sombart Gas Co. (See Boonville Light, Heat & Power Co.)	
Saxonburg (Pa.) Heat & Light Co.....	415	Somerset, Union & Middlesex Lighting Co. (See Public Service Gas Co., New Brunswick, N. J.)	
Schaller (Iowa) Gas Light & Fuel Co.....	451	Sorel (Que., Can.) Gas Dept., Corp. of.....	342
Schuylkill County Light & Fuel Co., Pottsville, Pa.....	737	Souris (Man, Can.) Gas Co., Ltd.....	447
Schuylkill Haven (Pa.) Gas & Water Co.....	281	South Attleboro (Mass.) Gas Co.....	439
Scott Oil & Gas Co., Carrollton, O., The.....	384	South Barracas Gas & Coke Co., Buenos Aires, Argentina, S. A.....	345
Scottsville (Va.) Acetylene Plant.....	446	South Bend & Mishawha Gas Co. (See No. Ind. Gas & El. Co.)	
Scranton (Pa.) Gas & Water Co.....	281	South Branch Gas & Oil Co., Coudersport, Pa.,	405
Seaboard By-Product Coke Co., Jersey City, N. J.	197	South Carolina Lt., Power & Ry. Co., Spartanburg, S. C.....	290 & 741
Sea Cliff & Glen Cove Gas Co., Glen Cove, N. Y.	217	South Delaware Gas Co. (See Sussex Gas Co.)	
Sea Shore Gas Company of South Jersey, Sea Isle City.....	204	Southeastern Mass. Power & Elec. Co., Marion, Mass.....	439
Seaside Oil Co., Summerland, Cal.....	459	Southeastern Ohio Gas & Oil Co., Zanesville, Ohio. (See The Roseville Oil & Gas Co., Zanesville.)	
Seattle Gas & Electric Co. (See Seattle Lighting Co.)		Southern California Edison Co., Los Angeles, Cal.....	536
Seattle (Wash.) Lighting Co.....	313	Southern California Edison Co., Oxnard, Cal.....	18
Securities Corporation, General, Philadelphia..	730	Southern California Edison Co., Pomona, San Pedro and Santa Monica. (See Southern Counties Gas Co.)	
Security Producing & Refining Co., Winchester, Ky.....	462	Southern California Gas Co., Colton, Cal.....	10
Sedalia (Mo.) Light & Traction Co. (See City Light and Traction Co., Sedalia, Mo.)		Southern California Gas Co. of Los Angeles, (Artificial) 14, (Parent) 491, (Appendix)	539
Sedan (Kan.) Gas & Water Co.....	370	Southern Counties Gas Co. of California, Anaheim, Cal.....	351
Selma (Ala.) Lighting Co.....	5	Southern Counties Gas Co. of California, Covina, Cal.....	10
Semet-Solvay Co., Ensley, Ala.....	3	Southern Counties Gas Co. of California, El Monte, Cal.....	11
Semet-Solvay Co., Syracuse, N. Y.....	513	Southern Counties Gas Co. of California, Fullerton, Cal.....	352
Sentinel Oil & Gas Co., Ottawa, Kan.....	369	Southern Counties Gas Co. of California, Garden Grove, Cal.....	352
Sepoyah Oil & Ref. Co., Collinsville, Okla.....	465	Southern Counties Gas Co. of California, Glendora, Cal.....	12
Serena, Compania de Gas de la, Serena, Chili, S. A.....	347	Southern Counties Gas Co. of California, Long Beach, Cal.....	13 & 352
Sergeant Gas Co., Williamsport, Pa.....	418	Southern Counties Gas Co. of California, Los Angeles, Cal. (Appendix) 540; (Parent)	491
Service de Illuminacao a Gas e a Electricidade, Rio de Janeiro, Brazil, S. A.....	346	Southern Counties Gas Co. of California, Monrovia, Cal.....	15
Seymour (Ind.) Public Service Co. (See Interstate Public Service Co., Seymour, Ind.)		Southern Counties Gas Co. of California, Ocean Park, Cal.....	18
Shabbona (Ill.) Gas Plant.....	449	Southern Counties Gas Co. of California, Orange, Cal.....	352
Shaffer County Gas Co., The, Drumright, Okla.	396	Southern Counties Gas Co. of California, Placentia, Cal.....	352
Shannon (Ill.) Gas Co.....	435	Southern Counties Gas Co. of California, Pomona, Cal.....	20
Shaw & Goddard, Vincent, O.....	393	Southern Counties Gas Co. of California, San Pedro, Cal.....	24
Shawnee (Okla.) Gas & Electric Co.....	401	Southern Counties Gas Co. of California, Santa Ana, Cal.....	353
Shear Oil & Gas Co., Mt. Morris, Pa.....	468	Southern Counties Gas Co. of California, Sierra Madre, Cal.....	26
Sheboygan (Wis.) Gas Light Co.....	327	Southern Counties Gas Co., South Santa Anita, Cal.....	24
Shelby County Water, Gas & Electric Co., Shelbyville, Ind. (See Indiana Service Co.)		Southern Counties Gas Co. of California, Santa Monica, Cal.....	25
Shelbyville (Ill.) Gas Co.....	76	Southern Counties Gas Co., Tustin, Cal.....	354
Shelbyville (Ky.) Water & Light Co. (See Kentucky Utilities Co.)		Southern Counties Gas Co. of California, Whittier, Cal.....	28
Sheldon (Ia.) Gas Co.....	106	Southern Dutchess Gas & Electric Co., Beacon, N. Y.....	209
Shell Co. of California, Martinez, Cal.....	473	Southern Gas & El. Corp., Baltimore, Md.....	499 & 603
Shenandoah (Pa.) Light, Heat & Power Co. 282 & 777		Southern Gas Improvement Co., Elizabeth City, N. C.....	243
Shelbrooke (Que., Can.) City Gas & Electric Dept.....	342	Southern Gas Improvement Co., Henderson, N. C.	244
Sherburne (N. Y.) Gas Co.....	454	Southern Heat & Light Co., Jennings, La. (See Jennings Gas & El. Co.)	
Sheridan (Ind.) Gas, Oil & Coal Co.....	361	Southern Illinois Gas Co., Marion, Ill.....	69
Sheridan (Wyo.) Gas & Fuel Co.....	330	Southern Illinois Light & Power Co., Hillsboro, Ill.....	65
Sherman (Tex.) Gas Light & Fuel Co.....	301	Southern Illinois Light & Power Co., Litchfield, Ill.....	68
Shields Oil & Gas Co., Madison, W. Va.....	425	Southern Illinois Light & Power Co., St. Louis, Mo.....	579
Shiloh (Ohio) Gas Co.....	392	Southern Iowa Electric Co., Osceola, Ia.....	105
Shippensburg (Pa.) Gas & Electric Co.....	282	Southern Kansas Oil & Gas Co., Chanute, Kan.	364
Shore Gas Co., Manasquan, N. J.....	198	Southern Light & Traction Co. (See American Light & Traction Co.)	
Shore Lighting Co. (See Public Service Gas Co. of N. J., Appendix.)		Southern Oil & Transport Corp., Tampico, Mex.	471
Shreveport (La.) Gas, Electric Light & Power Co. (See Southwestern Gas & Elec. Co.)		Southern Oil Corp., Yale, Okla.....	485
Shriner, E. D., Acetylene Plant, Frederick, Md.	439		
Sierra Pacific Electric Co., Reno, Nev.....	504 & 631		
Signal Pipe Line Co., Bartlesville, Okla.....	394		
Silver Creek (N. Y.) Gas & Improvement Co.....	381		
Silver Crow Oil & Refining Co., Ripley, Okla.....	400		
Sinclair Gulf Corp., New York, N. Y.....	463 & 510		
Sinclair Oil & Refining Co., New York, N. Y.....	510		
Sinclair Refining Co., Chicago, Ill.....	474		
Sioux City (Iowa) Gas & Electric Co.....	107 & 588		
Sioux Falls (S. D.) Gas Co.....	293		
Sixteen Gas Co., Sistersville, W. Va.....	427		
Skaer Gas & Drilling Co., Augusta, Kan.....	363		
Skiatook (Okla.) Gas Co.....	401		
Slatington (Pa.) Gas Co.....	282		
Slippery Rock (Pa.) Heat & Light Co.....	416		
Smeiter Gas Co., Bartlesville, Okla.....	395		
Smetport (Pa.) Gas Co.....	416		
Smith & Swan, Henryetta, Okla.....	397		
Smith, C. L., Oil & Gasoline Co., St. Louis, Mo.	479		
Smith, Levi, Refining Co., Clarendon, Pa.....	485		
Smith, Perry, Ridgway, Pa.....	415		
Smvrna (Del.) Gas Works. (See Frost Gas Co., Smyrna.)			
Snarres & Miley Co., Toms Brook, Va.....	446		
Snow & Pritchard, Knightstown, Ind.....	358		

	PAGE		PAGE
Southern Ontario Gas Co., Ltd., Hamilton, Ont., and Buffalo, N. Y.	431 & 644	Sterling Oil & Refining Co., Wichita, Kan.	477
South Public Utilities Co., Charlotte, N. C.	242 & 604	Stevens Point (Wis.) Lighting Co. (See Wisconsin Valley Electric Co.)	
Southern Public Utilities Co., Greenville, S. C.	290	Stewart Refining Co., Tulsa, Okla.	484
Southern Railway & Light Co., Natchez, Miss.	172	Steyner Oil Co., Bartlesville, Okla.	465
Southern Utilities Co., Jacksonville, Fla.	493	Stillwater-Pawnee Gas Co., Stillwater, Okla.	401
(Appendix)	559	Stone & Webster, Boston, Mass.	500
South Haven (Mich.) Gas Co.	160	Stonegas (Va.) Coal & Coke Co.	310
South Hills Oil & Gas Co., Pittsburgh, Pa.	411	Storm Lake (Iowa) Gas Co.	107
Southold (N. Y.) Lighting Co.	441	Stormont Electric Light & Power Co., Cornwall, Ont., Can.	335
South Jersey Gas, Electric & Traction Co. (See Public Service Gas Co. of N. J.)		Stoughton (Wis.) Light & Fuel Co.	328
South Manchester (Conn.) Light, Power & Tramway Co. (See Manchester Gas Co.)		Stratford (Pa.) Gas Co.	416
South New Berlin (N. Y.) Gas Co.	454	Stratford (Ont., Can.) Gas Co.	340
Southold (N. Y.) Lighting Co.	443	Stroud, B. B., Co., Farmers Valley, Pa.	486
Southport (N. Y.) Gas Co.	382	Stuart (Neb.) Acetylene Gas Co. (See Wm. Krotter Co.)	
South St. Paul (Minn.) Gas & Electric Co.	168	Sturgis (Mich.) Gas Co.	160
South Shore Gas Co. (See Long Island Lighting Co.)		Suburban Gas & Electric Co., Decatur, Ga.	51
South Shore Gas & El. Co. (See Northern Indiana Gas & El. Co.)		Suburban Gas & Electric Co., Revere, Mass.	142 & 614
South Shore Natural Gas & Fuel Co., Buffalo, N. Y.	378	Suburban Gas & Fuel Co. of York County, Daltown, Pa. (See York County Gas Co.)	
South Side Gas & Electric Co., Mesa, Ariz.	7	Suffern (N. Y.) Gas Co.	237
South Side Gas Co., Pittsburgh, Pa.	279	Suffolk Gas & Electric Light Co. (See Long Island Lighting Co.)	
South Side Gas Co., Waldron, Ind.	362	Suffolk (Va.) Gas-Electric Co.	310
Southwest Gas & Fuel Co., Erie, Kan.	365	Sugar Valley Oil Co., Mound City, Kan.	461
Southwestern Gas & Electric Co., Shreveport, La.	375 & 597	Summerfield (O.) Gas Co. (See Noble Fuel Supply Co.)	
Southwestern Gas & Electric Co., Texarkana, Tex.	421	Sumter (S. C.) Gas & Power Co.	291
Southwestern Gas Co., Brenham, Tex.	297	Sun Company, Philadelphia, Pa.	516
Southwestern Gas Co., Hemet, Cal.	13	Sunflower Petroleum Co., Kansas City, Mo.	462
Southwestern Gas Co., Mineral Wells, Tex.	299	Superior Oil Works, Warren, Pa.	488
Southwestern General Gas Co., Ft. Smith, Ark.	350	Superior (Wis.) Water, Light & Power Co., New York City. (See United Gas & Elec. Corp.)	328 & 766
Southwestern Oil Corp., Enid, Okla.	482	Susquehanna Railway, Light & Power Co., New York City.	
Southwestern Okla. Gas & Fuel Co., Lawton, Okla.	398	Sussex Gas Co., Seaford, Del.	42
So'western Petroleum Co., Buffalo, N. Y.	463	Swett, A. L., Electric Light & Power Co., Albion, N. Y. (See Western N. Y. Utilities Co., Inc.)	
So'western Petroleum Co., Oklahoma City, Okla.	467	Syracuse (Neb.) Heat & Light Plant.	453
Southwestern Power & Light Co.	752	Syracuse (N. Y.) Light & Power Co.	688
Southwestern Utilities Corp., Richmond, Va.	751	Syracuse (N. Y.) Lighting Co.	237 & 689
South West Penna. Pipe Lines, Oil City, Pa.	487	Syracuse Suburban Gas Co., East Syracuse, N. Y.	214
Sovereign Gas Co., Huntington, W. Va.	425		
Spartanburg (S. C.) Railway, Gas & Electric Co. (See So. Carolina Light, Power & Railway Co.)		Tacoma (Wash.) Gas Co.	314 & 758
Spencer (Mass.) Gas Co.	143	Talladega (Ala.) Light & Water Commission.	5
Spencerport (N. Y.) Acetylene Gas Plant.	443	Tallahassee (Fla.) Board of Public Works.	47
Spinks Crude Oil Co., Monrovia, Cal.	458	Talcahuano Gas Co., Talcahuano, Chili, S. A.	347
Spokane (Wash.) Gas & Fuel Co.	314 & 757	Tamalpais Oil Co., Taft, Cal.	460
Springfield (Mo.) Gas & Electric Co.	179	Tampa (Fla.) Gas Co.	47 & 559
Springfield (O.) Gas Co. (Natural)	392	Taneytown (Md.) Gas Plant.	439
Springfield (Vt.) Gas Co.	306	Tar Island Producing and Refining Corp., Shreveport, La.	462
Springfield (Ill.) Gas & Electric Co.	76 & 678	Taunton (Mass.) Gas Light Co.	144
Springfield (Mass.) Gas Light Co.	143	Taylor (Tex.) Heat & Light Co. (See Taylor (Tex.) Gas Co.)	
Springfield (Ill.) Railway & Light Co.	634	Taylorstown Natural Gas Co., Pittsburgh, Pa.	414
Springfield (Mo.) Railway & Light Co.	628	Taylorville (Ill.) Gas & Electric Co. (See Central (Ill.) Public Service Co.)	
Spring Hill (Tenn.) Gas Plant.	445	Teetor Hartey Motor Co., Hagerstown, Ind.	357
Sprout, W. H., Chautauqua, Kan.	364	Temple (Tex.) Gas Light Co.	301
Stamford (Conn.) Gas & Electric Co.	38	Tennessee Coal, Iron and Railroad Co., Birmingham, Ala.	2
Standard Asphalt & Refining Co., Bartlesville, Okla.	481	Tenney, Chas. H., & Co., Inc., Boston, Mass.	500
Standard Gas & Electric Co., Chicago, Ill., and Phila., Pa. (Parent) 497; (Appendix)	574	Texarkana (Tex.) Gas & Electric Co. (See Southwestern Gas & Electric Co.)	
Standard Gas Co., Atlantic Highlands, N. J.	192	Texas Co., The, Houston, Tex.	470, 489, 519
Standard Gas Co., Danville, Pa. (See Columbia Gas & Electric Co.)		Texas Gas Co., Waco, Texas.	421
Standard Gas Co., Keyport, N. J. (See Standard Gas Co., Atlantic Highlands, N. J.)		Texas-Pacific Coal Co., Thurber, Texas.	421
Standard Gas Co. of So. Jersey. (See Sea Shore Gas Co. of So. Jersey.)		Texas Pipe Line & Gas Co., Teague, Texas.	420
Standard Gas Light Co. of the City of New York	226 & 677	Texas Pipe Line Co., The, Houston, Texas.	470
Standard Oil Co. (California), San Francisco, Cal.	459, 473	Texas Pipe Line Co. of Oklahoma, The, Tulsa, Okla.	468
Standard Oil Co. (Indiana), Chicago, Ill.	474	Texas Power & Light Co., Brownwood, Texas.	297
Standard Oil Co., The, Neodesha, Kan.	477	Texas Power & Light Co., Cleburne, Texas.	298
Standard Oil Co. of Baton Rouge, La.	478	Texas Power & Light Co., Dallas, Texas, (Parent) 519; (Appendix)	742
Standard Oil Co. (New Jersey), New York, N. Y.	510	Texas Power & Light Co., Denison, Texas.	419
Standard Oil Co. (New York), New York, N. Y.	510	Texas Power & Light Co., Paris, Texas.	300
Standard Oil Co. (Nebraska), Omaha, Neb.	479	Texas Power & Light Co., Waco, Texas.	421
Star Gas Co., Sheffield, Pa.	416	Thayer (Kan.) Gas Co.	370
Starlight Refining Co., Karns City, Pa.	486	Thornapple Gas & Electric Co., Hastings, Mich.	152
Statesville (N. C.) Gas Light & Fuel Co.	246	Three Rivers (Mich.) Gas Co. (See Michigan Gas & Electric Co.)	
Staunton (Va.) Gas Co.	310	Tidal Oil Co., Tulsa, Okla.	468
Sterling (Ill.) Gas & Electric Light Co. (See Illinois Northern Utilities Co.)		Tide Water Oil Co., New York, N. Y.	511
Sterling Gas Co., Ltd., Pt. Colbourne, Can.	432	Tide Water Oil Co. of Massachusetts, Boston, Mass.	462

923

	PAGE
United Furnace Co., The, Canton, O.	250
United Gas & Electric Co., Litchfield, Ill. (See Southern Illinois Light & Power Co.)	
United Gas & Electric Co., New Albany, Ind.	88
United Gas & Electric Co. of New Jersey, New York City.....(Parent) 511; (Appendix)	679
United Gas & Electric Corp., New York, (Parent) 511; (Appendix)	679
United Gas & El. Engineering Corp., New York City	511
United Gas & Electric Improvement Co., Merida, Yucatan, Mex.	343
United Gas & Fuel Co., Ltd., Hamilton, Ont., Can.....(Artificial) 336; (Appendix)	770
United Gas & Fuel Co., Ltd., Hamilton (Natural)	438
United Gas & Water Co., Camden, N. J.	504
United Gas Companies, Ltd., The, St. Catharines, Ont., Can.	433
United Gas Co., The, Wichita, Kan. (See Kansas Gas & Electric Co.)	
United Gas, Electric Light & Fuel Co., Hudson Falls, N. Y.	219
United Gas Improvement Co., Philadelphia, Pa. (Parent) 516; (Appendix)	728
United Gas Improvement Co., Vicksburg, Miss.	172
United Light & Railways Co., Grand Rapids, Mich.	501 & 616
United National Utilities Co., Philadelphia, Pa. 517 & 731	
United Natural Gas Co., Oil City, Pa.	411
United Oil Co., The, Los Angeles, Cal.	458
United Petroleum Co., The, Denver, Colo.	460
United Public Utilities Co., Defiance, O.	706
United Service Co., Scranton, Pa.	518
United States Gas & Electric Co., Penn Yan, N. Y.	513
United States Military Academy Gas Plant, West Point, N. Y.	240
United States Public Service Co., St. Louis, Mo.	627
United Utilities Co., New York	681
United Water, Gas & Electric Co., Hutchinson, Kan.	110
Universal Gas Co. (See Peoples Gas Light & Coke Co.)	
Universal Oil & Gas Co., Pittsburgh, Pa.	518
Upham Gas Co., Mt. Vernon, O., The	390
Upper Hudson Electric & Railway Co., Catskill, N. Y.	212
Urbana & Champaign Railway, Gas & Electric Co., Champaign, Ill.	58
Usino de Gas, Nictheroy, Rio de Janeiro, Brazil, S. A.	345
Utah Gas & Coke Co., Salt Lake City, Utah. (Appendix)	303 & 745
Utah Oil Refining Co., Salt Lake City, Utah.	489
Utah Light & Traction Co., Salt Lake City, Utah	746
Utah Power & Light Co., Ogden, Utah.	302
Utah Power & Light Co., Salt Lake City.	747
Utah Securities Corporation	748
Utah Valley Gas & Coke Co., Provo, Utah.	303 & 745
Utah-Wyoming Consolidated Oil Co., Byron, Wyo.	422
Utica (Neb.) Acetylene Gas Association.	441
Utica (N. Y.) Gas & Electric Co.....(Artificial) (Parent) 513 and (Appendix)	238 & 689
Utica (Ohio) Gas & Electric Co.	392
Utica (Ohio) Gas, Oil & Mining Co., The	393
Utilities Improvement Co., New York City. (See Cities Service Co.)	
Utilities Operating Co., Kalamazoo, Mich.	501
Utilities Oil & Refining Corp., New York, N. Y.	480
Utilities Securities Corp., Richmond, Va.	754
Vacuum Gasoline Co., Bridgeport, Ill.	474
Vacuum Oil Co., Rochester, N. Y.	480
Valdosta (Ga.) Gas Co.	52
Vallejo Gas Co. (See Pacific Gas & Electric Co.)	
Valley City (N. D.) Gas Co., The	249
Valley Gas & Fuel Co., Pasadena, Cal. (See Los Angeles (Cal.) Gas & El. Co.)	
Valley Gas Co., Auburn, Wash.	311
Valparaiso Natural Gas Co., Bakersfield, Cal.	351
Valparaiso, Compania de Gas de, Valparaiso, Chili, S. A.	347
Valparaiso (Ind.) Lighting Co.	90
Valrico (Fla.) Land Co.	434
Valvoline Oil Co., New York, N. Y.	480
Vancouver (B. C., Can.) Gas Co., Ltd.	331
Vanlue (O.) Natural Gas Co.	393
Van Wert (Ohio) Gas Light Co.	255
Ventura Refining Co., Los Angeles, Cal.	477

COMPANY INDEX

	PAGE		PAGE
Venture Gas Co., Lima, O., The.....	388	Webb City (Mo.) & Carterville Gas Co.....	376
Venture Oil Co., Pittsburgh, Pa.....	414	Webster City (Iowa) Gas Co.....	109
Vermont Public Service Commission.....	525	Webster (Mass.) & Southbridge Gas & El. Co..	145
Vernon Natural Gas & Oil Co., The, Fortville, Ind.....	355	Weir (Kan.) Gas Co.....	370
Vernon Oil Refining Co., Los Angeles, Cal.....	473	Wellington Gas Co., The, Wellington, Kan.....	370
Victoria (B. C., Can.) Gas Co., Ltd.....	332	Wells Island Light & Heat Co., Thousand Islands Park, N. Y.....	444
Vibenna (Ill.) Gas Co.....	435	Wellsville (Kan.) Gas Co.....	370
Village of Jasper, Jasper, Minn.....	164	Wellsville Refining Co., Wellsville, N. Y.....	480
Vincennes (Ind.) Gas Co. (See Central States Gas Co.)		Welsbach Street Lighting Co. of America, Philadelphia, Pa.....	517
Vincennes (Ind.) Oil & Gas Co.....	362	Wenatchee Valley Gas & Electric Co., Wenatchee, Wash.....	758
Vineyard Lighting Co., Oak Bluffs, Mass.....	141	West Allis (Wis.) Gas Co.....	330
Vinita (Okla.) Gas Co.....	402	West Boston Gas Co., Framingham, Mass.....	132
Vinton (Iowa) Gas Co.....	107	Westbrook (Me.) Gas Co.....	121
Vinton (Man. Can.) Town Plant.....	447	Westchester Ltg. Co., Mt. Vernon, N. Y.....	223 & 651
Virehda (Minn.) Water & Light Dept.....	168	Westerly (R. I.) Light & Power Co.....	287
Virginia Railway & Power Co., Richmond, Va.....	754	Western Distributing Co., Wichita, Kan.....	371
Virginia State Corp., Commission, Richmond.....	525	Western Fuel, Gas & Power Co., Redondo Beach, Cal.....	353
Volcanic Oil & Gas Co., Niagara Falls, Ont., Can.....	431	Western Light & Power Co., Boulder, Colo.....	493
Vulcan-Vernon Gas Co., McArthur, O.....	389	Western Light & Pr. Co., Cheyenne, Wyo.....	767
Vulcan Oil Refining Co., Cleveland, O.....	480	Western Natural Gas Co., Tulsa, Okla.....	402
		Western N. Y. & Penn. Traction Co., Olean, N. Y.....	381
Wabash Refining Co., Hominy, Okla.....	482	Western N. Y. Utilities Co., Inc., Albion, N. Y.....	207 & 651
Wabash Gas Co., Robinson, Ill.....	354	Western Oil Co., Los Angeles, Cal.....	458
Waco (Tex.) Electric & Gas Co. (See Texas Power & Light Co.)		Western Okla. Gas & Fuel Co., Duncan, Okla.....	396
Wagers, A. L., Shanesville, O.....	392	Western Petroleum Co., Chicago, Ill.....	474
Waggoner (Ill.) Light & Heat Co.....	435	Western Railways & Light Co., Champaign, Ill. (See Illinois Traction Co.)	
Walt & Smith, Dartmouth, Mass.....	439	Western States Gas & Electric Co. of Cal., San Francisco, Cal....(Parent) 493; (Appendix)	551
Wakenield (Mass.) Municipal Light Plant.....	144	Western States Gas & Electric Co. of Delaware (Appendix)	576
Walbridge, H. D. & Co., New York City.....	512	Western States Gas & Elec. Co., Eureka, Cal.....	11
Waldron (Ind.) Natural Gas, Oil & Water Co.....	362	Western States Gas & Elec. Co., Stockton, Cal.....	26
Walker & Hinchshaw Natural Gas Co., Hortonville, Ind.....	357	Western United Gas & Elec. Co., Aurora, Ill.....	54
Wallaceburg Gas Co., Ltd., Wallaceburg, Ont., Can.....	433	(Appendix)	565
Wallingford (Conn.) Gas Light Co.....	39	Westfield (Mass.) Gas & Elec. Light Works.....	145
Walton, James, Phonicia, N. Y.....	443	West Hammond (Ill.) Gas & Elec. Co.....	78
Wanakah Gas Corp., Hamburg, N. Y.....	379	West Minneapolis (Minn.) Gas Works.....	169
Wapakoneta (O.) Natural Gas Co.....	393	West Monongahela (Pa.) Natural Gas Co.....	409
Ward Oil Co., Coalinga, Cal.....	456	Westmoreland Gas Co., Jeannette, Pa.....	406
Ware (Mass.) Gas Light Co.....	144	Westmoreland Ltg. Co., Westmoreland, Kan.....	438
Warren (Pa.) & Chautauqua Gas Co.....	417	Weston (Mo.) Gas & Light Co.....	376
Warren Gas Co., Saratoga, Ind.....	361	Weston (W. Va.) Gas Co. (See Keeners Oil, Natural Gas & Fuel Co.)	
Warren Gasoline Co., Eldred, Pa.....	486	West Penn Oil & Gas Co., Butler, Pa.....	404 & 468
Warsaw (Ind.) Gas Light Co.....	91	West Point (N. Y.) Government Reservation.....	240
Washington (N. J.) Gas Co.....	205	West Shore Gas Co., Haverstraw, N. Y.....	218
Washington Co. Gas Co., Johnson City, Tenn.....	295	West Side Gas Co., Taft, Cal.....	354
Washington Gas Co. of W. Va., Clarksburg, W. Va.....	423	West Tampa (Fla.) Gas Co.....	47
Washington Gas Light Co. of Montgomery County, Tacoma Park, Md.....	125	West Union (W. Va.) Gas Co.....	428
Washington (D. C.) Gas Light Co.....	43 & 555	West Virginia & Maryland Gas Co. of Maryland, Westernport, Md.....	375
Washington (Ind.) Water, Lt. & Pr. Co.....	91	West Va. & Maryland Gas Co., Davis, W. Va.....	423
Washington (N. C.) Gas Co.....	246	West Virginia Central Gas Co., Elkins, W. Va.....	424
Washington, C. H. (Ohio) Gas & Electric Co.....	393	West Virginia Ht. & Lt. Co., Pennsboro, W. Va.....	427
Washington Public Service Commission, Olympia	525	West Virginia Public Service Com., Charleston.....	525
Washita Gas & Fuel Co., Duncan, Okla.....	396	West Va. Traction & Electric Co., Morgantown.....	426
Washenaw Gas Co., Ann Arbor, Mich.....	148	West Va. Trac. & Elec. Co., Wheeling, W. Va.....	760
Watchorn Oil & Gas Co., Otoe, Okla.....	400	Wetzel Natural Gas Co., Hundred, W. Va.....	424
Water & Light Department, Duluth, Minn.....	162	Wheeling City & Suburban Gas Co., Wheeling, W. Va.....	428
Water & Light Department, Virginia, Minn.....	168	Wheeling Natural Gas Co. (See Manufacturers Light & Heat Co.)	
Water, Light & Sinking Fund Commission, Dalton, Ga.....	50	When Gas, Oil & Water Co., Waldron, Ind.....	362
Waterbury (Conn.) Gas Light Co.....	39	White, J. G., Companies.....	778
Waterloo (Ont., Can.) Water & Light Commission.....	341	White, J. G., Mgt. Corp., New York City.....	512
Watertown (Conn.) Gas Co.....	39	White Eagle Petroleum Co., Augusta, Kan.....	475
Watertown (S. D.) Gas Co.....	293	White Top Oil & Gas Co., Clarksburg, W. Va.....	423
Watertown (Wis.) Gas & Electric Co. (See Wisconsin Gas & Electric Co.)		Whitewater Oil & Gas Co., Gotebo, Okla.....	397
Waterville (Ohio) Gas & Oil Co.....	393	Whitman & Chilcothe Bros., West Milgrove, O.....	393
Watkins (N. Y.) Illuminating & Power Co.....	240	Wichita (Kan.) Natural Gas Co.....	371
Watsonville (Cal.) Light & Power Co. (See Coast Counties Gas & Elec. Co., Watsonville.)		Wichita (Kan.) Pipe Line Co.....	371
Watts Engineering Co., The, St. Louis, Mo.....	503	Wichita Independent Cons. Companies, Wichita, Kan.....	477
Waukesha (Wis.) Gas & Electric Co.....	329	Wichita Valley Refining Co., Iowa Park, Tex.....	489
Wausau (Wis.) Gas Co.....	329	Wildcat Oil & Gas Co., Fort Smith, Ark.....	350
Wauwatosa (Wis.) Gas Co.....	330	Wildwood (N. J.) Gas Co.....	205
Waveland (Ind.) Gas Co.....	437	Wilkes-Barre (Pa.) Co.....	284 & 738
Waverly (Iowa) Gas Co.....	109	Wilkinsburg Oil & Gas Co., Pittsburgh, Pa.....	414
Waverly (N. Y.) Gas Light Co.....	240	William, J., Oil & Gas Co., Ashtabula, O.....	383
Waverly Oil Works Co., Pittsburgh, Pa.....	488	Williamsburg (Va.) City Gas Plant.....	446
Waxahachie (Texas) Gas Co.....	302	Williamsburg (Iowa) Gas Plant.....	452
Wayland Oil & Gas Co., Charleston, W. Va.....	422	Williamstown (Mass.) Gas Co.....	145
Wayne Light, Heat & Water Co., Wayne, W. Va.....	428	Williamstown Gas Co., Lykens, Pa.....	273
Wayne Naphtha Co., Waynesburg, Pa.....	488	Williamsville (N. Y.) Natural Gas Co.....	382
Waynesboro (Pa.) Gas Co.....	284	Wilmington (Del.) Gas Co.....	42; (Appendix) 555
Waynesburg (Pa.) Home Gas Co.....	417		

COMPANY INDEX

925

	PAGE		PAGE
Wilmington (Del.) Public Utility Commrs.....	522	Wisconsin Traction, Light, Heat & Power Co., Appleton, Wis.	317 & 761
Wilmington (Ohio) Gas Light & Coke Co.....	256	Wisconsin Valley El. Co., Stevens Point, Wis....	327
Wilputte Coke Oven Corp., New York, N. Y.....	512	Woburn (Mass.) Gas Light Co.....	146
Wilshire Oil Co., Los Angeles, Cal.....	473	Wolcott Gas Co., Shinglehouse, Pa.....	416
Wilson Refining Co., Wilson, Okla.....	485	Woodbine (Iowa) Light & Heating Co.....	109
Wilson (N. C.) Gas Plant.....	247	Woodburn (Ind.) Gas Co.....	439
Winchester (Va.) Gas & Electric Light Co....	311	Woodhaven (N. Y.) Gas Light Co.....	241
Windfall Gas Co., Eldred, Pa.....	405	Woodstock (Ont., Can.) Gas Light Co.....	433
Windsor (Ont., Can.) Gas Co., Ltd.....	433	Woodward (Ala.) Iron Co.....	6
Winfield (Kan.) Gas Co.....	111	Woonsocket (R. I.) Gas Co. (See Blackstone Valley Gas & Elec. Co.)	
Winfield (Kan.) Natural Gas Co., The.....	371	Worcester County Gas Co., Palmer, Mass.....	141
Winnipeg (Man., Can.) Electric Railway Co....	352	Worcester (Mass.) Gas Light Co.....	146
Winona (Minn.) Gas Light & Coke Co. (See Wisconsin-Minnesota Light & Power Co.)		Wright Producing & Refining Corp., Tulsa, Okla.	484
Winslow (Ariz.) Gas Light & Heat Co.....	8	Wyandotte County Gas Co., Kansas City, Kan.	367
Winsted Gas Co., Winsted, Conn.....	40	Wyckoff Oil & Gas Co., Bradford, Pa.....	406
Winston-Salem (N. C.) Gas Co.....	247 & 696	Wyoming Oil Fields Co., Casper, Wyo.....	471
Wisconsin Edison Co., Inc., New York.....	512	Wyoming Public Service Com., Cheyenne, Wyo.	526
Wisconsin Edison Co., Milwaukee, Wis.....	764	Wyoming Refining Co., Graybull, Wyo.....	490
Wisconsin Gas & Elec. Co., Kenosha, Wis.....	322	Yale (Okla.) Oil Corp.....	485
Wisconsin Gas & Elec. Co., Racine, Wis.....	326 & 765	Yankton (S. D.) Light & Heating Co.....	293
Wisconsin Gas & Elec. Co., So. Milwaukee, Wis.	327	Yarmouth (N. S., Can.) Gas Works, Ltd.....	334
Wisconsin Gas & Elec. Co., Watertown, Wis...	328	York County Gas Co. of Dallastown, Pa.....	267
Wis-Minn. Light & Pr. Co., Eau Claire, Wis. (Artificial) 320; (Parent) 520; (Appendix)	762	York County Power Co., Biddeford, Me.....	118
Wis-Minn. Light & Pr. Co., Chippewa Falls, Wis.	320	York (Pa.) Gas Co.....	286
Wis-Minn. Light & Pr. Co., La Crosse, Wis.....	322	Yorkton (Sask., Can.) Gas Co.....	448
Wis-Minn. Light & Pr. Co., Red Wing, Minn...	166	Youngstown Sheet & Tube Co., Youngstown, O.	257
Wis-Minn. Light & Pr. Co., Winona, Minn.....	169	Youngstown (O.) & Sharon Street Railway Co. (See Mahoning & Shenango Railway & Light Co.)	
Wisconsin Pub. Serv. Co., Green Bay, Wis... 321 & 763		Ypsilanti (Mich.) Gas Dept., City of.....	161
Wisconsin Power, Light & Heat Co., Baraboo, Wis.	313; (Appendix) 761	Zenith Furnace Co., Duluth, Minn.....	163
Wisconsin Power, Light & Heat Co., Berlin, Wis.	319	Zero Oil Co., Parkersburg, W. Va.....	490
Wisconsin R. R. Commission.....	526		
Wisconsin Securities Co., Milwaukee.....	520		

Gas Appliance and Display Demonstration

By J. E. BULLARD

A practical description and discussion of the most successful methods of display and demonstration of gas appliances at the present time, with incisive analyses of the principles on which success depends; the wealth of illustrations, showing the good, with suggestions for adaptation to local conditions—and the less successful with indications of the elements to be avoided—give the book a day-in and day-out value not often attained.

The customer's point of view is studied from every angle. Window displays and arrangement of demonstration floors are considered from the standpoint of making sales and creating confidence and good will. Special demonstrations and campaigns are treated comprehensively, as well as the problems involved in gas company advertising.

CHAPTER HEADINGS

I. General Theory of Presentation. II. Gas Offices and Branch Stores. III. Gas Office Display Rooms (Domestic). IV. Gas Office Display Rooms (Industrial). V. Window Displays. VI. Exhibitions and Special Displays. VII. Demonstration of Cooking Appliances. VIII. Demonstration of Specialties. IX. Demonstration of Industrial Appliances. X. Advertising. XI. Interrelation of Departments. XII. Appendix containing Bibliography. Very complete index.

448 pages, 5 x 7, 213 illustrations. \$2.00 net, postpaid.

Published and for Sale by

The Gas Age Book Department

52 VANDERBILT AVENUE

NEW YORK

CITY AND TOWN INDEX

(Cities and towns under which companies' reports are to be found in body of book, appear below in the second column.)

(A) = Acetylene Dept. (G) = Gasoline Dept. (N) = Natural Gas Dept.

ALABAMA.

Alabama City Alabama City.
Anniston Anniston.
Bessemer Bessemer.
Birmingham Birmingham.
Birmingham Birmingham (N).
Capital Heights Montgomery.
Cloverdale Montgomery.
Decatur Decatur.
East Lake Birmingham.
Ensley Birmingham.
Eufaula Eufaula.
Fayette Fayette (A).
Fayette Fayette (N).
Florence Florence.
Gadsden Gadsden.
Holt Holt.
Huntsville Huntsville.
Jasper Jasper (N).
Livingston Livingston (A).
Mobile Mobile.
Montgomery Montgomery.
New Decatur Decatur.
No. Birmingham Birmingham.
Selma Selma.
Sheffield Florence.
Smithfield Birmingham.
Talladega Talladega.
Tuscaloosa Tuscaloosa.
Tuscumbia Florence.
West End Birmingham.
West Huntsville Huntsville.
Woodlawn Birmingham.
Woodward Woodward.

ARIZONA.

Bisbee Bisbee.
Douglas Douglas.
Globe Globe.
Mesa Mesa.
Nogales Nogales.
Phoenix Phoenix.
Prescott Prescott.
Tempe Mesa.
Tucson Tucson.
Winslow Winslow.
Yuma Yuma.

ARKANSAS.

Alma Muskogee, Okla (N).
Argenta Little Rock (N).
Arkadelphia Little Rock (N).
Bauxite Little Rock (N).
Benton Little Rock (N).
Bierne Little Rock (N).
Boughton Little Rock (N).
Bryant Little Rock (N).
Donaldson Little Rock (N).
Emmett Little Rock (N).
Fort Smith Fort Smith (N).
Fouke Little Rock (N).
Garland City Little Rock (N).
Gifford Little Rock (N).
Gum Springs Little Rock (N).
Gurdon Little Rock (N).
Haskels Little Rock (N).
Helena Helena.
Hot Springs Hot Springs (N).
Huntington Fort Smith (N).
Kibler Fort Smith (N).
Little Rock Little Rock (N).
Mablevale Little Rock (N).
Malvern Little Rock (N).
Mansfield Fort Smith (N).
Perla Little Rock (N).
Pine Bluff Little Rock (N).
Prescott Little Rock (N).
Texarkana Texarkana, Tex. N.
Van Buren Fort Smith (N).
Van Buren Van Buren (N).

CALIFORNIA.

Alameda Oakland.
Alamitos Bay Long Beach.
Albany Oakland.
Alhambra Los Angeles.
Alhambra Pasadena.
Anaheim Anaheim (N).
Anaheim Fullerton (N).
Antioch Pittsburg.
Arcadia Arcadia.
Arcata Eureka.
Arlington San Bernardino.
Arroyo Grande Santa Maria (N).
Artesia Newport Beach (N).
Athens Los Angeles.
Atherton Redwood.
Azusa Azusa.
Bakersfield Bakersfield (N).
Balboa Newport Beach (N).
Banning Banning.
Barber Chico.
Beaumont Beaumont.
Bellflower Newport Beach (N).
Belmont Redwood.
Benecia Vallejo.
Berkeley Oakland.
Betteravia Santa Maria (N).
Brawley El Centro.
Brea Los Angeles (N).
Buena Park Los Angeles (N).
Burlingame Redwood.
Cement Suisun (N).
Chico Chico.
Chula Vista San Diego.
Claremont Pomona.
Clearwater Newport Beach (N).
Coalinga Coalinga (N).
Coalinga Coalinga.
Colma Redwood.
Colton San Bernardino.
Colusa Colusa.
Compton Los Angeles.
Concord Pittsburg.
Corona San Bernardino.
Coronado San Diego.
Cotati Petaluma.
Covina Covina.
Crockett Pittsburg.
Culver City Los Angeles (N).
Daly City Redwood.
Del Monte Monterey.
Dinuba Dinuba.
Downey Newport Beach (N).
Eagle Rock Los Angeles.
East Newport Newport Beach (N).
East San Diego San Diego.
El Centro El Centro.
El Modena Los Angeles (N).
El Monte El Monte.
El Rio Oxnard.
Emeryville Oakland.
Escondido Escondido.
Eureka Eureka.
Exeter Visalia.
Fairfax San Rafael.
Fairfield Suisun (N).
Fellows Bakersfield (N).
Fellows Taft (N).
Fowler Fowler.
Fresno Fresno.
Fullerton Fullerton (N).
Garden Grove Garden Grove (N).
Garden Grove Fullerton (N).
Gilroy Gilroy.
Glendale Los Angeles.
Glendora Glendora.
Grass Valley Nevada City.
Guadalupe Santa Maria (N).
Hanford Hanford.
Hayward Oakland.

Hemet Hemet.
Hermosa Beach Redondo Bch. (N).
Hillsborough Redwood.
Hollister Hollister.
Hueneme Oxnard.
Hueneme Oxnard (N).
Huntington Beach H. Beach (N).
Huntington Park Los Angeles.
Hynes Newport Beach (N).
Imperial El Centro.
Inglewood Los Angeles.
Jackson Jackson.
Kentfield San Rafael.
Kern Bakersfield.
La Mesa San Diego.
Larkspur San Rafael.
Lindsay Visalia.
Lodi Sacramento.
Lomita Park Redwood.
Long Beach Long Beach.
Lordsburg Pomona.
Los Angeles Los Angeles.
Los Angeles Los Angeles (N).
Los Gatos Los Gatos.
Madera Madera.
Manhattan Beach Redondo Bch. (N).
Maricopa Bakersfield (N).
Maricopa Taft (N).
Martinez Pittsburg.
Marysville Marysville.
Menlo Park Redwood.
Merced Merced.
Millbrae Redwood.
Miramar Santa Barbara.
Modesto Modesto.
Monrovia Monrovia.
Montalva Oxnard.
Montecito Santa Barbara.
Monterey Monterey.
Napa Napa.
National City San Diego.
Needles Needles.
Nevada City Grass Valley.
Nevada City Nevada City.
New Monterey Monterey.
Newport Beach Newport Beach (N).
Newport Beach Santa Ana (N).
Nipomo Santa Maria (N).
Norwalk Newport Beach (N).
Oakdale Oakdale.
Oakland Oakland.
Oceanside San Diego.
Ontario Ontario.
Orange Fullerton (N).
Orange Orange (N).
Oroville Oroville.
Oxnard Oxnard.
Pacific Grove Monterey.
Palms Los Angeles (N).
Palo Alto Palo Alto.
Palo Alto Redwood.
Parlier Parlier.
Pasadena Los Angeles.
Petaluma Petaluma.
Petaluma Santa Rosa.
Piedmont Oakland.
Piru Oxnard.
Pittsburg Pittsburg.
Placentia Placentia (N).
Placentia Fullerton (N).
Pomona Pomona.
Port Costa Pittsburg.
Porterville Visalia.
Red Bluff Red Bluff.
Redding Redding.
Redlands San Bernardino.
Redondo Beach Redondo Bch. (N).
Redwood City Redwood.
Redley Parlier.
Richmond Oakland.
Riverside San Bernardino.

CITY AND TOWN INDEX

927

Ross San Rafael.
 Sacramento Sacramento.
 St. Helena St. Helena.
 Salinas Salinas.
 San Anselmo San Rafael.
 San Bernardino San Bernardino
 San Bruno Redwood.
 San Diego San Diego.
 San Dimas Pomona.
 San Francisco San Francisco.
 San Jacinto Hemet.
 San Jose San Jose.
 San Leandro Oakland.
 San Luis Obispo. San Luis Obispo (N).
 San Luis Obispo. Santa Maria (N).
 San Mateo Redwood.
 San Pedro San Pedro.
 San Quentin San Rafael.
 San Rafael San Rafael.
 Santa Ana Santa Ana (N).
 Santa Ana Fullerton (N).
 Santa Barbara Santa Barbara.
 Santa Clara Santa Clara.
 Santa Cruz Santa Cruz.
 Santa Maria Santa Maria (N).
 Santa Monica Santa Monica (N).
 Santa Paula Oxnard.
 Santa Rosa Santa Rosa.
 Santicoy Oxnard.
 Santicoy Oxnard (N).
 Sawtelle Santa Monica.
 Seal Beach Long Beach.
 Sebastopol Santa Rosa.
 Selma Selma.
 Sherman Los Angeles.
 Sierra Madre Sierra Madre.
 Somerset Newport Beach (N).
 South Pasadena Los Angeles.
 South Pasadena Pasadena.
 So. San Anita So. San Anita.
 So. San Francisco. Redwood.
 South Taft Taft.
 Stanford University. Redwood.
 Stockton Stockton (N).
 Stockton Stockton.
 Strathmore Visalia.
 Suisun City Suisun (N).
 Taft Bakersfield (N).
 Tropic Los Angeles.
 Tulare Visalia.
 Turlock Turlock.
 Tustin Tustin (N).
 Tustin Fullerton (N).
 Ukiah Ukiah.
 Upland Ontario.
 Vallejo Vallejo.
 Venice Santa Monica.
 Ventura Oxnard.
 Vernon Los Angeles.
 Visalia Visalia.
 Watsonville Watsonville.
 Watts Los Angeles.
 Westgate Los Angeles (N).
 West Newport Bellflower.
 Whittier Whittier.
 Willows Willows.
 Woodland Woodland.
 Yuba City Marysville.

COLORADO.

Bessemer Pueblo.
 Boulder Boulder.
 Burlington Burlington (N).
 Canon City Canon City.
 Castle Rock Castle Rock (A).
 Colorado City Colorado Springs.
 Colorado Springs. Colorado Springs.
 Denver Denver.
 Fort Collins Fort Collins.
 Grand Junction Grand Junction.
 Greeley Greeley.
 La Junta La Junta.
 Lyons Lyons (A).
 Pueblo Pueblo.
 Rocky Ford La Junta.
 Saguache Saguache (A).
 Swink La Junta.
 Trinidad Trinidad.

CONNECTICUT.

Ansonia Derby.
 Berlin New Britain.
 Bethel Danbury.

Branford New Haven.
 Bridgeport Bridgeport.
 Bristol Bristol.
 Centerbrook Deep River (A).
 Cheshire Meriden.
 Coventry Willimantic.
 Danbury Danbury.
 Danielson Danielson.
 Darien Stamford.
 Derby Derby.
 Eagleville Willimantic.
 East Hartford Hartford.
 East Haven New Haven.
 East Norwalk Norwalk.
 East Portchester. East Portchester.
 East Windsor Windsor Locks.
 Ellington Rockville.
 Enfield Thompsonville.
 Fairfield Bridgeport.
 Forestville Bristol.
 Glenbrook Stamford.
 Hamden New Haven.
 Hartford Hartford.
 Huntington Derby.
 Ivoryton Deep River (A).
 Killingly Danielson.
 Ledyard Ledyard.
 Manchester So. Manchester.
 Mansfield Willimantic.
 Meriden Meriden.
 Middletown Middletown.
 Milford New Haven.
 Milldale Meriden.
 Naugatuck Naugatuck.
 New Britain New Britain.
 New Hartford New Hartford.
 New Haven New Haven.
 New London New London.
 North Haven New Haven.
 Norwalk Norwalk.
 Norwich Norwich.
 Orange New Haven.
 Pawcatuck Westerly, R. I.
 Plainville Bristol.
 Plantsville Meriden.
 Putnam Putnam.
 Rockville Rockville.
 Salisbury Lakeville (A).
 Shelton Derby.
 Southington Meriden.
 South Manchester. South Manchester.
 South Meriden Meriden.
 South Norwalk Norwalk.
 Springfield Stamford.
 Stamford Stamford.
 Storrs Willimantic.
 Stratford Bridgeport.
 Taftville Norwich.
 Thompsonville Windsor Locks.
 Torrington Torrington.
 Tracy Wallingford.
 Wallingford Wallingford.
 Waterbury Waterbury.
 Watertown Waterbury.
 Watertown Watertown.
 West Hartford Hartford.
 West Haven New Haven.
 West Tampa West Tampa.
 Wethersfield Hartford.
 Willimantic Willimantic.
 Windham Willimantic.
 Windsor Windsor Locks.
 Windsor Locks Windsor Locks.
 Winsted West Winsted.
 Yalesville Wallingford.
 Yantic Norwich.

DELAWARE.

Blades Seaford.
 Brackex Wilmington.
 Bridgeville Seaford.
 Camden Dover.
 Dover Dover.
 Georgetown Georgetown.
 Laurel Seaford.
 Lewes Lewes.
 New Castle Wilmington.
 Rehoboth Rehoboth (A).
 Richardson Park. Wilmington.
 Roselle Wilmington.
 Seaford Seaford.
 Smyrna Smyrna.
 Wilmington Wilmington.
 Wyoming Dover.

DISTRICT OF COLUMBIA.

Georgetown Washington.
 Washington Washington.
 West Washington. Washington.

FLORIDA.

Buena Vista Miami.
 Daytona Daytona.
 Daytona Beach. Daytona.
 DeLand De Land.
 Gainesville Gainesville.
 Hawthorn Hawthorn (A).
 Jacksonville Jacksonville.
 Key West Key West.
 Lakeland Lakeland.
 Miami Miami.
 New Augustine St. Augustine.
 Ocala Ocala.
 Orlando Orlando.
 Palatka Palatka.
 Pensacola Pensacola.
 Riverside Miami.
 St. Augustine St. Augustine.
 St. Petersburg St. Petersburg.
 Sanford Sanford.
 Seabreeze Daytona.
 So. Jacksonville. Jacksonville.
 Southside Miami.
 Tallahassee Tallahassee.
 Tampa Tampa.
 Valrico Valrico (A).
 West Tampa West Tampa.

GEORGIA.

Albany Albany.
 Americus Americus.
 Athens Athens.
 Atlanta Atlanta.
 Augusta Augusta.
 Brunswick Brunswick.
 Buckhead Buckhead (A).
 Cartersville Cartersville.
 Columbus Columbus.
 Dalton Dalton.
 Decatur Atlanta.
 Griffin Griffin.
 La Grange La Grange.
 Macon Macon.
 Rome Rome.
 Royston Royston (A).
 Savannah Savannah.
 Summerville Augusta.
 Valdosta Valdosta.
 Waycross Waycross.

HAWAII.

Hilo Hilo.
 Honolulu Honolulu.

IDAHO.

Boise Boise.
 Clarkston Lewiston.
 Idaho Falls Idaho Falls.
 Lewiston Lewiston.
 Pocatello Pocatello.
 Vivian Little Rock (N).

ILLINOIS.

Addison Aurora.
 Algonquin Aurora.
 Allerton Allerton (A).
 Alton Alton.
 Ardmore Aurora.
 Area Waukegan.
 Arlington Heights. Evanston.
 Ashton Ashton (G).
 Aurora Aurora.
 Averyville Peoria.
 Barrington Evanston.
 Bartlett Aurora.
 Batavia Aurora.
 Beardstown Beardstown.
 Beaverville Beaverville (A).
 Bellevue East St. Louis.
 Bellwood Oak Park.
 Belvidere Belvidere.
 Bensenville Aurora.
 Berwyn Oak Park.
 Birds Lawrenceville (N).
 Bloomingdale Aurora.

CITY AND TOWN INDEX

Bloomington	Bloomington.	Kankakee	Kankakee.	Shabbona	Shabbona (G).
Blue Island	Blue Island.	Kenilworth	Evanston.	Shannon	Shannon (A).
Bridgeport	Olney (N.)	Kewanee	Kewanee.	Shelbyville	Shelbyville.
Bristol	Aurora.	Kolze	Evanston.	Shermerville	Evanston.
Brookfield	Aurora.	LaGrange	Aurora.	Silvis	Moline.
Burnham	West Hammond.	LaGrange Park	Aurora.	So. Beloit	Beloit, Wis.
Cairo	Cairo.	Lake Bluff	Waukegan.	South Elgin	Aurora.
Canton	Canton.	Lake Forest	Waukegan.	South Holland	Blue Island.
Carbondale	Murphysboro.	LaSalle	La Salle.	Springfield	Springfield.
Carlinville	Carlinville.	Lawrenceville	Lawrenceville (N).	Steger	Chicago Heights.
Carpentersville	Aurora.	Le Clair	Edwardsville.	Sterling	Sterling.
Cartersville	Murphysboro.	Lemont	Aurora.	Stickney	Evanston.
Cary	Aurora.	Libertyville	Waukegan.	Stoy	Oblong (N).
Caseville	East St. Louis.	Lincoln	Lincoln.	Streator	Streator.
Central City	Centralia.	Lisle	Aurora.	Summit	Oak Park.
Centralia	Centralia.	Litchfield	Litchfield.	Sycamore	DeKalb.
Champaign	Champaign.	Lockport	Aurora.	Taylorville	Taylorville.
Charleston	Charleston.	Lombard	Aurora.	Techuy	Evanston.
Chicago	Chicago.	Lyons	Oak Park.	Thornton Twp.	Blue Island.
Chicago Heights	Chicago Heights.	Macomb	Macomb.	Tiskilwa	Tiskilwa.
Cicero	Oak Park.	Madison	Granite City.	Union	Aurora.
Clarendon Hills	Aurora.	Marengo	Aurora.	Upper Alton	Alton.
Clinton	Clinton.	Marion	Murphysboro.	Urbana	Champaign.
Clyde	Oak Park.	Marseilles	Ottawa.	Vienna	Vienna (A).
Collinsville	East St. Louis.	Mattoon	Mattoon.	Waggoner	Waggoner (A).
Congress Park	Aurora.	Maywood	Oak Park.	Warrenville	Aurora.
Crystal Lake	Aurora.	McHenry	Aurora.	Waukegan	Waukegan.
Danville	Danville.	Melrose Park	Oak Park.	Wayne	Aurora.
Decatur	Decatur.	Mendota	Mendota.	West Chicago	Aurora.
Deerfield	Waukegan.	Moline	Moline.	West Dundee	Aurora.
DeKalb	DeKalb.	Monmouth	Monmouth.	West Frankfort	Murphysboro.
DesPlaines	Evanston.	Montgomery	Aurora.	Western Springs	Aurora.
Dixon	Dixon.	Morris	Ottawa.	West Hammond	West Hammond.
Dolton	Blue Island.	Morrison	Morrison.	Westmore	Aurora.
Downers Grove	Aurora.	Morton Grove	Evanston.	Wethersfield	Kewanee.
Duncanville	Oblong (N).	Morton Park	Oak Park.	Wheaton	Aurora.
DuQuoin	Du Quoin.	Mt. Carmel	Mt. Carmel.	Winnetka	Waukegan.
East Dundee	Aurora.	Mt. Greenwood	Blue Island.	Winfield	Aurora.
East Granite	Granite City.	Mt. Pleasant	Evanston.	Winnetka	Waukegan.
East Grove	Aurora.	Mt. Prospect	Evanston.	Wireton	Blue Island.
East Moline	Moline.	Mt. Vernon	Mt. Vernon.	Woodstock	Aurora.
E. St. Louis	East St. Louis.	Murphysboro	Murphysboro.	Yorkville	Aurora.
Edison Park	Evanston.	Naperville	Aurora.		
Edwardsville	East St. Louis.	Nauvoo	Nauvoo (G).		
Edwardsville	Edwardsville (N).	New Hebron	Oblong (N).		
Elgin	Aurora.	New Trier	Evanston.		
Elmhurst	Aurora.	Niles Center	Evanston.		
Evanston	Evanston.	Niles	Evanston.		
Evanston Twp.	Evanston.	North Aurora	Aurora.		
Evergreen Park	Blue Island.	North Chicago	Waukegan.		
Fairmount	Fairmount (A).	Normal	Bloomington.		
Feehanville	Evanston.	Oak Lawn	Blue Island.		
Flat Rock	Vincennes, Ind (N)	Oak Park	Oak Park.		
Floosmoor	Blue Island.	Oblong	Oblong (N).		
Forest Park	Oak Park.	Oil Center	Oblong (N).		
Fort Sheridan	Waukegan.	Olney	Olney (N).		
Fox River Grove	Aurora.	Oswego	Aurora.		
Franklin Park	Evanston.	Ottawa	Ottawa.		
Freeport	Freeport.	Palatine	Evanston.		
Fullersburg	Aurora.	Palestine	Oblong (N).		
Fulton	Clinton, Ia.	Pana	Pana.		
Galena	Galena.	Paris	Paris.		
Galesburg	Galesburg.	Park Ridge	Evanston.		
Galva	Kewanee.	Paxton	Paxton.		
Geneseo	Geneseo.	Pekin	Pekin.		
Geneva	Aurora.	Peoria	Peoria.		
Gilberts	Aurora.	Peru	LaSalle.		
Glencoe	Waukegan.	Plainfield	Aurora.		
Glennlyn	Aurora.	Plano	Aurora.		
Glen View	Evanston.	Pontiac	Pontiac.		
Golf	Evanston.	Posen	Blue Island.		
Granite City	Granite City.	Princeton	Princeton.		
Grant	Oak Park.	Puckstaff	Lawrenceville (N).		
Greenville	Greenville (N).	Quincy	Quincy.		
Greenville	Greenville.	Ravina	Waukegan.		
Gross Point	Evanston.	Ridgefield	Aurora.		
Hampshire	Aurora.	Riverdale	Blue Island.		
Harvard	Aurora.	River Forest	Oak Park.		
Harvey	Blue Island.	River Grove	Evanston.		
Hawthorne	Oak Park.	Riverside	Oak Park.		
Hazelcrest	Blue Island.	Riverview	Evanston.		
Highland Park	Waukegan.	Rochelle	Rochelle.		
Highwood	Waukegan.	Rockdale	Aurora.		
Hillsboro	Hillsboro.	Rock Falls	Sterling.		
Hinsdale	Aurora.	Rockford	Rockford.		
Hollywood	Aurora.	Rock Island	Moline.		
Homewood	Blue Island.	Roselle	Aurora.		
Hoopeston	Hoopeston.	St. Charles	Aurora.		
Huntley	Aurora.	Sandwich	Aurora.		
Itaska	Aurora.	Saukemin	Saukemin (A).		
Jacksonville	Jacksonville.	Savanna	Savanna.		
Johnston City	Murphysboro.	Schiller Park	Evanston.		
Joliet	Aurora.	Schram City	Hillsboro.		
Joliet	Joliet.	Seneca	Ottawa.		

INDIANA.

Adams	Greensburg (N).
Alexandria	Muncie (N).
Alexandria	Pittsburgh, Pa.
	(N).
Altoona	Auburn.
Anderson	Anderson.
Anderson	Muncie (N).
Anderson	Pittsburgh, Pa.
	(N).
Arcadia	Arcadia (N).
Arlington	Arlington (N).
Atlanta	Noblesville.
Auburn	Auburn.
Aurora	Aurora.
Avilla	Auburn.
Avon	Danville.
Batesville	Batesville (N).
Bedford	Bedford.
Bloomington	Bloomington.
Bluffton	Hammond.
Brazil	Brazil.
Broad Ripple	Indianapolis.
Brownsville	Danville.
Brownsville	Brownsville (A).
Burds	Bridgeport, Ill.
	(N).
Burnham	Hammond.
Cambridge City	Cambridge City
	(N).
Carlisle	Carlisle (A).
Carthage	Carthage (N).
Carthage	Knightstown (N).
Charlottesville	Knightstown (N).
Chesterton	Hammond.
Cicero	Noblesville.
Clark's Hill	Clark's Hill (A).
Clarksville	New Albany.
Clarksville	Noblesville (N).
Claysburg	New Albany.
Colfax	Colfax (A).
Columbus	Columbus.
Connersville	Connersville.
Cowan	Cowan (N).
Cowan	Daleville (N).
Crawfordsville	Hammond.
Dale	Dale (A).
Daleville	Daleville (N).
Dana	Dana (A).
Darlington	Darlington (A).

CITY AND TOWN INDEX

929

Decoratur	Hammond.	New Castle	New Castle (N).	Centerville	Centerville.
Dublin	Cambridge City	New Castle	Pittsburgh, Pa.	Chariton	Chariton.
	(N).		(N).	Charles City	Charles City.
Dunkirk	Dunkirk (N).	New Market	New Market (A).	Cherokee	Cherokee.
Dunkirk	Ridgerville (N).	New Ross	New Ross (A).	Clarence	Clarence (G).
East Chicago	Hammond.	Noblesville	Noblesville.	Clear Lake	Clear Lake.
Elkhart	Elkhart.	Noblesville	Pittsburgh, Pa.	Clinton	Clinton.
Elwood	Muncie (N).		(N).	Council Bluffs	Council Bluffs.
Elwood	Pittsburgh, Pa.	Normal City	Muncie (N).	Creston	Creston.
	(N).	Normal City	Pittsburgh, Pa. (N).	Davenport	Davenport.
Evansville	Evansville.	Oakland City	Oakland City (N).	Decorah	Decorah.
Fairmount	Muncie (N).	Oaklandon	Oaklandon (N).	Des Moines	Des Moines.
Fairmount	Pittsburgh, Pa. (N).	Oaktown	Oaktown (A).	Dexter	Dexter.
Farmland	Farmland (N).	Oakville	Fortville (N).	Dubuque	Dubuque.
Flat Rock	Vincennes (N).	Ogden	Ogden (N).	Durant	Durant (G).
Fortville	Fortville (N).	Pendleton	Pendleton (N).	Eagle Grove	Eagle Grove.
St. Wayne	Hammond.	Pennville	Pennville (N).	Early	Early (G).
Fountaintown	Fountaintown (N).	Peru	Lafayette.	Elkader	Elkader (G).
Frankfort	Hammond.	Peru	Peru.	Fairfield	Fairfield.
Franklin	Franklin.	Pinkstaff	Bridgeport, Ill. (N).	Farley	Farley (G).
Frankton	Tipton (N).	Plainfield	Danville.	Fort Dodge	Fort Dodge.
Freeport	Freeport (N).	Plymouth	Hammond.	Fort Madison	Ft. Madison.
Garrett	Auburn.	Port Fulton	New Albany.	Graettinger	Graettinger (A).
Gary	Gary.	Portland	Union City (N).	Grinnell	Grinnell.
Gas City	Muncie (N).	Preble	Lafayette.	Hampton	Hampton.
Goshen	Goshen.	Princeton	Princeton.	Independence	Independence.
Grant City	Shirley (N).	Raleigh	Cambridge City	Iowa City	Iowa City.
Greencastle	Greencastle.		(N).	Iowa Falls	Iowa Falls.
Greendale	Lawrenceburg.	Raleigh	Raleigh (N).	Kenwood Park	Cedar Rapids.
Greenfield	Greenfield (N).	Raysville	Knightstown (N).	Keokuk	Keokuk.
Greenfield	Shelbyville (N).	Richmond	Richmond (N).	Kingsley	Kingsley (G).
Greensburg	Greensburg (N).	Richmond	Pittsburgh, Pa.	Knoxville	Knoxville.
Greensfork	Richmond.		(N).	Le Mars	Le Mars.
Gwynneville	Hammond.	Ridgeville	Ridgeville (N).	Lohrville	Lohrville (G).
Hagerstown	Gwynneville (N).	Riverside	Muncie (N).	Lyons	Clinton.
Hammond	Hagerstown (N).	Riverside	Pittsburgh, Pa. (N).	Mapleton	Mapleton (G).
Hartford City	Muncie (N).	Rochester	Rochester.	Maquoketa	Maquoketa.
Hartford City	Pittsburgh, Pa. (N).	Rosedale	Rosedale (A).	Marathon	Marathon (G).
Hillsboro	Hillsboro (A).	Royerton	Royerton (N).	Marcus	Marcus (G).
Homer	Homer (N).	Rushville	Rushville (N).	Marengo	Auburn, Ill.
Honey Creek	Honey Creek (N).	St. Paul	St. Paul (N).	Marengo	Marengo.
Hortonville	Hortonville (N).	Saratoga	Saratoga (N).	Marion	Cedar Rapids.
Huntington	Huntington.	Seymour	Seymour.	Marshalltown	Marshalltown.
Huntsville	Pendleton (N).	Shelbyville	Shelbyville.	Mason City	Mason City.
Indiana Harbor	Hammond.	Sheridan	Sheridan (N).	Mediapolis	Mediapolis (G).
Indiana Harbor	Indiana Harbor.	Silver Grove	New Albany.	Monroe	Monroe (G).
Indianapolis	Indianapolis.	South Bend	Hammond.	Mt. Pleasant	Mt. Pleasant.
Jeffersonville	New Albany.	South Peru	Peru.	Muscatine	Muscatine.
Jonesboro	Muncie (N).	Spiceland	Spiceland (N).	Nevada	Nevada.
Kendallville	Auburn.	Straughn	Cambridge City	Newell	Newell (G).
Knightstown	Knightstown (N).		(N).	Newton	Newton.
Knights town		Summitville	Muncie (N).	North English	North English.
Orphans' Home	Carthage (N).	Terre Haute	Terre Haute.	Odebolt	Odebolt (G).
Kokomo	Kokomo (N).	Thayer	Thayer (N).	Oelwein	Oelwein.
Lafayette	Hammond.	Tipton	Pittsburgh, Pa.	Osceola	Osceola.
LaPorte	LaPorte.		(N).	Oskaloosa	Oskaloosa.
Lawrenceburg	Lawrenceburg.	Tipton	Noblesville.	Ottumwa	Ottumwa.
Lebanon	Hammond.	Union City	Union City (N).	Perry	Perry.
Letts	Letts (N).	Upland	Muncie (N).	Pleasantville	Pleasantville (G).
Lewisville	Lewisville (N).	Valparaiso	Valparaiso.	Pringhar	Pringhar (G).
Liberty	Liberty.	Van Buren	Huntington (N).	Red Oak	Red Oak.
Linton	Linton.	Vincennes	Vincennes (N).	Rockwell	Rockwell (G).
Logansport	Hammond.	Vincennes	Vincennes.	Ryan	Ryan (G).
Logosotee	Logosotee.	Wabash	Hammond.	Schaller	Schaller (G).
Lynn	Pittsburgh, Pa. (N).	Waldron	Waldron (N).	Sheldon	Sheldon.
Madison	Madison.	Warsaw	Warsaw.	Shenandoah	Shenandoah.
Manilla	Manilla (N).	Washington	Washington.	Sioux City	Sioux City.
Marion	Pittsburgh, Pa.	Waveland	Waveland (A).	Storm Lake	Storm Lake.
	(N).	Westfield	Westfield (N).	Valley Junc.	Des Moines.
Marion	Muncie (N).	West Hammond	Hammond.	Vinton	Vinton.
Markleville	Markleville (N).	West Terre Haute	Terre Haute.	Washington	Washington.
Martinsville	Martinsville.	Whiting	Hammond.	Waterloo	Waterloo.
Matthews	Muncie (N).	Winchester	Winchester (N).	Waverly	Waverly.
Maxwell	Greenfield (N).	Winona Lake	Warsaw.	Webster City	Webster City.
Mays	Cambridge City	Woodburn	Woodburn (A).	West Burlington	Williamburg (G).
	(N).			Williamsburg	Williamsburg (G).
Mechanicsburg	Mechanicsburg			Woodbine	Woodbine (G).
	(N).	IOWA.			
Michigan City	Hammond.	Albia	Albia.	KANSAS.	
Middletown	Middletown (N).	Ames	Ames.	Abilene	Abilene.
Milroy	Milroy (N).	Anamosa	Anamosa.	Altamont	Galena (N).
Milton	Cambridge City	Atlantic	Atlantic.	Altamont	Independence (N).
	(N).	Bancroft	Bancroft (G).	Altoona	Altoona (N).
Mishawaka	Hammond.	Battle Creek	Battle Creek (G).	Arkansas City	Wichita (N).
Modoc	Modoc (N).	Baxter	Baxter (G).	Atchison	Atchison (N).
Montpelier	Lafayette (N).	Belle Plaine	Belle Plaine.	Atchison	Independence (N).
Morristown	Morristown (N).	Boone	Boone.	Atlanta	Wichita (N).
Mt. Auburn	Cambridge City	Boonesboro	Boone.	Augusta	Augusta (N).
	(N).	Brooklyn	Brooklyn (G).	Augusta	Wichita (N).
Muncie	Pittsburgh, Pa.	Burlington	Burlington.	Baldwin	Baldwin (N).
	(N).	Calmar	Calmar (G).	Baldwin	Independence (N).
Muncie	Muncie.	Carroll	Carroll.	Bartlett	Chetopa (N).
Muncie	Muncie (N).	Casey	Casey (G).	Bassett	Iola (N).
New Albany	New Albany.	Cedar Falls	Waterloo.		
		Cedar Rapids	Cedar Rapids.		

CITY AND TOWN INDEX

Bassetts	Bassetts (N).	Mound City	Mound City (N).	Dayton	Covington (N).
Baxter Spgs.	Bartlesville, Okla.	Mound Ridge	Whitcha (N).	Frankfort	Frankfort (N).
Belle Plaine	Wichita (N).	(N). Mound Valley	Mound Valley (N).	Georgetown	Georgetown.
Benedict	Neodesha (N).	Mt. Hope	Wichita (N).	Greunup	Ch'ristn. W. Va. (N).
Bentley	Wichita (N).	Mulvane	Wichita (N).	Henderson	Henderson.
Benton	Wichita (N).	New Albany	Fredonia (N).	Highland Park	Louisville (N).
Bonner Springs	Bonner Springs	New Salem	Wichita (N).	Hopkinsville	Hopkinsville.
		Newton	Wichita (N).	Inez	Ch'ristn. W. Va. (N).
		(N). Niotaze	Peru (N).	Lexington	Lexington (N).
Bronson	Ft. Scott (N).	Olathe	Olathe (N).	Louisa	Ch'ristn. W. Va. (N).
Buffalo	Yates Center (N).	Olathe	Independence (N).	Louisville	Louisville (N).
Buhler	Wichita (N).	Oswatome	Oswatome (N).	Ludlow	Covington (N).
Burden	Wichita (N).	Oswego	Galena (N).	Maysville	Maysville (N).
Burlington	Burlington (N).	Oswego	Independence (N).	Maysville	Cincinnati, O. (N).
Burton	Wichita (N).	Ottawa	Independence (N).	Midway	Frankfort (N).
Cambridge	Wichita (N).	Ottawa	Ottawa (N).	Monticello	Monticello (N).
Caney	Caney (N).	Oxford	Wichita (N).	Mt. Sterling	Lexington (N).
Caney	Independence (N).	Parsons	Oswatome (N).	Newport	Cincinnati, O. (N).
Carlyle	Independence (N).	Parsons	Independence (N).	Newport	Covington (N).
Chanute	Chanute (N).	Parsons	Parsons (N).	No. Middletown	Winchester (N).
Chataqua	Chataqua (N).	Peru	Peru (N).	Oakdale	Louisville.
Cherokee	Galena (N).	Petrolia	Independence (N).	Owensboro	Owensboro.
Cherokee	Independence (N).	Pittsburg	Independence (N).	Paducah	Paducah.
Cherryvale	Altona (N).	Pittsburg	Pittsburg (N).	Paris	Paris (N).
Cherryvale	Iola (N).	Pleasanton	Pleasanton (N).	Paris	Covington (N).
Chetopa	Bartlesville (N).	Princeton	Independence (N).	Pollard	Ch'ristn. W. Va. (N).
Coffeyville	Coffeyville (N).	Princeton	Richmond (N).	Richmond	Richmond.
Coffeyville	Independence (N).	Rantoul	Rantoul (N).	Russell	Ch'ristn. W. Va. (N).
Colony	Independence (N).	Reno	Tonganoxie (N).	St. Helena	Louisville (N).
Columbus	Galena (N).	Richmond	Independence (N).	Salversville	Salversville (N).
Columbus	Independence (N).	Richmond	Richmond (N).	Shelbyville	Shelbyville.
Concordia	Concordia.	Rose	Yates Center (N).	Southen Hts.	Louisville (N).
Concreto	Iola (N).	Rosedale	Independence (N).	Verailles	Frankfort (N).
Cottonwood Falls	Strong City (N).	Rose Hill	Wichita (N).	Varfield	Ch'ristn. W. Va. (N).
Deering	Caney (N).	Salina	Salina.	West Covington	Covington (N).
Dennis	Parsons (N).	Scammon	Galena (N).	Winchester	Lexington (N).
Derby	Wichita (N).	Scammon	Independence (N).	Worthington	Ch'ristn. W. Va. (N).
Douglass	Wichita (N).	Scipio	Independence (N).		
Edgerton	Independence (N).	Scipio	Richmond (N).		
Edgerton	Edgerton (N).	Sedan	Sedan (N).		
Edna	Chetopa (N).	Sedgwick	Wichita (N).	Alexandria	Alexandria.
Eldorado	Wichita (N).	Shawnee	Independence (N).	Algiers	New Orleans.
Elk City	Elk City (N).	Shawnee	Kansas City, Mo.	Bastrop	Bastrop (N).
Elk Falls	Independence (N).	Shawnee	Kansas City, Mo.	Baton Rouge	Baton Rouge.
Elk Falls	Elk Falls (N).	South Park	Kansas City, Mo.	Blanchard	Shreveport (N).
Elsmore	Elsmore (N).	Strong City	Strong City (N).	Bossier City	Shreveport (N).
Emporia	Emporia.	Sycamore	Independence (N).	Broussard	Broussard (N).
Erie	Erie (N).	Thayer	Independence (N).	Caddo City	Shreveport (N).
Eureka	Eureka (N).	Thayer	Thayer (N).	Gretna	Gretna.
Fall River	Fredonia (N).	Topeka	Topeka (N).	Hosston	Little Rock, Ark. (N).
Ft. Scott	Independence (N).	Topeka	Independence (N).	Ida	Little Rock, Ark. (N).
Ft. Scott	Ft. Scott (N).	Tonganoxie	Independence (N).	Jennings	Jennings.
Fredonia	Fredonia (N).	Tonganoxie	Tonganoxie (N).	Jewella	Shreveport (N).
Frontenac	Pittsburg (N).	Towanda	Wichita (N).	Lake Charles	Lake Charles.
Galena	Galena (N).	Tyro	Caney (N).	Lewis	Little Rock, Ark. (N).
Galena	Independence (N).	Udall	Wichita (N).	Mansfield	Mansfield (N).
Gardner	Independence (N).	Valley Center	Wichita (N).	Morningspost	Shreveport (N).
Garnett	Garnett (N).	Weir	Weir (N).	New Orleans	New Orleans.
Gas City	Iola (N).	Weir City	Independence (N).	Oil City	Little Rock, Ark. (N).
Great Bend	Great Bend.	Welda	Independence (N).	Rodessa	Shreveport (N).
Greeley	Greeley (N).	Wellington	Wichita (N).	Shreveport	Shreveport (N).
Grenola	Wichita (N).	Wellington	Wellington (N).	Trees City	Pittsburg, Pa. (N).
Hackney	Wichita (N).	Wellsville	Independence (N).	Vivian	Shreveport (N).
Halstead	Wichita (N).	Wellsville	Wellsville (N).		
Haven	Wichita (N).	Westmoreland	Westmoreland (N).		
Hesston	Wichita (N).	Whitewater	Wichita (N).		
Howard	Elk Falls (N).	Wichita	Wichita (N).		
Humboldt	Humboldt (N).	Winfield	Wichita (N).		
Hutchinson	Hutchinson.	Winfield	Wichita (N).		
Hutchinson	Hutchinson (N).	Winfield	Wichita (N).		
Hutchinson	Wichita (N).	Winfield	Wichita (N).		
Independence	Independence (N).	Yates Center	Yates Center (N).		
Jefferson	Independence (N).				
Junction City	Junction City.				
Kansas City	Independence (N).				
Labette	Bartlesville (N).				
La Harpe	Iola (N).				
Lawrence	Independence (N).				
Lawrence	Lawrence (N).				
Leavenworth	Independence (N).				
Leavenworth	Leavenworth (N).				
Le Hunt	Iola (N).				
Le Loup	Independence (N).				
Lenexa	Independence (N).				
Lenexa	Kansas City, Mo.				
Liberal	Liberal (N).				
Liberty	Independence (N).				
Louisburg	Louisburg (N).				
Manhattan	Manhattan.				
Merriam	Independence (N).				
Merriam	Kansas City, Mo.				
	(N). Covington				
Moran	Ft. Scott (N).				

Ashland	Ashland.	Ch'ristn. W. Va. (N)
Barbourville	Barbourville.	Barbourville (N).
Bearmont	Bearmont.	Louisville (N).
Bellevue	Bellevue.	Covington (N).
Bowling Green	Bowling Green.	Bowling Green.
Burning Springs	Burning Springs.	Burning Springs.
Catlettsburg	Huntington,	W. Va. (N).
	W. Va. (N).	
Catlettsville	Ch'ristn. W. Va. (N)	
Central City	Central City (N).	
Chinuville	Ch'ristn. W. Va. (N).	
Clifton	Covington (N).	
Clintonville	Winchester (N).	
Cloverport	Cloverport (N).	
Covington	Cincinnati, O. (N).	
Covington	Covington (N).	
Danville	Danville.	

Auburn	Lewiston.
Augusta	Augusta.
Bangor	Bangor.
Bath	Bath.
Belfast	Belfast.
Berwick	Rochester, N. H.
Biddeford	Biddeford.
Brewer	Bangor.
Calais	Calais.
Cape Elizabeth	South Portland.
Castine	Castine (A).
Deer Isle Village	Deer Isle (A).
Fairfield	Waterville.
Gardiner	Augusta.
Hallowell	Augusta.
Lewiston	Lewiston.
Millinocket	Millinocket (A).
Peaks Island	Peaks Island.
Portland	I Portland.
Rockland	Rockland.
Saco	Biddeford.
South Portland	South Portland.
South Portland	Portland.
Standish	Sebago Lake
Waterville	Waterville.
Westbrook	Westbrook.
Winslow	Waterville.

CITY AND TOWN INDEX

931

MARYLAND.

Annapolis	Annapolis.	E. Longmeadow ..	Springfield.	Stoneham	Stoneham.
Baltimore	Baltimore.	Everett	Malden.	Stoneham	Malden.
Bladensburg	Hyattsville.	Fwing	Athol.	Stoughton	Brockton.
Braddock Hts.	Frederick.	Fairhaven	New Bedford.	Stow	Marlboro.
Brentwood	Hyattsville.	Fall River	Fall River.	Swampscott	Lynn.
Cambridge	Cambridge.	Fitchburg	Fitchburg.	Taunton	Taunton.
Chestertown	Chestertown.	Framingham	Framingham.	Tewkesbury	Lowell.
Chevy Chase	Washington, D. C.	Gardner	Gardner.	Tisbury	Vineyard Haven (A).
College Park	Hyattsville.	Gloucester	Gloucester.	Turners Falls	Greenfield.
Cottage City	Hyattsville.	Greenfield	Greenfield.	Wakefield	Wakefield.
Crisfield	Crisfield.	Haverhill	Haverhill.	Waltham	Newton.
Cumberland	Davis, W. Va. (N).	Haverhill	Haverhill.	Ware	Ware.
Deer Park	Oakland (N).	Hingham	Hull.	Warren	Warren.
Delmar	Salisbury.	Holbrook	Brockton.	Watertown	Newton.
Denton	Denton (A).	Holyoke	Holyoke.	Webster	Webster.
East Hyattsville	Hyattsville.	Hopedale	Milford.	Wellesley	Newton.
Easton	Easton.	Hudson	Marlboro.	Wendall	Athol.
Eastport	Annapolis.	Hyde Park	Hyde Park.	Westham	Beverly.
Elkton	Elkton.	Ipswich	Ipswich.	West Bridgewater	Brockton.
Forest Hill	Forest Hill (A).	Jamaica Pl.	Boston.	West Brookfield	Warren.
Frederick	Frederick.	Lancaster	Clinton.	Westfield	Westfield.
Frederick	Frederick (A).	Lawrence	Lawrence.	Weston	Newton.
Frostburg	Davis, W. Va. (N).	Lee	Pittsfield.	West Springfield	Springfield.
Germantown	Annapolis.	Leicester	Warren.	Weymouth	Braintree.
Hagerstown	Hagerstown.	Lenox	Pittsfield.	Whitman	Braintree.
Havre de Grace	Havre de Grace.	Leominster	Leominster.	Williamstown	Williamstown.
Hyattsville	Hyattsville.	Lexington	Lexington.	Winchester	Arlington.
Lawsonia	Crisfield.	Longmeadow	Springfield.	Winthrop	Revere.
Loch Lynn	Oakland (N).	Lowell	Lowell.	Woburn	Woburn.
Lonacoring	Davis, W. Va. (N).	Ludlow	Springfield.	Worcester	Worcester.
Luke	Davis, W. Va. (N).	Lunenburg	Leominster.		
Manhattan	Manhattan (A).	Lynn	Lynn.		
Mariners	Crisfield.	Lynnfield	Lynn.		
Mt. Lake Pk.	Oakland (N).	Malden	Malden.		
Mt. Ranier	Hyattsville.	Manchester	Beverly.		
Mt. Savage	Westport (N).	Mansfield	Foxboro.		
Oakland	Oakland (N).	Mansfield	Taunton.		
Riverdale	Hyattsville.	Marblehead	Lynn.		
Salisbury	Salisbury.	Marion	Marion (A).		
Sparrows Point	Sparrows Point.	Marlboro	Marlboro.		
Takoma Park	Takoma Park.	Maynard	Marlboro.		
Taneytown	Taneytown (A).	Medford	Malden.		
Westport	Davis, W. Va. (N).	Melrose	Malden.		
Westminster	Westminster.	Merrimac	Haverhill.		

MASSACHUSETTS.

Abington	Braintree.	Addison	Detroit.
Acushnet	New Bedford.	Adrian	Adrian.
Adams	Adams.	Albion	Albion.
Agawam	Springfield.	Allegan	Otsego.
Amesbury	Amesbury.	Alma	Alma.
Amherst	Amherst.	Alpena	Alpena.
Andover	Lawrence.	Ann Arbor	Ann Arbor.
Arlington	Arlington.	Battle Creek	Battle Creek.
Athol	Athol.	Bay City	Jackson.
Attleboro	Attleboro.	Beiding	Beiding.
Avon	Brockton.	Benton Harbor	Benton Harbor.
Barnstable	Hyannis (A).	Big Rapids	Big Rapids.
Belmont	Arlington.	Birmingham	Jackson.
Beverly	Beverly.	Breckenridge	Alma.
Blackstone	Woonsocket, R. I.	Buchanan	Niles.
Blackstone	Blackstone.	Cadillac	Cadillac.
Boston	Boston.	Charlottesville	Charlottesville.
Bradford	Haverhill.	Cheboygan	Cheboygan.
Braintree	Braintree.	Chelsea	Ann Arbor.
Bridgewater	Brockton.	Clare	Mt. Pleasant.
Brockton	Brockton.	Coldwater	Coldwater.
Brookfield	Warren.	Detroit	Detroit.
Brookline	Boston.	Dexter	Ann Arbor.
Cambridge	Cambridge.	Dowagiac	Dowagiac.
Canton	Brockton.	East Grand Rapids	Grand Rapids.
Charlestown	Boston.	East Lansing	Lansing.
Chelmsford	Lowell.	Eaton Rapids	Charlotte.
Chelsea	Boston.	Ecorse	Detroit.
Chicopee	Springfield.	Escanaba	Escanaba.
Clarksburg	North Adams.	Ferrysburg	Grand Haven.
Clinton	Clinton.	Flint	Jackson.
Cohasset	Hull.	Ford	Detroit.
Cove Village	New Bedford.	Fort Wayne	Detroit.
Dalton	Pittsfield.	Grand Haven	Grand Haven.
Danvers	Beverly.	Grand Ledge	Grand Ledge.
Dartmouth	New Bedford.	Grand Rapids	Grand Rapids.
Dartmouth	Dartmouth (A).	Grosse Pt.	Detroit.
Dedham	Hyde Park.	Hamtramck	Detroit.
Dighton	Taunton.	Hancock	Hancock.
Dorchester	Boston.	Hastings	Hastings.
Dracut	Lowell.	Highland Pk.	Detroit.
Dudley	Webster.	Hillsdale	Hillsdale.
East Boston	Boston.	Holland	Holland.
East Bridgewater	Brockton.	Houghton	Hancock.
East Brookfield	Palmer.	Ionia	Ionia.
Easthampton	Easthampton.	Iron Mountain	Iron Mountain.
		Ironwood	Ironwood.
		Ishpeming	Negaunee.
		Ithaca	Alma.
		Jackson	Jackson.
		Kalamazoo	Jackson.
		Lake Odessa	Hastings.
		Lansing	Lansing.
		Lansing Twp.	Lansing.
		Laurium	Laurium.
		Lawrence	Lawrence (G).
		Ludington	Ludington.
		Manistee	Jackson.
		Marquette	Marquette.

CITY AND TOWN INDEX

Marshall Marshall.
 Menominee Menominee.
 Middleville Hastings.
 Monroe Monroe.
 Mt. Clemens Mt. Clemens.
 Mt. Pleasant Mt. Pleasant.
 Muskegon Muskegon.
 Muskegon Heights Muskegon Heights.
 Nashville Hastings.
 Negaunee Negaunee.
 Niles Niles.
 No. Mankato Mankato.
 Northville Plymouth.
 Oakwood Detroit.
 Otsego Otsego.
 Owosso Owosso.
 Petoskey Petoskey.
 Plainwell Otsego.
 Plymouth Plymouth.
 Pontiac Jackson.
 Port Huron Port Huron.
 Red Jacket Laurium.
 Ripley Hancock.
 River Rouge Detroit.
 Rosebush Mt. Pleasant.
 Royal Oak Jackson.
 Saginaw Jackson.
 St. Johns St. Johns.
 St. Joseph Benton Harbor.
 St. Louis Alma.
 Sault Ste. Marie Sault Ste. Marie.
 Sibley Detroit.
 South Haven South Haven.
 Spring Lake Grand Haven.
 Sturgis Sturgis.
 Three Rivers Three Rivers.
 Traverse City Traverse City.
 Trenton Detroit.
 Woodmere Detroit.
 Wyandotte Detroit.
 Wyandotte Hgts. Detroit.
 Ypsilanti Ypsilanti.
 Zeeland Holland.

MINNESOTA.

Albert Lea Albert Lea.
 Alice Duluth.
 Aurora Duluth.
 Austin Austin.
 Bemidji Bemidji.
 Biwabik Duluth.
 Brainerd Brainerd.
 Brooklyn Duluth.
 Buhl Duluth.
 Canby Canby (G).
 Chisholm Duluth.
 Crookston Crookston.
 Currie Currie (G).
 Dover Dover (A).
 Duluth Duluth.
 E. Grand Forks Grand Forks, N. D.
 Eveleth Duluth.
 Excelsior Excelsior.
 Faribault Faribault.
 Hibbing Duluth.
 Houston Houston (G).
 Jasper Jasper.
 Mankato Mankato.
 McKinley Duluth.
 Minneapolis Minneapolis.
 Moorhead Fargo, N. D.
 New Ulm New Ulm.
 Northfield Faribault.
 North Mankato Mankato.
 Norwood Norwood (A).
 Owatonna Owatonna.
 Prairie Prairie (G).
 Red Wing Red Wing.
 Renville Renville.
 Rochester Rochester.
 Rothsay Rothsay (A).
 St. Cloud St. Cloud.
 St. Michael St. Michael (A).
 St. Paul St. Paul.
 Sleepy Eye New Ulm.
 So. St. Paul So. St. Paul.
 So. Stillwater Stillwater.
 Stillwater Stillwater.
 Virginia Virginia.
 West Minneapolis West Minneapolis.
 Winona Winona.

MISSISSIPPI.

Biloxi Biloxi.
 Columbus Columbus.
 Greenville Greenville.
 Gulfport Biloxi.
 Handsboro Biloxi.
 Hattiesburg Hattiesburg.
 Jackson Jackson.
 Long Beach Biloxi.
 Meridian Meridian.
 Mississippi City Biloxi.
 Natchez Natchez.
 Pass Christian Biloxi.
 Vicksburg Vicksburg.
 Vicksburg Vicksburg (N).

MISSOURI.

Alba Independence, Kan. (N).
 Bolckow Bolckow (A).
 Boonville Boonville.
 Bristol Independence.
 Brookfield Brookfield.
 Cape Girardeau Cape Girardeau.
 Carl Junction Carl Junction (N).
 Carl Junction Independence, Kan. (N).
 Carterville Webb City (N).
 Carthage Carthage (N).
 Carthage Bartlesville, Okla. (N).
 Chillicothe Chillicothe.
 Clayton Webster Groves.
 Clinton Clinton.
 Columbia Columbia.
 Cottonwood Falls Strong City (N).
 Deerfield Ft. Scott, Kan. (N).
 Elmer Elmer (A).
 Emporia Strong City (N).
 Englewood Independence.
 Evanston Independence.
 Evanston Park Independence.
 Eve Ft. Scott, Kan. (N).
 Excelsior Spgs. Excelsior Spgs.
 Fairland Grove Independence.
 Fairland Heights Independence.
 Fairmount Independence.
 Ferguson Webster Groves.
 Gardner Gardner (N).
 Hannibal Hannibal.
 Independence Independence.
 Jefferson City Jefferson City.
 Joplin Joplin (N).
 Joplin Independence, Kan. (N).
 Joplin Bartlesville, Okla. (N).
 Kansas City Kansas City (N).
 Kansas City Independence, Kan. (N).

Kirksville Kirksville.
 Kirkwood Webster Groves.
 Lexington Lexington.
 Louisiana Louisiana.
 Macon Macon.
 Maplewood Webster Groves.
 Marshall Marshall.
 Maywood Independence.
 Mexico Mexico.
 Moberly Moberly.
 Mound City Mound City (N).
 Moundville Ft. Scott, Kan. (N).
 Mt. Washington Independence.
 Neck City Independence, Kan. (N).

Nevada Nevada.
 Nevada Ft. Scott, Kan. (N).
 Nevada Independence, Kan. (N).
 Norwood Independence.
 Cronogo Joplin (N).
 Oronogo Independence, Kan. (N).
 Oronogo Oronogo (N).
 Purcell Independence, Kan. (N).

Ravenswood Independence.
 Richards Ft. Scott, Kan. (N).
 Richmond Heights Webster Groves.
 St. Charles St. Charles.
 St. Joseph St. Joseph.

St. Joseph Independence, Kan. (N).
 St. Joseph St. Joseph (N).
 St. Louis St. Louis.
 Sedalia Sedalia.
 Sheffield Independence (N).
 Shrewsbury Webster Groves.
 Smithfield Carl Junction (N).
 Springfield Springfield.
 Strong City Strong City (N).
 Tidswell Independence.
 Trenton Trenton.
 Uniondale Webster Groves.
 University City Webster Groves.
 Webb City Bartlesville, Okla. (N).

Webb City Webb City (N).
 Webster Groves Webster Groves.
 Welda Kansas City (N).
 Weston Kansas City, Kan. (N).
 Weston Independence, Kan. (N).

MONTANA.

Baker Baker (N).
 Billings Billings.
 Bozeman Bozeman.
 Butte Butte.
 Centerville Butte.
 Glendive Glendive (N).
 Great Falls Great Falls.
 Havre Havre (N).
 Helena Helena.
 Missoula Missoula.

NEBRASKA.

Bancroft Bancroft (A).
 Beatrice Beatrice.
 Blair Blair.
 Broken Bow Broken Bow.
 Burwell Burwell (A).
 Central City Central City.
 Columbus Columbus.
 Fairbury Fairbury.
 Fremont Fremont.
 Grand Island Grand Island.
 Greeley Greeley (A).
 Hartington Hartington (G).
 Hastings Hastings.
 Havelock Lincoln.
 Kearney Kearney.
 Laurel Laurel (A).
 Lincoln Lincoln.
 McCook McCook.
 Nebraska City Nebraska City.
 Nehawka Nehawka (A).
 Newport Newport (A).
 Norfolk Norfolk.
 North Beatrice Beatrice.
 North Platte North Platte.
 Oakland Oakland (G).
 Omaha Omaha.
 Ord Ord.
 Petersburg Petersburg (A).
 Plattsmouth Plattsmouth.
 South Beatrice Beatrice.
 South Omaha Omaha.
 Stuart Stuart (A).
 Syracuse Syracuse (G).
 Utica Utica (A).
 University Place Lincoln.
 West Beatrice Beatrice.
 York York.

NEVADA.

Carson City Carson City.
 Goldfield Goldfield (G).
 Las Vegas Las Vegas.
 Reno Reno.
 Sparks Reno.
 Tonopah Tonopah.

NEW HAMPSHIRE.

Claremont Claremont.
 Concord Concord.
 Dover Dover.
 East Rochester Rochester.
 Exeter Exeter.
 Franklin Franklin Falls.

CITY AND TOWN INDEX

933

Franklin Falls... Franklin Falls.
 Gonic Rochester.
 Hampton Amherst, Mass.
 Hudson Nashua.
 Keene Keene.
 Laconia Laconia.
 Lakeport Laconia.
 Manchester Manchester
 Nashua Nashua.
 Pittsfield Pittsfield (Co).
 Portsmouth Portsmouth.
 Rochester Rochester.
 Somersworth Rochester.
 Wilton Wilton (A).

NEW JERSEY.

Absecon Pleasantville.
 Allenhurst Long Branch.
 Alliance Norma.
 Avenel Perth Amboy.
 Asbury Park Long Branch.
 Ashland Glassboro.
 Atlantic City Atlantic City.
 Atlantic Hglds. Atlantic Hglds.
 Audubon Camden.
 Avon Belmar.
 Barnesboro Glassboro.
 Barnegat Toms River.
 Barrington Laurel Spgs.
 Bay Head Belmar.
 Bayonne Jersey City.
 Bayville Toms River.
 Beach Haven..... Beach Haven (A).
 Beachwood Toms River.
 Belford Atlantic Hglds.
 Belleville Newark.
 Belmar Belmar.
 Belview Heights .. Fairton.
 Bergen County
 (38 towns) .. Hackensack.
 Bergenfields Hackensack.
 Berlin Glassboro.
 Beverly Camden.
 Bivalve Port Norris.
 Blackwood Glassboro.
 Bleinheim Glassboro.
 Bloomfield Newark.
 Boonton Boonton.
 Bogota Hackensack.
 Bordentown Camden.
 Bound Brook.... New Brunswick.
 Bradley Beach... Belmar.
 Brevent Park.... Atlantic Hglds.
 Bricksboro Leesburg.
 Bridgeport Glassboro.
 Bridgeton Bridgeton.
 Bridgewater Twp.. New Brunswick.
 Brielle Belmar.
 Brookville Flemington.
 Brotmanville Norma.
 Buena Vista Millville.
 Buena Minotola.
 Burlington Camden.
 Caldwell Newark.
 Camden Camden.
 Cape May Cape May.
 Carlstadt Hackensack.
 Carmel Rosenhayr.
 Cedar Creek Toms River.
 Cedar Run Toms River.
 Cedarville Millville.
 Centre Township.. Camden.
 Chatham Newark.
 Chester Township.. Camden.
 Chews Landing... Glassboro.
 Cinnaminson Camden.
 Clark Elizabeth.
 Clarksboro Glassboro.
 Clark Township .. Westfield.
 Clayton Glassboro.
 Clementon Glassboro.
 Cliffside Park ... Jersey City.
 Clifton Paterson.
 Cloverdale Landis Twp.
 Collingswood Camden.
 Colonia Perth Amboy.
 Columbus Camden.
 Commercial Town-
 ship Millville.
 Como Belmar.
 Cranford Westfield.
 Cranford Elizabeth.
 Cresskill Hackensack.

Cross Keys Glassboro.
 Daretown Elmer.
 Deal Beach Long Branch.
 Deerfield Twnshp.. Millville.
 Delanco Camden.
 Delford Hackensack.
 Delrand Camden.
 Deptford Twnsp.. Camden.
 Dividing Creek .. Newport.
 Dover Dover.
 Down Township .. Millville.
 Dugston Newport.
 Dumont Hackensack.
 Dunellen New Brunswick.
 East Brunswick .. New Brunswick.
 East Burlington .. Camden.
 East Newark Newark.
 East Oceanic Atlantic Highlands
 East Orange Newark.
 E. Paterson Boro. Paterson.
 East Rutherford .. Hackensack.
 East Side Park .. Atlantic Highlands
 East Vineland ... Landis Twp.
 East Vineland ... Vineland.
 Eatontown Long Branch.
 Edgewater Jersey City.
 Egg Harbor City .. Egg Harbor City.
 Elizabeth Elizabeth.
 Elmer Glassboro.
 Emerson Hackensack.
 Englewood Hackensack.
 Englewood Cliffs .. Glassboro.
 Essex Falls Newark.
 Ewing Camden.
 Fair Haven Long Branch.
 Fairton Fairton.
 Fairton Millville.
 Fairview Jersey City.
 Fairview Elizabeth.
 Fanwood Westfield.
 Fairfield Twnshp.. Millville.
 Fieldsboro Camden.
 Flemington Flemington.
 Florence Camden.
 Florham Park Newark.
 Fords Perth Amboy.
 Forked River Toms River.
 Fort Lee Jersey City.
 Franklinville Glassboro.
 Freehold Atlantic Highlands
 Garfield Paterson.
 Garwood Elizabeth.
 Garwood Westfield.
 Gibbsboro Glassboro.
 Glassboro Glassboro.
 Glendora Glassboro.
 Glen Ridge Newark.
 Glen Rock Hackensack.
 Gloucester Camden.
 Granville Pk. Atlantic Highlands
 Grenlock Philadelphia, Pa.
 Guttenberg Jersey City.
 Hackensack Hackensack.
 Hackensack Hgts.
 Borough Hackensack.
 Haddonfield Camden.
 Haddon Heights .. Camden.
 Haddon Twp. Camden.
 Haledon Paterson.
 Haledon Port Norris.
 Hamilton Camden.
 Hammononton Hammononton.
 Hanover Twp Newark.
 Harrison Newark.
 Haworth Hackensack.
 Hawthorne Newark.
 Helmetta New Brunswick.
 Highland Park ... New Brunswick.
 Highland Park ... Atlantic Highlands
 Highlands Atlantic Highlands
 Hilltop Glassboro.
 Hillsdale Elizabeth.
 Hillsdale Hackensack.
 Hillside Atlantic Highlands
 Hilton Atlantic Highlands
 Hoboken Jersey City
 Honokus Borough.. Hackensack.
 Hopewell Flemington.
 Hurville Glassboro.
 Ideal Beach Atlantic Highlands
 Iona Glassboro.
 Irvington Newark.

Iselin Perth Amboy.
 Island Heights ... Toms River.
 Jamesburg New Brunswick.
 Jefferson Glassboro.
 Jersey City Jersey City.
 Keansburg Beach.. Atlantic Highlands
 Keansburg Atlantic Highlands
 Kearny Newark.
 Kenilworth Elizabeth.
 Kenilworth Westfield.
 Keyport Atlantic High-
 lands.
 Kirkwood Laurel Springs.
 Lakewood Belmar.
 Lakewood Lakewood.
 Lambertville Flemington.
 Landis Twp. Landis Twp.
 Laurel Springs ... Glassboro.
 Lawrence Camden.
 Lawrence Twp. ... Millville.
 Leonardo Atlantic Highlands
 Leesburg Leesburg.
 Leonia Hackensack.
 Linden Elizabeth.
 Lindenwald Glassboro.
 Lindenwood Philadelphia, Pa.
 Linwood Pleasantville.
 Little Falls Paterson.
 Little Ferry Boro.. Hackensack.
 Little Silver Long Branch.
 Locust Atlantic Highlands
 Lodi Paterson.
 Lodi Township ... Hackensack.
 Long Branch Long Branch.
 Longport Atlantic City.
 Lumberton Twp. .. Camden.
 Lyndhurst Hackensack.
 Madison Newark.
 Madison Twp. ... New Brunswick.
 Magnolia Glassboro.
 Malaga Glassboro.
 Manahawkin Toms River.
 Manasquan Belmar.
 Manasquan Manasquan.
 Mansfield Camden.
 Mantua Glassboro.
 Mardean Atlantic Highlands
 Margate Atlantic City.
 Marlton Marlton (A).
 Marshalls Corners.. Flemington.
 Matawan Atlantic Highlands
 Maurer Perth Amboy.
 Maurice Riv. Twp.. Maurice Riv. Twp.
 Maurice town Port Norris.
 Maywood Hackensack.
 Medford Medford.
 Menantico Leesburg.
 Menlo Park Metuchen.
 Merchantville ... Camden.
 Metuchen Elizabeth.
 Metuchen Metuchen.
 Mickleton Glassboro.
 Midland Hackensack.
 Middlesex Boro ... New Brunswick.
 Middletown Atlantic Highlands
 Middletown Port Norris.
 Milburn Newark.
 Milltown New Brunswick.
 Millville Millville.
 Minotola Minotola.
 Monmouth Beach .. Long Branch.
 Monroe New Brunswick.
 Monroeville Glassboro.
 Montclair Newark.
 Moonachie Hackensack.
 Moorestown Camden.
 Morristown Newark.
 Morris Township .. Newark.
 Mt. Airy Flemington.
 Mt. Ephraim Laurel Springs.
 Mt. Holly Camden.
 Mt. Royal Glassboro.
 Mullica Hill Glassboro.
 Navesink Atlantic Highlands
 Neptune City Belmar.
 Neptune Twp. ... Long Branch.
 Newark Newark.
 New Brunswick ... New Brunswick.
 New England Fairton.
 Newfield Glassboro.
 New Monmouth ... Atlantic Highlands
 New Pt. Comfort .. Atlantic Highlands
 Newport Millville.
 Newport Newport.

CITY AND TOWN INDEX

- Newton Newton.
 Norma Norma.
 North Arlington Newark.
 North Bergen Jersey City.
 North Brunswick New Brunswick.
 North Caldwell Newark.
 Northfield Pleasantville.
 No. Hampton Twp. Camden.
 N. Plainfield Boro. New Brunswick.
 N. Plainfield Twp. New Brunswick.
 North Port Norris. Port Norris.
 North Wildwood Wildwood.
 Nutley Paterson.
 Oaklyn Camden.
 Ocean City Ocean City.
 Ocean Grove Belmar.
 Ocean Lake Toms River.
 Oceanic Atlantic Highlands.
 Oceanport Long Branch.
 Ocean Twp. Long Branch.
 Ocean View Atlantic Highlands.
 Orange Newark.
 Overbrook Glassboro.
 Overpeck Hackensack.
 Palisade Hackensack.
 Palisade Park Hackensack.
 Palmyra Camden.
 Parvins Norma.
 Passaic Paterson.
 Paterson Paterson.
 Paulsboro Paulsboro.
 Pedricktown Glassboro.
 Pemberton Pemberton (G).
 Pennington Flemington.
 Penn's Grove Glassboro.
 Pensauken Camden.
 Perth Amboy Elizabeth.
 Perth Amboy Perth Amboy.
 Phillipsburg Easton, Pa.
 Picton Westfield.
 Pine Beach Toms River.
 Piscataway Twp. New Brunswick.
 Pitman Glassboro.
 Pitman Grove Glassboro.
 Pittsgrove Glassboro.
 Pittsgrove Twp. Millville.
 Plainfield New Brunswick.
 Pleasantville Pleasantville.
 Point Pleasant Belmar.
 Port Elizabeth Leesburg.
 Port Monmouth Atlantic Highlands.
 Port Norris Millville.
 Port Norris Port Norris.
 Port Reading Perth Amboy.
 Princeton Camden.
 Prospect Park Paterson.
 Rahway Elizabeth.
 Rahway Rahway.
 Raritan Elizabeth.
 Raritan New Brunswick.
 Raritan Twp. Metuchen.
 Red Bank Long Branch.
 Richwood Glassboro.
 Ridgefield Hackensack.
 Ridgewood Hackensack.
 Ringoes Flemington.
 Riverside Hackensack.
 Riverside Camden.
 Riverton Camden.
 Rockaway Dover.
 Rocktown Flemington.
 Roosevelt Elizabeth.
 Roosevelt Perth Amboy.
 Roselle Elizabeth.
 Roselle Park Elizabeth.
 Rosenhayn Millville.
 Rosenhayn Rosenhayn.
 Rumson Atlantic Highlands.
 Runnemede Glassboro.
 Rutherford Hackensack.
 Saddle River Twp. Paterson.
 Salem Salem.
 Sayreville New Brunswick.
 Scotch Plains Westfield.
 Seabright Long Branch.
 Sea Girt Belmar.
 Sea Isle City Sea Isle City.
 Secaucus Jersey City.
 Sewaren Perth Amboy.
 Sewell Glassboro.
 Shrewsbury Long Branch.
 Skillman Princeton.
 Somerdale Glassboro.
 Somers Point Pleasantville.
 Somerville New Brunswick.
 South Amboy New Brunswick.
 South Brunswick New Brunswick.
 So. Orange Newark.
 South River New Brunswick.
 South Vineland Landis Twp.
 Spottswood New Brunswick.
 Springfield Newark.
 Spring Lake Belmar.
 Stanwick Camden.
 Stockton Flemington.
 Stone Church Atlantic Highlands.
 Stone Road Atlantic Highlands.
 Stratford Glassboro.
 Summit Newark.
 Swedesboro Glassboro.
 Teaneck Hackensack.
 Tenafly Riverside.
 Toms River Toms River.
 Totowa Paterson.
 Town of Union Jersey City.
 Trenton Camden.
 Tuckahoe Tuckahoe (A).
 Tuckerton Tuckerton.
 Tuckerton Toms River.
 Turnersville Glassboro.
 Union Elizabeth.
 Ventnor Atlantic City.
 Verona Newark.
 Villa Park Belmar.
 Vineland Glassboro.
 Wall Twp. Belmar.
 Wallington Paterson.
 Waretown Toms River.
 Washington Washington.
 Water Witch Atlantic Highlands.
 Watsontown Glassboro.
 Weehawken Jersey City.
 Wenonah Glassboro.
 West Belmar Belmar.
 West Berlin Glassboro.
 West Caldwell Newark.
 West Cape May Cape May.
 West Creek Toms River.
 West Deptford Camden.
 Westfield Westfield.
 Westfield Elizabeth.
 W. Hampton Twp. Camden.
 West Hoboken Camden City.
 West Long Br. Long Branch.
 West New York Jersey City.
 West Orange Newark.
 West Paterson Paterson.
 West Windsor Camden.
 Westville Camden.
 West Vineland Vineland.
 Westwood Boro. Hackensack.
 Wharton Dover.
 Wheat Road Minotola.
 Wildwood Wildwood.
 Wildwood Crest. Wildwood.
 Williamstown Glassboro.
 Woodbridge Elizabeth.
 Woodbridge Perth Amboy.
 Woodbury Heights. Glassboro.
 Woodbury Camden.
 Woodcliff Hackensack.
 Woodlynne Hackensack.
 Woodridge Hackensack.
 Woodstown Glassboro.
 Woodsville Flemington.
 Amityville Babylon.
 Amsterdam Amsterdam.
 Andover Wellsville (N).
 Angelica Olean (N).
 Angola Buffalo (N).
 Angola Beach Buffalo (N).
 Ardsley Mt. Vernon.
 Arlington Poughkeepsie.
 Arverne Far Rockaway.
 Astoria Astoria.
 Attica Attica (N).
 Auburn Auburn.
 Auburn Geneva.
 Avon Le Roy (N).
 Babylon Babylon.
 Baldwin Freeport.
 Baldwinsville Baldwinsville (N).
 Batavia Batavia (N).
 Bath Bath.
 Bayport Bay Shore.
 Bay Shore Bay Shore.
 Bayside Flushing.
 Beacon Beacon.
 Belfast Olean (N).
 Belle Harbor Far Rockaway.
 Bellport Patchogue.
 Belmont Olean (N).
 Belmont Freeport.
 Bergen Churchville (N).
 Binghamton Binghamton.
 Binghamton Binghamton (N).
 Blue Point Patchogue.
 Bolivar Wellsville (N).
 Bormanville Lancaster (N).
 Briarcliff Manor Ossining.
 Bridgehampton Sag Harbor.
 Brighton Rochester.
 Brightwaters Bay Shore.
 Brighton Rochester.
 Bristol Honeoye Falls (N).
 Bristol Center Honeoye Falls (N).
 Brockport Brockport.
 Brockton Fredonia (N).
 Bronx, N. Y. City. Mt. Vernon.
 Bronx, N. Y. City. Westchester.
 Bronx, N. Y. City. New York City.
 Bronxville Mt. Vernon.
 Brooklyn, N. Y. City Brooklyn.
 Brooklyn, N. Y. City. Quogue (A).
 Buffalo Buffalo.
 Buffalo Hamburg (N).
 Buffalo Buffalo (N).
 Byron Pavilion (N).
 Caledonia Caledonia (N).
 Canandaigua Rochester.
 Canandaigua Canandaigua (N).
 Canastota Canastota.
 Canisteo Canisteo (N).
 Carthage Watertown.
 Cassadaga Fredonia (N).
 Catskill Catskill.
 Cayuga Auburn.
 Cedarhurst Far Rockaway.
 Central Park Babylon.
 Ceres Ceres (N).
 Chautauque Buffalo (N).
 Cheektowaga Buffalo.
 Chile Rochester.
 Churchville Churchville (N).
 Cincinnati Cincinnati (G).
 Clarence Akron (N).
 Clarkstown Nyack.
 Clifton Springs Clifton Springs.
 Clyde Newark.
 Cohoes Cohoes.
 College Point Flushing.
 Collins Collins (N).
 Collins Center Buffalo (N).
 Colonie Albany.
 Coney Island Coney Island.
 Copiague Babylon.
 Cooperstown Cooperstown.
 Corfu Batavia (N).
 Corning Pittsburg, Pa. (N).
 Corning Corning.
 Corning Corning (N).
 Cortlandt Peekskill.
 Cortland Cortland.
 Crittenden Batavia (N).
 Croton-on-Hudson. Ossining.
 Cuba Wellsville.
 Dansville Dansville.
 Deerfield Utica.

NEW MEXICO.

- Albuquerque Albuquerque.
 Roswell Roswell.

NEW YORK.

- Addison Addison (N).
 Addison Pittsburg, Pa. (N).
 Akron Akron (N).
 Albany Albany.
 Albion Albion.
 Alden Batavia (N).
 Alexander Batavia (N).
 Alfred Wellsville (N).
 Alfred Station Wellsville (N).
 Allegany Olean (N).
 Allentown Wellsville (N).
 Almond Wellsville (N).
 Amenia Amenia (A).
 Amherst Williamsville.
 Amherst Snyder (N).

- Apew Lancaster (N).
 DeRuyter DeRuyter (G).
 DeWitt Syracuse.
 DeWitt E. Syracuse.
 Dobbs Ferry Mt. Vernon.
 Dryden Dryden (A).
 Dunkirk Buffalo (N).
 Aurora Buffalo (N).
 Bloomfield Honeoye Falls (N).
 Chester Mt. Vernon.
 Hampton E. Hampton (G).
 Islip Bay Shore.
 Pembroke Batavia (N).
 Quogue E. Quogue (A).
 Rochester Rochester.
 Rockaway Far Rockaway.
 Syracuse Syracuse.
 Syracuse E. Syracuse.
 Williston Port Washington.
 Eastwood Syracuse.
 Webster W. Seneca (N).
 Eden Eden (N).
 Edgemere Far Rockaway.
 Edmeston Edmeston (A).
 Elmhurst Newtown.
 Elmira Elmira (N).
 Elmira Heights Elmira (N).
 Elmira Pittsburg, Pa. (N).
 Elmira Mt. Vernon.
 Endicott Endicott (A).
 Farmingdale Babylon (N).
 Far Rockaway Far Rockaway.
 Fayetteville Syracuse.
 Fishkill Landing Beacon.
 Fishers E. Quogue (A).
 Fleischmanns Fleischmanns (A).
 Flushing Flushing.
 Flushing Buffalo (N).
 Fort Edward Sandy Hill.
 Fort Plain Fort Plain.
 Fortville Le Roy (N).
 Frankfort Utica.
 Fredonia Fredonia (N).
 Freeport Freeport.
 Friendship Olean (N).
 Fulton Fulton.
 Garden City Freeport.
 Garden City Est. Freeport.
 Gardenville W. Seneca (N).
 Gates Rochester.
 Geneseo Geneseo.
 Geneva Geneva.
 Glens Falls Glens Falls.
 Glens Falls Schenectady.
 Gloversville Gloversville.
 Gorham Gorham (N).
 Goshen Goshen.
 Gowanda Gowanda (N).
 Grand View Nyack.
 Granville Granville.
 Grant Neck Port Washington.
 Greece Rochester.
 Greenburg Mt. Vernon.
 Green Island Albany.
 Greenwood Wellsville (N).
 Halesite Huntington.
 Hannibal Hannibal (A).
 Harriettstown Saranac Lake.
 Harrison Mt. Vernon.
 Haverstraw Nyack.
 Haverstraw Haverstraw.
 Hastings Mt. Vernon.
 Hempstead Freeport.
 Hempstead Port Washington.
 Hempstead Manor Freeport.
 Herkimer Utica.
 Hewletts Far Rockaway.
 Hicksville Babylon.
 Hulburn Nyack.
 Holcomb Honeoye Falls (N).
 Homer Cortland.
 Honeoye Falls Honeoye Falls (N).
 Hornell Hornell (N).
 Horsehead Elmira (N).
 Hudson Hudson.
 Hudson Falls Hudson Falls.
 Huntington Huntington.
 Ithaca Utica.
 Inwood Far Rockaway.
 Irondequoit Rochester.
 Irving Buffalo (N).
 Irvington Mt. Vernon.
 Islip Bay Shore.
 Ithaca Ithaca.
 Jamaica Jamaica.
 Jamestown Warren, Pa. (N).
 Jeffersonville Jeffersonville (G).
 Johnson City Binghamton.
 Johnson City Gloversville.
 Kenmore Tonawanda.
 Kingsbridge Mt. Vernon.
 Kingston Kingston.
 Lackawanna Buffalo (N).
 Lackawanna Lackawanna.
 Lacona Sandy Creek (N).
 Lancaster Lancaster (N).
 Lancaster Buffalo (N).
 Larchmont Mt. Vernon.
 Lawrence Far Rockaway.
 Le Roy Le Roy (N).
 Le Roy Canandaigua (N).
 Lestershire Binghamton.
 Lima Honeoye Falls (N).
 Limestone Bradford, Pa. (N).
 Lindenhurst Babylon.
 Little Falls Utica.
 Little Genesee Wellsville (N).
 Liverpool Syracuse.
 Locke Locke (A).
 Lockport Lockport.
 Long Beach Long Beach.
 Long Island City New York.
 Lynbrook Far Rockaway.
 Lyons Lyons.
 Malone Malone.
 Malvern Far Rockaway.
 Mamaroneck Mt. Vernon.
 Manhasset Port Washington.
 Manhattan Boro. New York City.
 Margaretville Margaretville (G).
 Massapequa Babylon.
 Matteawan Beacon.
 Mayville Buffalo (N).
 Mendownere Far Rockaway.
 Mechanicsville Mechanicsville.
 Medina Medina.
 Mellenville Philmont.
 Merrick Freeport.
 Middletown Middletown.
 Millbrook Millbrook (A).
 Millgrove Akron (N).
 Mineola Freeport.
 Mohawk Utica.
 Monroe Monroe.
 Montour Falls Elmira (N).
 Montour Falls Watkins (N).
 Morganville Pavilion (N).
 Morris Morris (G).
 Moscow Moscow (N).
 Mt. Pleasant Mt. Vernon.
 Mt. St. Vincent Mt. Vernon.
 Mt. Vernon Mt. Vernon.
 Naples Naples (N).
 Neponsit Far Rockaway.
 Newark Newark.
 Newburgh Newburgh.
 New Hartford Utica.
 New Hyde Park Port Washington.
 New Rochelle Mt. Vernon.
 Newtown Newtown.
 New York City New York City.
 New York Mills Utica.
 Niagara Falls Niagara Falls.
 Nichols Nichols (A).
 Niskayuna Schenectady.
 No. Elba Saranac Lake.
 No. Bloomfield Honeoye Falls (N).
 No. Collins No. Collins (N).
 No. Hempstead Port Washington.
 No. Merwick Freeport.
 No. Pelham Mt. Vernon.
 No. Tarrytown Mt. Vernon.
 No. Tonawanda Tonawanda.
 Norwich Norwich.
 Nyack Nyack.
 Oaks Corners Phelps.
 Oceanside Far Rockaway.
 Oceanside Freeport.
 Ogdensburg Ogdensburg.
 Olean Olean (N).
 Oneida Oneida.
 Oneonta Oneonta.
 Onondaga Syracuse.
 Orangetown Nyack.
 Orchard Park Orchard Park (N).
 Orville Syracuse.
 Ossining Ossining.
 Oswego Oswego.
 Otego Otego (G).
 Otego Otego.
 Oyster Bay Twp. Glen Cove.
 Palmyra Palmyra.
 Patchogue Patchogue.
 Pavilion Le Roy (N).
 Peekskill Peekskill.
 Pelham Mt. Vernon.
 Pelham Manor Mt. Vernon.
 Piermont East Rochester.
 Penn Yan Penn Yan.
 Perinton Rochester.
 Perry Le Roy (N).
 Phelps Phelps.
 Phoenicia Phoenicia (A).
 Piermont Nyack.
 Pine City Pine City (N).
 Pittsford Rochester.
 Pittsford Pittsford (A).
 Pittsford East Rochester.
 Plandome Port Washington.
 Plattsburg Plattsburg.
 Pleasantville Ossining.
 Pomfret Fredonia (N).
 Port Chester Mt. Vernon.
 Port Henry Port Henry.
 Port Jervis Middletown.
 Portland Fredonia (N).
 Portland Buffalo (N).
 Portville Olean (N).
 Port Washington Port Washington.
 Poughkeepsie Poughkeepsie.
 Pulaski Pulaski (N).
 Queens Boro. N. Y. City.
 Queens Boro. Woodhaven.
 Queens Boro. Richmond Hill.
 Quogue Quogue (A).
 Quogue Quogue (A).
 Ramapo Nyack.
 Red House Bradford, Pa. (N).
 Rensselaer Rensselaer.
 Reserve Buffalo (N).
 Richburg Richburg (N).
 Richburg Wellsville.
 Richmond Boro. N. Y. City.
 Riga Stapleton.
 Riga Churchville (N).
 Riverside Mt. Vernon.
 Roanoke Pavilion (N).
 Rochester Rochester.
 Rockaway Far Rockaway.
 Rockville Center Freeport.
 Rome Rome.
 Rondout Kingston.
 Roosevelt Freeport.
 Roslyn Port Washington.
 Roslyn Heights Port Washington.
 Rotterdam Schenectady.
 Roxbury Roxbury (G).
 Rye Mt. Vernon.
 Sag Harbor Sag Harbor.
 St. Armand Saranac Lake.
 Salamancas Buffalo (N).
 Sandy Creek Sandy Creek (N).
 Saranac Lake Saranac Lake.
 Saratoga Spgs. Saratoga Spgs.
 Saugerties Saugerties.
 Sayville Bay Shore.
 Scarsdale Mt. Vernon.
 Schenectady Schenectady.
 Schuyler Utica.
 Scio Wellsville (N).
 Scotia Schenectady.
 Scottsville Caledonia (N).
 Seaford Freeport.
 Seaside Far Rockaway.
 Seneca Falls Geneva.
 Seneca Falls Seneca Falls.
 Sherburne Sherburne (G).
 Sheridan Buffalo (N).
 Sheridan Fredonia (N).
 Shortsville Shortsville (A).
 Silver Creek Buffalo (N).
 Silver Creek Silver Creek (N).
 Smithville So. Freeport.
 Solvay Syracuse.
 South Byron Pavilion (N).
 So. Glen Falls Sandy Hill.
 So. New Berlin S. New Berlin (G).
 So. Nyack Nyack.
 Southold Southold (A).
 So. Otselic So. Otselic (G).

CITY AND TOWN INDEX

Southport Southport (N).
 Southport Bradford, Pa. (N).
 Southport Elmira (N).
 Spencerport Spencerport (A).
 Spring Valley Nyack.
 Spuyten Duyvil Mt. Vernon.
 Stafford Pavilion (N).
 Stannards Wellsville (N).
 Stockton Fredonia (N).
 Stoney Point Nyack.
 Suffern Suffern.
 Suffern Nyack.
 Summerville Rochester.
 Syracuse Syracuse.
 Tarrytown Mt. Vernon.
 Thiells Nyack.
 Thousand Isl. Pk. Th. Isl. Pk. (A)
 Tonawanda Tonawanda.
 Troy Troy.
 Tuckahoe Mt. Vernon.
 Union Springs Union Springs (A).
 Upper Nyack Nyack.
 Utica Utica.
 Valley Stream Far Rockaway.
 Van Cortlandt Mt. Vernon.
 Victor East Rochester.
 Wakefield Mt. Vernon.
 Wanakah Hamburg (N).
 Wantagh Freeport.
 Warsaw Le Roy (N).
 Waterford Troy.
 Waterloo Geneva.
 Waterloo Waterloo.
 Water Mill Sag Harbor.
 Watertown Watertown.
 Watervliet Albany.
 Watkins Watkins.
 Watkins Watkins (N).
 Waverly Waverly.
 Wellsville Wellsville (N).
 West Bloomfield Honeoye Falls (N).
 Westbury Port Washington.
 Westchester Co. Mt. Vernon.
 Westfield Buffalo (N).
 West Haverstraw Haverstraw.
 West Haverstraw Nyack.
 West Islip Bay Shore.
 Weston Olean (N).
 West Point Reser-
 vation West Point.
 West Sayville Bay Shore.
 West Seneca Reserve (N).
 West Seneca W. Seneca (N).
 White Plains Mt. Vernon.
 Whitesboro Utica.
 Whitestone Flushing.
 Whitesville Wellsville (N).
 Woodlawn Mt. Vernon.
 Woodmere Far Rockaway.
 Wyoming Batavia (N).
 Yonkers Mt. Vernon.
 York Le Roy (N).
 Yorktown Peekskill.
 Yorkville Utica.

NORTH CAROLINA.

Asheville Asheville.
 Bessemer City Gastonia.
 Burlington Burlington.
 Charlotte Charlotte.
 China Grove Concord.
 Dabney Henderson.
 Dallas Gastonia.
 Durham Durham.
 Elizabeth City Elizabeth City.
 Fayetteville Fayetteville.
 Gastonia Gastonia.
 Goldsboro Goldsboro.
 Greensboro Greensboro.
 Graham Burlington.
 How River Burlington.
 Henderson Henderson.
 High Point High Point.
 Kannapolis Concord.
 Kings Mountain Gastonia.
 Kinston Kinston.
 Landis Concord.
 Lowell Gastonia.
 McAdenville Gastonia.
 New Bern New Bern.
 Oxford Henderson.
 Raleigh Raleigh.

Rocky Mount Rocky Mount.
 Salisbury Salisbury.
 Spencer Spencer.
 Statesville Statesville.
 Washington Washington.
 West Raleigh Raleigh.
 Wilmington Wilmington.
 Wilson Wilson.
 Winston-Salem Winston-Salem.
 Wrightsville Beach Wilmington.

NORTH DAKOTA.

Bathgate Bathgate (A).
 Bismarck Bismarck.
 Crystal Crystal (A).
 Fargo Fargo.
 Grand Forks Grand Forks.
 Jamestown Jamestown.
 Minot Minot.
 Lorraine Lorraine (N).
 Valley City Valley City.
 Williston Bismarck, Mont. (N).

OHIO.

Ada Ada (N).
 Adelphi Lancaster (N).
 Adelphi Pittsburg, Pa. (N).
 Akron Akron (N).
 Akron Cleveland (N).
 Alexandria Columbus (N).
 Alger Ada (N).
 Alliance Alliance (N).
 Alliance Cleveland (N).
 Amanda Circleville (N).
 Amanda Pittsburg, Pa. (N).
 Amboy Conneaut (N).
 Amesville Guysville (N).
 Amesville Amesville (N).
 Amherst Pittsburg, Pa. (N).
 Amsterdam Carrollton (N).
 Andover Conneaut (N).
 Ansonia Lafayette, Ind. (N).

Appleton Columbus (N).
 Archbold Archbold.
 Archbold Napoleon.
 Arlington Columbus (N).
 Ashland Pittsburg, Pa. (N).
 Ashtabula Ashtabula (N).
 Ashtabula Conneaut (N).
 Ashville Circleville (N).
 Athens Pittsburg, Pa. (N).
 Athens Athens (N).
 Athens Pittsburg, Pa. (N).
 Austruburg Conneaut (N).
 Avery Pittsburg, Pa. (N).
 Avon French Crk. Pittsburg, Pa. (N).
 Barberton Cleveland (N).
 Barnesville Columbus (N).
 Beallsville Washington, Pa. (N).
 Beallsville Woodsfield (N).
 Beardstown Bloomsdale (N).
 Bellaire Pittsburg, Pa. (N).
 Bellaire Wheeling, W. Va. (N).

Bellefontaine Bellefontaine.
 Belleville Mt. Vernon (N).
 Belleville Newark (N).
 Bellevue Bellevue (N).
 Bellevue Pittsburg, Pa. (N).
 Bellville Pittsburg, Pa. (N).
 Belpre Marietta (N).
 Berea Berea (N).
 Bergholz Carrollton (N).
 Berlin Heights Pittsburg, Pa. (N).
 Bettsville Kansas (N).
 Beverly Marietta (N).
 Bexley Columbus (N).
 Birmingham Pittsburg, Pa. (N).
 Bladensburg Coshocton (N).
 Bloomsburg Columbus (N).
 Bloomsburg Pittsburg, Pa. (N).
 Bloomsburg W'shton C. H. (N).
 Bowerstown Bowerstown (N).
 Bowling Green Columbus (N).
 Bowling Green Toledo (N).
 Bradrick Ch'lston, W. Va. (N).
 Bratenahl Cleveland (N).
 Bremen Columbus (N).
 Bridgeport Wheeling (N).

Brink Haven Danville (N).
 Brink Haven Cleveland (N).
 Brooklyn Heights Berea (N).
 Brookville Pittsburg, Pa. (N).
 Brunswick Medina (N).
 Bryan Napoleon.
 Buckeye City Cleveland (N).
 Buckeye City Danville (N).
 Bucyrus Pittsburg, Pa. (N).
 Buena Vista Washington C. H. (N).

Butler Mt. Vernon (N).
 Butler Newark (N).
 Butler Pittsburg, Pa. (N).
 Byesville Columbus (N).
 Cadiz Cadiz (N).
 Caldwell Columbus (N).
 Caldwell Marietta (N).
 Cambridge Columbus (N).
 Canal Dover Canal Dover.
 Canal Dover Cleveland (N).
 Canal Winchester Columbus (N).
 Canfield Canfield (N).
 Canton Canton.
 Canton Cleveland (N).
 Cardington Pittsburg, Pa. (N).
 Carey Pittsburg, Pa. (N).
 Carrmonte Dayton.
 Carrmonte Vil. Dayton (N).
 Carroll Columbus (N).
 Carrollton Carrollton (N).
 Carthage Columbus (N).
 Castine Lancaster (N).
 Castine Pittsburg, Pa. (N).
 Celina Lafayette, Ind. (N).

Centerburg Pittsburg, Pa. (N).
 Chatham Granville (N).
 Chauncey Athens (N).
 Chauncey Pittsburg, Pa. (N).
 Chesapeake Ch'lston, W. Va. (N).
 Chesterhill Marietta (N).
 Chicago Junction Pittsburg, Pa. (N).
 Chillicothe Pittsburg, Pa. (N).
 Chippewa Lake Medina (N).
 Cincinnati Cincinnati (N).
 Circleville Circleville (N).
 Circleville Pittsburg, Pa. (N).
 Clarington Pittsburg, Pa. (N).
 Clarington Clarington (N).
 Clearport Pittsburg, Pa. (N).
 Clearport Circleville (N).
 Cleveland Cleveland.
 Cleveland Cleveland (N).
 Clyde Pittsburg, Pa. (N).
 Coal Grove Ch'lston, W. Va. (N).
 Coal Run Marietta (N).
 Coldwater Lima (N).
 Columbus Columbus.
 Columbus Columbus (N).
 Conneaut Conneaut (N).
 Conneaut Conneaut (N).
 Corning Columbus (N).
 Corryville Ch'lston, W. Va. (N).
 Coshocton Coshocton (N).
 Covington Pittsburg, Pa. (N).
 Crestline Crestline (N).
 Crestline Pittsburg, Pa. (N).
 Cridersville Lima (N).

Crooksville Columbus (N).
 Croton Columbus (N).
 Cuyahoga Falls Cleveland (N).
 Danville Cleveland (N).
 Dayton Dayton (N).
 Dayton Lancaster (N).
 Dayton Pittsburg, Pa. (N).
 Deavertown Deavertown (N).
 Defiance Defiance.
 Delaware Delaware (N).
 Delaware Pittsburg, Pa. (N).
 Delaware Lancaster (N).
 Delphos Delphos.
 Delta Napoleon.
 Dennison Cleveland (N).
 Dexter City Marietta (N).
 Dover Pittsburg, Pa. (N).
 Doylestown Cleveland (N).
 Dresden Columbus (N).
 Dudley Marietta (N).
 East Conneaut Conneaut (N).
 East Liverpool Pittsburg, Pa. (N).
 East Youngstown Cleveland (N).
 Eaton Greenville (N).
 Eaton Pittsburg, Pa. (N).

CITY AND TOWN INDEX

337

Edison	Pittsburg, Pa. (N).	Logan	Columbus (N).	Oberlin	Oberlin (N).
Elba	Marietta (N).	Logan	Pittsburg, Pa. (N).	Olustead Falls	Berea (N).
Eldorado	Greenville (N).	London	Columbus (N).	Osborne	Pittsburgh, Pa. (N).
Eldorado	Pittsburgh, Pa. (N).	Londenville	Cleveland (N).	Orrville	Cleveland (N).
Elmore	Woodville (N).	Lorain	Elyria (N).	Outville	St. Mary's (N).
Elyria	Elyria (N).	Lorain	Pittsburg, Pa. (N).	Ozark	Woodfield (N).
Elyria	Pittsburg, Pa. (N).	Lowell	Marietta (N).	Painesville	Painesville.
Etna	St. Mary's (N).	Lowellville	Cleveland (N).	Parma Heights	Berea (N).
Euphemia	Pittsburg, Pa. (N).	Lower Salem	Marietta (N).	Pataskala	St. Mary's (N).
Fairfield	Pittsburgh, Pa. (N).	Mackburg	Marietta (N).	Paulding	Paulding.
Findlay	Findlay (N).	Mackburg	Macksburg (N).	Pavonia	Lancaster (N).
Findlay	Pittsburg, Pa. (N).	Madisonville	Cincinnati (N).	Pavonia	Pittsburg Pa. (N).
Five Points	Pittsburg, Pa. (N).	Malaga	Woodfield (N).	Pennville	Pennville (N).
Florence	Pittsburg, Pa. (N).	Malta	Malta (N).	Perrysburg	Columbus (N).
Fly	Marietta (N).	Mansfield	Mansfield (N).	Perrysburg	Toledo (N).
Forest	Forest (N).	Mansfield	Pittsburg, Pa. (N).	Petersburg	Cleveland (N).
Ft. Recovery	Lafayette, Ind.	Maria Stein	Maria Stein (N).	Piqua	Pittsburg Pa. (N).
Ft. Recovery	(N).	Marietta	Marietta (N).	Pleasant City	Columbus (N).
Ft. Recovery	Ft. Recovery (N).	Marion	Marion (N).	Plymouth	Pittsburg, Pa. (N).
Fostoria	Pittsburg, Pa. (N).	Marion	Pittsburg, Pa. (N).	Poland	Cleveland (N).
Franklin	Columbus (N).	Martinsburg	Columbus (N).	Polk	Pittsburg, Pa. (N).
Frazeysburg	Columbus (N).	Martins Ferry	Wheeling, W. Va.	Pomeroy	Pittsburg, Pa. (N).
Fredericktown	Columbus (N).	Massillon	Cleveland (N).	Portsmouth	Portsmouth (N).
Fremont	Fremont (N).	Maumee	Columbus (N).	Proctorville	Ch'iston, W. Va. (N).
Fremont	Pittsburg, Pa. (N).	Maumee	Toledo (N).	Quaker City	Columbus (N).
French Creek	Lancaster (N).	McArthur	McArthur (N).	Ravena	Cleveland (N).
French Creek	Pittsburg, Pa. (N).	McConnelsville	Malta (N).	Ravena	Ravena.
Fultonham	Columbus (N).	Mechanicsburg	Mechanicsburg.	Reading	Columbus (N).
Fultonham	Zanesville (N).	Medina	Medina (N).	Reno	Marietta (N).
Galena	Pittsburg, Pa. (N).	Miamisburg	Columbus (N).	Reynoldsburg	St. Mary's (N).
Gallion	Pittsburg, Pa. (N).	Middletown	Columbus (N).	Ripley	Ripley.
Gallipolis	Pittsburg, Pa. (N).	Middletown	Middletown (N).	Rittman	Medina (N).
Gambier	Columbus (N).	Milan	Pittsburg, Pa. (N).	Rock Bridge	Pittsburg, Pa. (N).
Geneva	Conneaut (N).	Millersburg	Millersburg (N).	Roseville	Columbus (N).
Girard	Cleveland (N).	Millersburg	Cleveland (N).	Rossburg	Lafayette, Ind.
Girard	Youngstown.	Millersport	Pittsburg, Pa. (N).	Rowsborg	Medina (N).
Gloucester	Columbus (N).	Milto-Grogan	Columbus (N).	Royal	Berea (N).
Granville	Granville (N).	Mineral City	Mineral City (N).	Rushville	Columbus (N).
Greenville	Greenville (N).	Mingo Junction	Pittsburg, Pa. (N).	St. Louisville	Granville (N).
Greenville	Lafayette, Ind.	Minster	New Bremen (N).	St. Marys	Lafayette, Ind.
Greenville	Pittsburg, Pa. (N).	Monroeville	Pittsburg, Pa. (N).	St. Marys	St. Marys (N).
Groveport	Columbus (N).	Montpelier	Napoleon.	St. Rosa	St. Rosa (N).
Guysville	Stewart (N).	Montpelier	Lima (N).	Salem	Wheeling (N).
Hallsville	Pittsburg, Pa. (N).	Mount Gilead	Pittsburg, Pa. (N).	Sandusky	Lancaster (N).
Hamilton	Hamilton (N).	Mount Liberty	Pittsburg, Pa. (N).	Sandusky	Pittsburg, Pa. (N).
Harlem Spgs.	Carrollton (N).	Mount Sterling	Urbana (N).	Scio	Sandusky (N).
Harpster	Medina (N).	Mount Vernon	Centerburg (N).	Scio	Carrollton (N).
Hartford	Columbus (N).	Mount Vernon	Pittsburg, Pa. (N).	Sciotoville	Ch'iston, W. Va. (N).
Hartwell	(Cincinnati (N).	Mount Vernon	Lancaster (N).	Sedalia	Pittsburg Pa. (N).
Hebron	Pittsburg, Pa. (N).	Mount Vernon	Mt. Vernon (N).	Senecaville	Columbus (N).
Hemlock	Columbus (N).	Mt. Victory	Medina (N).	Shanesville	Shanesville (N).
Hillsboro	Hillsboro.	Murray City	Columbus (N).	Sharpsburg	Amesville (N).
Homer	Pittsburg, Pa. (N).	Napoleon	Napoleon.	Shawnee	Columbus (N).
Hubbard	Cleveland (N).	Nelsonville	Columbus (N).	Shelby	Pittsburg, Pa. (N).
Huntsville	Huntsville (N).	Nelsonville	Lancaster (N).	Shepard	St. Mary's (N).
Ironton	Ch'iston, W. Va. (N).	Nevada	Lima (N).	Sherrodsville	Bowerstown (N).
Ironton	Ch'iston, W. Va. (N).	Newark	Newark (N).	Shiloh	Shiloh (N).
Jacksontown	Pittsburg, Pa. (N).	Newark	Pittsburg, Pa. (N).	Shreve	Cleveland (N).
Jacksonville	Columbus (N).	New Berlin	Cleveland (N).	Sidney	Pittsburg Pa. (N).
Jefferson	Conneaut (N).	New Boston	Ch'iston, W. Va. (N).	Somerset	Columbus (N).
Jeromeville	Pittsburg, Pa. (N).	New Bremen	New Bremen (N).	Somerset	Zanesville (N).
Jeromeville	Jeromeville (N).	New Carlisle	New Carlisle (A).	So. Charleston	Urbana (N).
Jerusalem	Woodfield (N).	New Carlisle	Pittsburg, Pa. (N).	South Olive	Marietta (N).
Jewett	Carrollton (N).	Newcastle	Washington, Pa.	Spencer	Pittsburg, Pa. (N).
Johnstown	Columbus (N).	Newcomerstown	Newcomerstown	Springfield	Springfield (N).
Joy	Amesville (N).	Newcomerstown	Newcomerstown	Springfield	Columbus (N).
Kansas	Kansas (N).	Newcomerstown	Isletta (N).	Sterling	Medina (N).
Kent	Cleveland (N).	New Hagerstown	Bowerstown (N).	Staubenville	Pittsburg, Pa. (N).
Kenton	Kenton (N).	New Knoxville	New Knoxville (N).	Stewart	Stewart (N).
Kilgore	Carrollton (N).	New Lexington	Columbus (N).	Stockport	Marietta (N).
Killbuck	Millersburg (N).	New Madison	Pittsburg, Pa. (N).	Stontsville	Pittsburg, Pa. (N).
Kingston	Pittsburg, Pa. (N).	New Matamoras	Marietta (N).	Stontsville	Circleville (N).
Kirkersville	St. Mary's (N).	New Middletown	Cleveland (N).	Strasburg	Cleveland (N).
Lakeside	Pittsburg, Pa. (N).	New Paris	Pittsburg, Pa. (N).	Strongsville	Berea (N).
Lancaster	Lancaster (N).	New Philadelphia	Cleveland (N).	Struthers	Cleveland (N).
Lancaster	Pittsburg, Pa. (N).	Newport	Marietta (N).	Struthers	Youngstown.
Lathrop	Amesville (N).	New Riegel	Pittsburg, Pa. (N).	Stryker	Archbold.
Laurelville	Pittsburg, Pa. (N).	New Rumley	Carrollton (N).	Stryker	Napoleon.
Lebanon	Lebanon.	New Springfield	No. Lima (N).	Sugar Creek	Shanesville (N).
Leesville	Bowerstown (N).	New Straitsville	Columbus (N).	Sugar Grove	Circleville (N).
Leetonia	Wheeling (N).	New Washington	New Washington	Sugar Grove	Pittsburg, Pa. (N).
Lewisburg	Pittsburg, Pa. (N).	Niles	Cleveland (N).	Summerfield	Summerfield (N).
Lewisville	Lewisville (N).	North Amherst	Pittsburg, Pa. (N).	Sammit	St. Mary's (N).
Lexington	Pittsburg, Pa. (N).	North Baltimore	Toledo (N).	Sunberry	Pittsburg, Pa. (N).
Lima	Lafayette, Ind.	Northampton	Pittsburg Pa. (N).	Sycamore	Pittsburg, Pa. (N).
Lima	Lima.	North Lima	North Lima (N).	Tarleton	Pittsburg Pa. (N).
Linden	Columbus (N).	Norwalk	Pittsburg, Pa. (N).	Tarleton	Columbus (N).
Lindsey	Lindsey (N).	Norwalk	Columbus (N).	Thornville	Pittsburg, Pa. (N).
Lisbon	Salem (N).	Norwood	Columbus (N).	Tiffin	Pittsburg, Pa. (N).
Litchfield	Pittsburg, Pa. (N).	Oak Harbor	Oak Harbor (N).	Tippecanoe City	Pittsburg, Pa. (N).
Lockland	Cincinnati (N).	Oakwood	Dayton.	Tiro	Pittsburg, Pa. (N).
Lodi	Pittsburg, Pa. (N).	Oakwood Village	Dayton (N).	Toledo	Columbus (N).

Toledo	Toledo (N).	Deer Creek	Tulsa (N).	Baker	Baker.
Toledo	Toledo (N).	Delaware	Nowata (N).	Bourne	Baker.
Pontout	Pittsburg, Pa. (N).	Dewey	Tulsa (N).	Cove	Baker.
Princeton	Pittsburg, Pa. (N).	Drumright	Drumright (N).	East Portland	Portland.
Frimble	Columbus (N).	Duncan	Duncan (N).	Eugene	Eugene.
Troy	Pittsburg, Pa. (N).	Dustin	Dustin (N).	Grant's Pass	Grant's Pass.
Chicksville	Cleveland (N).	Edmond	Tulsa (N).	Haines	Baker City.
Upper Sandusky	Pittsburg, Pa. (N).	Edna	Bartlesville (N).	Hot Grove	Baker City.
Urbana	Urbana.	El Reno	El Reno (N).	La Grande	Baker City.
Urbana	Urbana (N).	Enid	Enid (N).	Marshfield	Marshfield.
Utica	Pittsburg, Pa. (N).	Eufrasia	Tulsa (N).	Medford	Medford.
Utica	Utica (N).	Featherstone	McAlester (N).	North Bend	Marshfield.
Vanderburg	Vanderburg (N).	Gotebo	Gotebo (N).	Phoenix	Medford.
Van Wert	Van Wert.	Guthrie	Guthrie (N).	Portland	Portland.
Vincent	Vincent (N).	Guthrie	Tulsa (N).	Roseburg	Roseburg.
Wadsworth	Cleveland (N).	Guymon	Liberal, Kan. (N)	St. Johns	Portland.
Wapakoneta	Lafayette, Ind.	Haskell	Claremore (N).	Salem	Salem.
	(N.)	Hattonville	Bartlesville (N).	Springfield	Eugene.
Warner	Marietta (N).	Henryetta	Henryetta (N).	Talent	Medford.
Warren	Cleveland (N).	Hominy	Hominy (N).	Union	Baker City.
Warren	Warren.	Hooker	Liberal, Kan. (N)		
Warsaw	Coshocton (N).	Hunnell	Blackwell (N).		
Washington, C. H.	Washington, C. H.	Hunter	Tulsa (N).		
	(N.)	Inola	Claremore (N).		
Washington, C. H.	Columbus (N).	Jennings	Jennings (N).		
Washington C. H.	Pittsburg, Pa. (N).	Kellyville	Tulsa (N).		
Waterford	Marietta (N).	Kiefer	Kiefer (N).		
Watertown	Marietta (N).	Lawton	Duncan (N).		
Waterville	Waterville (N).	Lawton	Lawton (N).		
Wauseon	Napoleon.	Luther	Tulsa (N).		
Wellington	Pittsburg, Pa. (N).	Marlow	Duncan (N).		
Wellston	Pittsburg, Pa. (N).	McAlester	McAlester (N).		
Wellsville	E. Liverpool (N).	Miami	Pittsburg, Pa. (N)		
Wellsville	Pittsburg, Pa. (N).	Miami	Bartlesville (N).		
West Alexander	Greenville (N).	Midlothian	Tulsa (N).		
West Alexander	Pittsburg, Pa. (N).	Mounds	Mounds (N).		
West Bedford	Coshocton (N).	Muskogee	Muskogee (N).		
West Lafayette	Newcomerstown.	Muskogee	Claremore (N).		
West Manchester	Greenville (N).	Nardin	Tulsa (N).		
West Manchester	Pittsburg, Pa. (N).	Newkirk	Ponca City (N).		
West Millgrove	W. Millgrove (N).	No. McAlester	McAlester (N).		
West View	Berea (N).	Nowata	Nowata (N).		
Wheelersburg	Chilston, W. Va. (N)	Ochelata	Bartlesville (N).		
Whitville	Summerfield (N).	Ochelata	Ochelata (N).		
Whipple	Marietta (N).	Oklahoma City	Oklahoma City (N)		
White Cottage	Zanesville (N).	Oklahoma City	Oklahoma City (N)		
Williamport	Pittsburg, Pa. (N).	Okemah	Okmulgee (N).		
Wilmington	Wilmington.	Okmulgee	Okmulgee (N).		
Wooster	Cleveland (N).	Pawnee	Stillwater (N).		
Worthington	Columbus (N).	Ponca	Ponca (N).		
Xenia	Columbus.	Pond Creek	Tulsa (N).		
Yellow Springs	Pittsb'gh, Pa. (N)	Porter	Tulsa (N).		
Youngstown	Cleveland (N).	Porter	Claremore (N).		
Youngstown	Youngstown.	Poteau	Poteau (N).		
Yonessville	Columbus (N).	Pryor	Muskogee (N).		
		Pryor Creek	Claremore (N).		
		Quinton	McAlester (N).		
		Ramona	Tulsa (N).		
		Ramona	Claremore (N).		
		Red Fork	Tulsa (N).		
		Rek Oak	Red Oak (N).		
		Ripley	Ripley (N).		
		Sallisaw	Muskogee (N).		
		Sand Springs	Sand Springs (N).		
		Sapulpa	Gulfport, Miss.		
		Sapulpa	Sapulpa (N).		
		Sapulpa	Tulsa (N).		
		Shawnee	Shawnee (N).		
		Shawnee	Tulsa (N).		
		Skiatook	Skiatook (N).		
		Spiro	Spiro (N).		
		Stillwater	Stillwater (N).		
		Stroud	Tulsa (N).		
		Tonkawa	Ponca City (N).		
		Tulsa	Gulfport, Miss.		
		Tulsa	Tulsa (N).		
		Toula	Tulsa (N).		
		Tyrene	Liberal, Kan. (N)		
		Vian	Muskogee (N).		
		Vinita	Vinita (N).		
		Vinita	Bartlesville (N).		
		Wagoner	Claremore (N).		
		Wagoner	Muskogee (N).		
		Wellston	Tulsa (N).		
		West Tulsa	Tulsa (N).		
		Whiteagle	Ponca City (N).		

CITY AND TOWN INDEX

939

- Brookside Reading.
 Brookville Brookville (N).
 Brookville Oil City (N).
 Brownsville Brownsville (N).
 Brownsville Pittsburg (N).
 Bruneton Pittsburg (N).
 Bruin Bruin (N).
 Bruin Pittsburg (N).
 Bryn Mawr Ardmore.
 Buckingham Doylestown.
 Buena Vista Karns City (N).
 Buena Vista Pittsburg (N).
 Bullion Clarion (N).
 Burgettstown Pittsburg (N).
 Burnham Lewistown.
 Burtville Bradford (N).
 Butler Butler (N).
 Cadogan Cadogan (N).
 California Pittsburg (N).
 Callensburg Oil City (N).
 Callery Pittsburg (N).
 Camp Hill Harrisburg.
 Carder Pittsburg (N).
 Canonsburg Pittsburg (N).
 Carbondale Carbondale.
 Carlisle Carlisle.
 Carman Ridgway (N).
 Carmichael Pittsburg (N).
 Carnegie Pittsburg (N).
 Censor Pittsburg (N).
 Carrick Pittsburg (N).
 Carrolltown Carrolltown (N).
 Cartwright Ridgway (N).
 Catasaugua Catasaugua.
 Centerville Pittsburg (N).
 Ceres Ceres, N. Y. (N).
 Challenge Ridgway (N).
 Chambersburg Chambersburg.
 Charleroi Pittsburg (N).
 Cheltenham Wyncote.
 Chester Chester.
 Chestnut Hill Wyncote.
 Cheswick Butler (N).
 Christiana Parkesburg.
 Church Village Oil City (N).
 Clairton Pittsburg (N).
 Clarendon Warren.
 Clarion Clarion (N).
 Clarksville Pittsburg (N).
 Clarksville Pittsburg (N).
 Claysville Pittsburg (N).
 Clearfield Clearfield.
 Clifton Heights Chester.
 Clintonville Pittsburg (N).
 Coal Center Pittsburg (N).
 Coal Dale Girardville.
 Coal Township Shamokin.
 Coal Valley Pittsburg (N).
 Coatesville Coatesville.
 Colegrove Colegrove (N).
 Colona Monaca (N).
 Collegeville Collegeville (A).
 Collinsburg Pittsburg (N).
 Columbia Columbia.
 Connellsville Uniontown (N).
 Connerton Girardville.
 Conshohocken Norristown.
 Cooperstown Butler (N).
 Coplay Catasaugua.
 Coraopolis Pittsburg (N).
 Cornellville Uniontown (N).
 Corry Warren (N).
 Corsica Clarion (N).
 Cortdale Nanticoke.
 Coryville Eldred (N).
 Costello Pittsburg (N).
 Coudersport Pittsburg (N).
 Courtney Pittsburg (N).
 Cowansburg Pittsburg (N).
 Cresson Pittsburg (N).
 Cressona Cressona.
 Crestmont Wyncote.
 Crosby Crosby (N).
 Croyland Ridgway (N).
 Cynwyd Ardmore.
 Dahoga Williamsport (N).
 Dailey Chester.
 Dale Johnstown (N).
 Dallastown Dallastown.
 Danville Danville.
 Darby Chester.
 Darlington Pittsburg (N).
 Dayton Pittsburg (N).
 Deemston Pittsburg (N).
 Delmont Pittsburg (N).
 Deery Pittsburg (N).
 Dewar Milton.
 Derry Church Palmyra.
 Derry Twp. Lewistown.
 Devon Ardmore.
 Deway Ready's Bend (N).
 Dickson City Scranton.
 Donora Pittsburg (N).
 Dorrancetown Nanticoke.
 Downingtown West Chester.
 Doylestown Doylestown.
 Drocton Renovo.
 Du Bois Oil City (N).
 Duke Center Eldred (N).
 Dunlevy Pittsburg (N).
 Dunmore Scranton.
 Duquesne Pittsburg (N).
 East Bank Cabot (N).
 East Berwick Berwick.
 East Brady East Brady (N).
 East Butler Butler (N).
 East Fallowfield Parkesburg.
 East Hickory Oil City (N).
 E. Mauch Chunk Mauch Chunk.
 East McKeesport Pittsburg (N).
 East Norton Norristown.
 East Pennsboro Harrisburg.
 East Pittsburg Pittsburg (N).
 East Renovo Renovo.
 East Stroudsburg Stroudsburg.
 East Waynesburg Waynesburg (N).
 Easton Easton.
 Easton Village Oil City (N).
 Eberton York.
 Edgystone Chester.
 Edge Hill Wyncote.
 Edgewood Pittsburg (N).
 Edwardsville Nanticoke.
 Elbon Ridgway (N).
 Elbon Brockport (N).
 Elco Pittsburg (N).
 Eldersville Pittsburg (N).
 Eldora Pittsburg (N).
 Eldred Eldred (N).
 Elizabeth Pittsburg (N).
 Elizabethtown Elizabethtown.
 Elizabethtown Elizabethtown (A).
 Elkins Park Wyncote.
 Elkland Pittsburg (N).
 Elmwood York.
 Elmwood City Pittsburg (N).
 Emaus Emaus.
 Emmenton Pittsburg (N).
 Emporium St. Mary's (N).
 Endeavor Oil City (N).
 Enhant Harrisburg.
 Enon Valley Pittsburg (N).
 Ephrata Lititz.
 Erie Warren (N).
 Etna Pittsburg (N).
 Evans City Pittsburg (N).
 Exeter Pittston.
 Export Pittsburg (N).
 Fair Hope Pittsburg (N).
 Fairmount City Pittsburg (N).
 Fairview Fairview (N).
 Farwell Renovo.
 Fayette City Pittsburg (N).
 Ferndale Johnstown (N).
 Finleyville Pittsburg (N).
 Florence Pittsburg (N).
 Ford City Pittsburg (N).
 Forestville Emmenton (N).
 Fort Washington Wyncote.
 Forty Fort Nanticoke.
 Fountain Hill Bethlehem.
 Foxburg Pittsburg (N).
 Frackville Girardville.
 Franklin Oil City (N).
 Franklin Johnstown (N).
 Franklin Lehighton.
 Franklintown Pittsburg (N).
 Fredericktown Pittsburg (N).
 Fredonia Clarion (N).
 Fredonia Greenville (N).
 Freeport Butler (N).
 Freeport Freeport (N).
 Fryburg Fryburg (N).
 Gaines Pittsburg (N).
 Galeton Pittsburg (N).
 Galtsburg Pittsburg (N).
 Garland Oil City (N).
 Gastonville Pittsburg (N).
 Gaysport Hollidaysburg.
 Genesee Pittsburg (N).
 Geneva Hill Pittsburg (N).
 Gettysburg Gettysburg.
 Gibsonton Gibsonton (N).
 Gilberton Girardville.
 Gilman Gilman (N).
 Gill Hall Pittsburg (N).
 Girard Girard (N).
 Girardville Girardville.
 Gladwyne Ardmore.
 Glasgow Cabot (N).
 Glassmere Butler (N).
 Glassport Pittsburg (N).
 Glendale Pittsburg (N).
 Glenfield Pittsburg (N).
 Glen Hazel Glen Hazel (N).
 Glenshaw Glenshaw (N).
 Glenside Wyncote.
 Glenwillard Monaca (N).
 Gordon Gordon (A).
 Grand Valley Tidoute (N).
 Grand Valley Grand Valley (N).
 Granville Pittsburg (N).
 Grapeville Pittsburg (N).
 Gtr. Punxsutawney Butler (N).
 Greenock Pittsburg (N).
 Greenock Turtle Creek (N).
 Greensboro Pittsburg (N).
 Greensburg Pittsburg (N).
 Greencastle Cabot (N).
 Greenville Clarion (N).
 Greenville Greenville (N).
 Gresham Titusville (N).
 Grove City Emmenton (N).
 Hackett Pittsburg (N).
 Hadley Clarion (N).
 Hadley Greenville (N).
 Haffey Pittsburg (N).
 Halliton Ridgway (N).
 Hamburg Hamburg.
 Hanover Hanover.
 Hanover Nanticoke.
 Hanover Twp. Bethlehem.
 Harmony Pittsburg (N).
 Harpers Corners Pittsburg (N).
 Harrisburg Harrisburg.
 Harrison City Pittsburg, Pa. (N).
 Harrison Valley Pittsburg (N).
 Harrisville Emmenton (N).
 Hatboro Wyncote.
 Hatfield No. Wales.
 Haverford Ardmore.
 Hawthorn Pittsburg (N).
 Hazelhurst Hazelhurst (N).
 Hazel Township Hazleton.
 Hazleton Hazleton.
 Heidelberg Pittsburg (N).
 Herminie Pittsburg (N).
 Hershey Palmyra.
 Highland Ingomar (N).
 Highland Valley Parkesburg.
 Highspire Harrisburg.
 Hilliards Karns City (N).
 Hillside Chester.
 Hokendauqua Catasaugua.
 Holbrook Pittsburg (N).
 Hollidaysburg Altoona.
 Homer Chicora (N).
 Homer Indiana (N).
 Homer City Pittsburg (N).
 Homestead Pittsburg (N).
 Honesdale Honesdale.
 Hooker Karns City (N).
 Horton City Ridgway (N).
 Hughestown Pittston.
 Hummelstown Palmyra.
 Huntingdon Huntingdon.
 Hyde Brockport (N).
 Hydes Ridgway (N).
 Hydettown Oil City (N).
 Imperial Pittsburg (N).
 Indiana Indiana (N).
 Indiana Pittsburg (N).
 Industry Pittsburg (N).
 Ingomar Ingomar (N).
 Instanton Straight (N).
 Irvinster Oil City (N).
 Irwin Pittsburg (N).
 Jacksonville Franklin (N).
 Jacksonville Pittsburg (N).
 Jamestown Clarion (N).
 Jamestown Greenville (N).

CITY AND TOWN INDEX

- Jamestown Leighton.
 Jeannette Jeannette (N).
 Jeannette Pittsburg (N).
 Jefferson Twp. Pittsburg (N).
 Jenkins Twp. Pittston.
 Jenkintown Wyncote.
 Jersey Shore Jersey Shore.
 Johnetta Johnetta (N).
 Johnsonburg Johnsonburg (N).
 Johnsonburg Ridgway (N).
 Johnstown Johnstown (N).
 Jollytown Pittsburg (N).
 Juniata Altoona (N).
 Juniata Pittsburg (N).
 Kane Kane (N).
 Kane Borough Kane (N).
 Kane Pittsburg (N).
 Karns City Karns City (N).
 Kaylor Kaylor (N).
 Kennett Square Avondale.
 Keystone Ridgway (N).
 Klester Grove City (N).
 Kingston Nanticoke.
 Kingsville Pittsburg (N).
 Kittanning Pittsburg (N).
 Kittanning Kittanning (N).
 Knox Knox (N).
 Knoxville Pittsburg (N).
 Kushequa Kushequa (N).
 Labrenewt Ter. Altoona.
 Lahaska Doylestown.
 Lancaster Lancaster.
 Langhorne Newtown.
 Lansdale Wyncote.
 Lansdowne Chester.
 Lansford Girardville.
 Larabee Eldred (N).
 Larimer Turtle Creek (N).
 Larimer Pittsburg (N).
 Larksville Nanticoke.
 Latrobe Pittsburg (N).
 Lawrence Park Lawrence Pk. (N).
 Lawrenceville Pittsburg (N).
 Lebanon Lebanon.
 Leechburg Leechburg (N).
 Leechburg Pittsburg (N).
 Leeper Leeper (N).
 Leeper Tyersburg (N).
 Leeburg New Wilm'gton (N).
 Leighton Leighton.
 Lemoyne Harrisburg.
 Le Raysville Le Raysville (A).
 Lewisburg Lewisburg.
 Lewistown Lewistown.
 Lewistown Jctn. Lewistown.
 Lickinville Tyersburg (N).
 Ligonier Tyersburg (N).
 Lippincott Pittsburg (N).
 Lititz Lititz.
 Livermore Pittsburg (N).
 Llanerch Ardmore.
 Llanerch Manor Ardmore.
 Lock 4 Pittsburg (N).
 Lock Haven Lock Haven.
 Logan Ferry Pittsburg (N).
 Loretta Pittsburg (N).
 Ludlow Ludlow (N).
 Luzerne Nanticoke.
 Lykens Lykens.
 Mahanoy Plane Girardville.
 Mahoning Twp. Leighton.
 Maizeville Girardville.
 Mammoth Wood. Cabot (N).
 Manheim Lititz.
 Manor Pittsburg (N).
 Manorville Butler (N).
 Manorville Pittsburg (N).
 Marble Fryburg (N).
 Marcus Hook Chester.
 Marion Pittsburg (N).
 Marysville Pittsburg (N).
 Masontown Pittsburg (N).
 Masontown Masontown (N).
 Matamoras Middletown, N. Y.
 Mauch Chunk Mauch Chunk.
 McDonald Pittsburg (N).
 Mt. Jewett St. Mary's (N).
 McKeesport McKeesport.
 McKeesport Pittsburg (N).
 McKees Rocks Pittsburg (N).
 McKinley Wyncote.
 Mt. Pleasant Uniontown (N).
 McSherrystown Hanover.
 Mead Run Ridgway (N).
 Mead Run Brockport (N).
 Meadville Oil City (N).
 Mechanicsburg Mechanicsburg.
 Mechanicsville Clarion (N).
 Media Chester.
 Melrose Park Wyncote.
 Melwood Ingomar (N).
 Mercer Mercer (N).
 Merion Ardmore.
 Merrittstown Pittsburg (N).
 Middleport Girardville.
 Middletown Harrisburg.
 Midland Pittsburg (N).
 Milford Milford (A).
 Millport Millport (N).
 Mills Pittsburg (N).
 Millsboro Pittsburg (N).
 Milltown Pittsburg (N).
 Millvale Pittsburg (N).
 Milton Milton.
 Miners Mills Wilkesbarre.
 Monaca Monaca (N).
 Monaca Heights Monaca (N).
 Monessen Pittsburg (N).
 Monongahela Monongahela (N).
 Monongahela Pittsburg (N).
 Monroeville Pittsburg (N).
 Monterey Pittsburg (N).
 Montgomery Milton.
 Morrisville Newtown.
 Moscow Moscow (A).
 Mosgrove Mosgrove (N).
 Mt. Alton Mt. Alton (N).
 Mt. Carmel Mt. Carmel.
 Mt. Clare Phoenixville.
 Mt. Jewett Kushequa (N).
 Mt. Jewett Mt. Jewett (N).
 Mt. Joy Mt. Joy.
 Mt. Morris Mt. Morris (N).
 Mt. Penn Reading.
 Mt. Pleasant Uniontown (N).
 Murrysburg Pittsburg (N).
 Myerstown Myerstown.
 Nanticoke Nanticoke.
 Narberth Ardmore.
 Natrona Butler (N).
 Natrona Pittsburg (N).
 Nazareth Nazareth.
 Nelson Pittsburg (N).
 Nescopek Berwick.
 Nesquehoning Girardville.
 New Albany New Albany (A).
 Newark Cabot (N).
 New Bethlehem N. Bethlehem (N).
 New Bethlehem Pittsburg (N).
 New Castle Pittsburg (N).
 New Cumberland Harrisburg.
 Newell Pittsburg (N).
 New Florence Pittsburg (N).
 New Freeport New Freeport (N).
 New Galilee Pittsburg (N).
 New Geneva Pittsburg (N).
 New Hope Doylestown.
 New Kensington Butler (N).
 New Kensington Pittsburg (N).
 New Market Harrisburg.
 New Phila. Girardville.
 Newport Twp. Nanticoke.
 Newtown Newtown.
 New Town Ridgway (N).
 New Wilmington New Wilm'gton (N).
 Noble Wyncote.
 Noble Ridgway (N).
 Norristown Norristown.
 Norriton Twp. Norristown.
 Northampton Boro. Catasauqua.
 Northampton Hgts. Bethlehem.
 North Berwick Berwick.
 North Bessemer Pittsburg (N).
 No. Braddock Pittsburg (N).
 No. Catasauqua Catasauqua.
 North East North East (N).
 North Girard North Girard (N).
 North Hope Pittsburg (N).
 North Irwin Pittsburg, Pa. (N).
 Northumberland Northumberland.
 North Wales Wyncote.
 North York York.
 Norwich Norwich (N).
 No. Eight Ridgway (N).
 Oakbrook Reading.
 Oakdale Pittsburg (N).
 Oakland Pittsburg (N).
 Oakmont Johnstown (N).
 Oakmont Ardmore.
 Oakmont Pittsburg (N).
 Oak Ridge Pittsburg (N).
 Oberlin Harrisburg.
 Ogontz Wyncote.
 Oil City Oil City (N).
 Oil City Pittsburg (N).
 Oreland Wyncote.
 Ormsby Bradford (N).
 Osceola Pittsburg (N).
 Osgood Clarion (N).
 Oswayo Pittsburg (N).
 Otto McKeesport.
 Otto Otto.
 Overbrook Ardmore.
 Oxford Oxford.
 Paoli Ardmore.
 Palmer Twp. Easton.
 Palmyra Lebanon.
 Palmyra Palmyra.
 Palo Alto Girardville.
 Parker Pittsburg (N).
 Parkesburg Parkesburg.
 Parnassus Butler (N).
 Parsons Wilkesbarre.
 Paxtang Harrisburg.
 Pen Argyl Pen Argyl.
 Penbrook Harrisburg.
 Penfield Ardmore.
 Perkasia Quakertown.
 Peters Twp. McMurray (N).
 Philadelphia Philadelphia.
 Phoenixville Phoenixville.
 Pineville Doylestown.
 Pine Bank Pittsburg (N).
 Pitcairn Pittsburg (N).
 Pittsburg Pittsburg.
 Pittsburg Pittsburg (N).
 Pittsfield Oil City (N).
 Pittston Pittston.
 Plumville Butler (N).
 Plymouth Nanticoke.
 Plymouth Twp. Nanticoke.
 Point Marion Morgantown, W. Va. (N).
 Point Marion Point Marion (N).
 Portage Pittsburg (N).
 Port Allegany Port Allegany (N).
 Port Allegany Pittsburg (N).
 Port Carbon Girardville.
 Port Carbon Pottsville.
 Portland Mills Ridgway (N).
 Port Royal Port Royal (A).
 Pottstown Pottstown.
 Pottsville Pottsville.
 Progress Harrisburg.
 Punxsutawney Butler (N).
 Quakertown Quakertown.
 Quarryville Quarryville (A).
 Radnor Ardmore.
 Rankin Pittsburg (N).
 Rasselas St. Mary's (N).
 Reading Reading.
 Red Lion Dallastown.
 Remlu Heights Wyncote.
 Renovo Renovo.
 Reynoldsville Oil City (N).
 Rica Landing Pittsburg (N).
 Richland Myerstown.
 Richlandtown Quakertown.
 Richmond Oil City (N).
 Ridgway Ridgway (N).
 Ridley Park Chester.
 Rimersburg Pittsburg (N).
 Riverside Harrisburg.
 Rochester Rochester (N).
 Rochester Pittsburg (N).
 Rockledge Wyncote.
 Rocky Grove Franklin (N).
 Rogersville Pittsburg (N).
 Rolfe Johnsonburg (N).
 Roscoe Pittsburg (N).
 Rosemont Ardmore.
 Roseville Brady's Bend (N).
 Rothville Lititz.
 Roulette Bradford (N).
 Roulette Roulette (N).
 Royersford Phoenixville.
 Rural Valley Pittsburg (N).
 Sadsbury Parkesburg.
 St. Clair Pittsburg (N).
 St. Clair Girardville.
 St. Davids Ardmore.

CITY AND TOWN INDEX

941

St. Laurence Reading.
 St. Mary's St. Mary's (N).
 St. Petersburg Pittsburg (N).
 St. Petersburg St. Petersburg
 Salem Pittsburg (N).
 Salem Twp. Berwick.
 Salina Pittsburg (N).
 Saltsburg Pittsburg (N).
 Sanderton North Wales.
 Sandy Lake Emlenton (N).
 Sandtown Pittsburg (N).
 Saxonburg Saxonburg (N).
 Sayre Athens.
 Schuylkill Haven. Schuylkill Haven.
 Scottdale Uniontown (N).
 Scranton Scranton.
 Sellersville Quakertown.
 Sergeant Williamsport (N).
 Sewickley Pittsburg (N).
 Shamokin Shamokin.
 Sharon Oil City (N).
 Sharon Youngstown, O.
 Sharon Center Millport (N).
 Sharpsburg Pittsburg (N).
 Sharpville Youngstown, O.
 Shawmut Ridgway (N).
 Shawmut Brockport (N).
 Sheffield Monaca (N).
 Sheffield Sheffield (N).
 Sheffield Warren (N).
 Shenandoah Shenandoah.
 Shillington Reading.
 Shinglehouse Pittsburg (N).
 Shinglehouse Shinglehouse (N).
 Shippensburg Shippensburg.
 Shippensburg Shippensburg (N).
 Slatington Slatington.
 Sligo Knox (N).
 Slippery Rock Franklin (N).
 Slippery Rock Slippery R. (N).
 Smethport Smethport (N).
 Smithfield Twp. Huntindon.
 Snowden Pittsburg (N).
 South Allentown Allentown.
 South Altoona Altoona.
 South Ardmore Ardmore.
 South Bethlehem. Bethlehem.
 South Bethlehem. Pittsburg (N).
 So. Brownsville. Pittsburg (N).
 Southampton Newtown.
 South Heights Monaca (N).
 South Langhorne Newtown.
 South Potstown Potstown.
 South Renovo Renovo.
 Southwest Greensburg. Pittsburg (N).
 So. Williamsport. Williamsport.
 Speers Pittsburg (N).
 Spencer Cabot (N).
 Spring Church Pittsburg (N).
 Spring City Phoenixville.
 Springdale Butler (N).
 Standing Stone Cabot, Pa. (N).
 Steelton Steelton.
 Steelton Harrisburg.
 Stockdale Pittsburg (N).
 Stoneboro Emlenton (N).
 Stoops Ferry Coraopolis (N).
 Stottsville West Chester.
 Strafford Ardmore.
 Straight Straight (N).
 Straight Williamsport (N).
 Stroudsburg Stroudsburg.
 Sugar Creek Chicora (N).
 Sugar Notch Nanticoke.
 Summerville Clarion (N).
 Summit Hill Girardville.
 Summit Pittsburg (N).
 Sunbury Sunbury.
 Susquehanna Twp. Harrisburg.
 Susquehanna Susquehanna.
 Suterville Pittsburg (N).
 Swatara Twp. Harrisburg.
 Swissvale Pittsburg (N).
 Swoyerville Nanticoke.
 Taintors Mt. Alton (N).
 Tamaqua Tamaqua.
 Tarentum Butler (N).
 Taylortown Pittsburg (N).
 Taylortown Morgantown.
 Telford No. Va. (N).
 Thorn Run Heights. Coraopolis (N).

Tidoute Oil City (N).
 Tile Works Ridgway (N).
 Tionesta Tionesta (N).
 Titusville Oil City (N).
 Toughkenamon Avondale.
 Towanda Towanda.
 Troutman Karns City (N).
 Trumbauersville Quakertown.
 Turtle Creek Turtle Creek (N).
 Turtle Creek Pittsburg (N).
 Tylersburg Tylersburg (N).
 Tyrone Tyrone.
 Ulysses Pittsburg (N).
 Union City Oil City (N).
 Uniontown Uniontown (N).
 Unity Pittsburg (N).
 Upper Mauch Mauch Chunk.
 Upper Merion Twp. Morristown.
 Valant New Wilm'gton (N).
 Valencia Glenshaw (N).
 Valley Camp Butler (N).
 Valley Station Pittsburg (N).
 Vandergrift Pittsburg (N).
 Vanport Pittsburg (N).
 Venita Pittsburg (N).
 Verona Pittsburg (N).
 Vesta Pittsburg (N).
 Villa Nova Ardmore.
 Vista Pittsburg (N).
 Warren Warren (N).
 Warren Lancaster, O. (N).
 Warrior Run Nanticoke.
 Washington Pittsburg (N).
 Watsonstown Milton.
 Wayne Ardmore.
 Waynesboro Waynesboro.
 Waynesburg Pittsburg (N).
 Waynesburg Waynesburg (N).
 Webster Pittsburg (N).
 Weissport Leighton.
 Weldon Wyncote.
 West Berwick Berwick.
 West Brownsville. Pittsburg (N).
 West Cain Parkesburg.
 West Chester West Chester.
 W. Conshohocken. Norristown.
 West Easton Easton.
 West Elizabeth Pittsburg (N).
 West Fairview Harrisburg.
 West Fallowfield. Parkesburg.
 Westfield Pittsburg (N).
 West Grove Avondale.
 West Hazelton Hazleton.
 West Hickory Oil City (N).
 West Homestead. Pittsburg (N).
 West Kittanning. Butler (N).
 West Monongahela. Monongahela City (N).
 Westmont Johnstown (N).
 Westmoreland City. Pittsburg (N).
 West Newton Pittsburg (N).
 West Norriton Norristown.
 West Pittston Pittston.
 West Reading Reading.
 West Sadsbury Parkesburg.
 West Williamsport. Williamsport.
 Wetmore Township. Kane (N).
 Whiskerville Karns City (N).
 Wickboro Butler (N).
 Wiconisco Lykens.
 Wilcox Wilcox (N).
 Wilkesbarre Wilkesbarre.
 Wilkinsburg Pittsburg (N).
 Williamsport Williamsport.
 Williamstown Lykens.
 Willow Grove Wyncote.
 Wilmerding Pittsburg (N).
 Wilson Pittsburg (N).
 Wilson Twp. Easton.
 Windsor Dallastown.
 Winton Monaca (N).
 Woodlawn Pittsburg (N).
 Wormleyburg Harrisburg.
 Worthington Butler (N).
 Worthington Worthington (N).
 Wycombe Doylestown.
 Wyncote Wyncote.
 Wynnewood Ardmore.
 Wyoming Nanticoke.
 Wyomissing Reading.
 Yardley Newtown.
 York Dallastown.

York York.
 Youngsville Oil City (N).
 Zellenope Pittsburg (N).
 Zollarsville Scenery Hill.

RHODE ISLAND.

Barrington Providence.
 Bristol Bristol.
 Central Falls Pawtucket.
 Cranston Providence.
 Cumberland Pawtucket.
 E. Providence Providence.
 Johnston Providence.
 Lincoln Pawtucket.
 Newport Newport.
 No. Providence Providence.
 North Smithfield. Woonsocket.
 Pawtucket Pawtucket.
 Providence Providence.
 Tiverton Tiverton.
 Warren Bristol.
 Warwick Providence.
 Westerly Westerly.
 Woonsocket Woonsocket.

SOUTH CAROLINA.

Anderson Anderson.
 Bowman Bowman (A).
 Charleston Charleston.
 Columbia Columbia.
 Florence Florence.
 Greenville Greenville.
 Hampton Hampton (A).
 Rock Hill Rock Hill.
 Spartanburg Spartanburg.
 Sumter Sumter.

SOUTH DAKOTA.

Aberdeen Aberdeen.
 Deadwood Deadwood.
 Dell Rapids Dell Rapids.
 De Smet De Smet (G).
 Gettysburg Gettysburg (G).
 Huron Huron.
 Lead Deadwood.
 Mitchell Mitchell.
 Parker Parker (G).
 Rapid City Rapid City.
 Sioux Falls Sioux Falls.
 Watertown Watertown.
 Yankton Yankton.

TENNESSEE.

Bristol Bristol.
 Chattanooga Chattanooga.
 Clarksville Clarksville.
 Jackson Jackson.
 Johnson City Johnson City.
 Knoxville Knoxville.
 Memphis Memphis.
 Nashville Nashville.
 Oakwood Knoxville.
 Park City Knoxville.
 Spring Hill Spring Hill (A).

TEXAS.

Abilene Abilene (N).
 Alford Corsicana (N).
 Amarillo Amarillo.
 Amarillo Amarillo (N).
 Arlington Dallas (N).
 Arlington Ft. Worth (N).
 Atlanta Atlanta (N).
 Atlanta Shreveport, La. (N).
 Austin Austin.
 Beaumont Beaumont.
 Bellevue Ft. Worth (N).
 Bellevue Corsicana (N).
 Bloomsburg Texarkana (N).
 Bowie Ft. Worth (N).
 Brenham Brenham.
 Bridgeport Ft. Worth (N).
 Bridgeport Corsicana (N).
 Brownwood Brownwood.
 Brownwood Brownwood (G).
 Byers Ft. Worth (N).
 Byers Corsicana (N).

CITY AND TOWN INDEX

China Springs ...China Spgs. (A).
 CleburneCleburne.
 Corpus ChristiCorpus Christi.
 CorsicanaCorsicana (N).
 CorsicanaWortham (N).
 DallasDallas (N).
 DallasFt. Worth (N).
 DalworthFt. Worth (N).
 DecaturFt. Worth (N).
 DecaturCorsicana (N).
 DenisonFort Worth (N).
 DenisonCorsicana (N).
 DenisonDenison (N).
 DentonFort Worth (N).
 DentonCorsicana (N).
 Eagle FordDallas (N).
 East WacoWaco.
 ElectraCorsicana (N).
 El PasoEl Paso.
 Fort WorthFt. Worth (N).
 GainesvilleGainesville (N).
 GainesvilleFort Worth (N).
 GalvestonGalveston.
 GoliadGoliad.
 Grand PrairieDallas (N).
 Grand PrairieFt. Worth (N).
 GreenvilleGreenville.
 GroesbeckGroesbeck (N).
 HenriettaHenrietta (N).
 HoustonHouston.
 IrvingFt. Worth (N).
 KirkMexico (N).
 LaredoLaredo (N).
 LimestoneTeague (N).
 MarshallMarshall (N).
 MartMexico (N).
 MartWaco (N).
 MartMart (N).
 McKinneyFt. Worth (N).
 McKinneyCorsicana (N).
 MexiaMexico (N).
 Mineral WellsMineral Wells (N).
 PalestinePalestine.
 Palo PintoPalo Pinto.
 ParisParis.
 PetroliaFt. Worth (N).
 Port ArthurPort Arthur.
 Queen CityAtlanta (N).
 RhomeFt. Worth (N).
 RichlandWortham (N).
 SaginawFt. Worth (N).
 San AngeloSan Angelo.
 San AntonioSan Antonio.
 Santa AnnaSanta Anna (N).
 ShermanSherman.
 ShermanCorsicana (N).
 ShermanFort Worth (N).
 So. BuckhannonBuckhannon (N).
 StrawnThurber (N).
 SunsetCorsicana (N).
 SunsetFort Worth (N).
 TeagueTeague (N).
 TehuacanaGroesbeck (N).
 TempleTemple.
 TexarkanaTexarkana (N).
 TylerTyler.
 WacoWaco (N).
 WacoMexico (N).
 WaxahachieWaxahachie.
 WeatherfordWeatherford.
 WhitesboroCorsicana (N).
 Wichita FallsFt. Worth (N).
 WorthamWortham (N).

UTAH.

OgdenOgden.
 ProvoProvo.
 Salt Lake City...Salt Lake City.

VERMONT.

BarreBarre.
 BenningtonBennington.
 BrattleboroBrattleboro.
 BurlingtonBurlington.
 ColchesterBurlington.
 MontpelierMontpelier.
 RutlandRutland.
 St. AlbansSt. Albans.
 St. JohnsburySt. Johnsbury.
 SpringfieldSpringfield.
 West BrattleboroBrattleboro.
 WinooskiBurlington.

VIRGINIA.

AlexandriaAlexandria.
 BalstonRosslyn.
 Barton HeightsRichmond.
 BristolBristol, Tenn.
 CharlottesvilleCharlottesville.
 CherrydaleRosslyn.
 ClarendonRosslyn.
 DanvilleDanville.
 ElktonElkton (A).
 Fort MonroeNewport News.
 Fort MyerRosslyn.
 FredericksburgFredericksburg.
 Ginter ParkRichmond.
 Highland ParkRichmond.
 HamptonNewport News.
 Highland ParkRichmond.
 HollandHolland (A).
 LynchburgLynchburg.
 Newport NewsNewport News.
 NorfolkNorfolk.
 No. RichmondRichmond.
 Park CityKnoxville.
 PetersburgPetersburg.
 PhoebusNewport News.
 PortsmouthPortsmouth.
 Raleigh CourtRoanoke.
 RichmondRichmond.
 RivermontLynchburg.
 RoanokeRoanoke.
 RosslynRosslyn.
 RosslynWashington, D. C.
 ScottsvilleScottsville (A).
 StauntonStaunton.
 SuffolkSuffolk.
 Toms BrookToms Brook (A).
 Virginia HeightsRoanoke.
 WasenaRoanoke.
 West LynchburgLynchburg.
 West PointLynchburg (A).
 WilliamsburgWilliamsburg (A).
 WinchesterWinchester.

WASHINGTON.

AberdeenAberdeen.
 AuburnAuburn.
 BellinghamBellingham.
 CentraliaCentralia.
 ChehalisCentralia.
 DupontTacoma.
 EverettEverett.
 GeorgetownSeattle.
 HoquiamAberdeen.
 KentAuburn.
 LacyOlympia.
 MonroeEverett.
 North YakimaNorth Yakima.
 OlympiaOlympia.
 Port TownsendPort Townsend.
 PuyallupTacoma.
 RustonTacoma.
 SeattleSeattle.
 SherlockOlympia.
 SnohomishEverett.
 SpokaneSpokane.
 TacomaTacoma.
 VancouverVancouver.
 Walla WallaWalla Walla.
 WenatcheeWenatchee.

WEST VIRGINIA.

AmmaCharleston (N).
 AuburnBerea (N).
 BannisterCharleston (N).
 BarboursvilleCharleston (N).
 BarracksvilleFairmount (N).
 BereaBerea (N).
 Berry SidingSutton (N).
 Big BendCabot, Pa. (N).
 Big CreekCharleston (N).
 Big IsaacsParkersburg (N).
 BlacksvillePittsburgh, Pa. (N).
 Blue CreekCharleston (N).
 BluefieldBluefield.
 BranchvilleCincinnati, O. (N).
 BridgeportBridgeport (N).
 BristolCabot, Pa. (N).
 Broad OaksClarkburg (N).
 BrooksvilleCabot, Pa. (N).
 BuckhannonBuckhannon (N).
 BurnsvilleSutton (N).
 CairoPennsboro (N).
 CameronCameron (N).
 CameronPittsburg, Pa. (N).
 CannelltonShrewsbury (N).
 CarolinaFairmont (N).
 Cedar GroveCabot, Pa. (N).
 Cedar GroveShrewsbury (N).
 CentervilleCenterville (N).
 CentervilleMiddlebourne (N).
 CeredoCharleston (N).
 CharlestonDunbar (N).
 CharlestownCharlestown.
 ChelyanCharleston (N).
 Cherrytree BottomCharleston (N).
 ChesterE. Liverpool (N).
 ClarksburgClarksburg (N).
 ClarksburgClarksburg.
 ClendeninCharleston (N).
 CoalbunghCharleston (N).
 CogerSutton (N).
 CrestonCabot, Pa. (N).
 CulodenCharleston (N).
 DanvilleMadison (N).
 DavisDavis (N).
 DownsMannington (N).
 DunbarDunbar (N).
 East BankShrewsbury (N).
 East BankCharleston (N).
 East LynnCharleston (N).
 EdgewoodWheeling (N).
 ElizabethCabot, Pa. (N).
 ElkinsElkins (N).
 Elk ViewCharleston (N).
 EllenboroPennsboro (N).
 Elm GroveWheeling (N).
 EnterpriseGrafton (N).
 ErieLumberport (N).
 FairmountFairmont (N).
 FairviewPittsburg, Pa. (N).
 FarmingtonFairmont (N).
 FlatwoodsSutton (N).
 Fort GayCharleston (N).
 French CreekBuckhannon (N).
 FrenchtonBuckhannon (N).
 FriendlyPittsburg, Pa. (N).
 FultonWheeling (N).
 GassawayGassaway (N).
 GlenvilleGlenville (N).
 Glovers GapPittsburg, Pa. (N).
 GraftonGrafton (N).
 GraftonPruntytown (N).
 GrantsvilleCabot, Pa. (N).
 GriffithsvilleCincinnati, O. (N).
 HandleyShrewsbury (N).
 HannahdalePittsburg, Pa. (N).
 HansfordShrewsbury (N).
 HarrisvilleHarrisville (N).
 HartleyHartley (N).
 Haymond HeightsClarksburg (N).
 HaywoodGrafton (N).
 HaywoodLumberport (N).
 HeatersSutton (N).
 HepsiabahLumberport (N).
 HighlandPennsboro (N).
 HundredHundred (N).
 HuntingtonHuntington (N).
 HuntingtonCharleston (N).
 HurricaneCharleston (N).
 Ida MayFairmont (N).
 Jamison MinesFairmont (N).
 Jordan CreekCharleston (N).
 KenovaCharleston (N).
 KenovaHuntington (N).
 KermitCharleston (N).
 KeyserDavis (N).
 LeagueGreenwood (N).
 LeatherwoodWheeling (N).
 LittletonPittsburg, Pa. (N).
 Lock SevenCharleston (N).
 LoganCharleston (N).
 LongacreShrewsbury (N).
 Lost CreekLost Creek (N).
 LowdownvilleCameron (N).
 LumberportGrafton (N).
 LumberportLumberport (N).
 MadisonMadison (N).
 ManningtonMannington (N).
 ManningtonPittsburg, Pa. (N).
 MartinsburgMartinsburg.
 Martins FerryWheeling (N).
 McClannahanCharleston (N).
 McMechenWheeling (N).
 McNuttSutton (N).
 MetzPittsburg, Pa. (N).
 MiddlebourneMiddlebourne (N).

CITY AND TOWN INDEX

34

MiltonMilton (N).
 MonongahFairmont (N).
 MontgomeryShrewsbury (N).
 MorgantownMt. Morris, Pa.
 MorgantownMorgantown (N).
 Mt. ZionCabot, Pa. (N).
 Munday P. O.Hartley (N).
 New Cumberland..New Cumberland
 New Martinsville..Pittsburgh, Pa. (N).
 New MiltonNew Milton (N).
 OnaCharleston (N).
 Paden CityPittsburg, Pa. (N).
 PalestineCabot, Pa. (N).
 ParkersburgParkersburg (N).
 ParkersburgPittsburg, Pa. (N).
 PattersonWheeling (N).
 PennsboroPennsboro (N).
 PentressPittsburg, Pa. (N).
 PeoriaShinnston (N).
 PiedmontLavis (N).
 PikePennsboro. (N).
 Pine GrovePittsburg, Pa. (N).
 Pleasant Valley..Wheeling (N).
 PocaCharleston (N).
 Point Pleasant ..Point Pleasant (N).
 PonetownPittsburg, Pa. (N).
 PrattShrewsbury (N).
 ProctorPittsburg, Pa. (N).
 PruntytownPruntytown (N).
 RansonCharlestown (N).
 RavenswoodCharleston (N).
 RipleyCharleston (N).
 Rock CaveBuckhannon (N).
 RockfordLost Creek (N).
 HollysonSutton (N).
 RomneyRomney (A).
 Saint Mary'sPittsburg, Pa. (N).
 St. AlbansDunbar (N).
 SalemSalem (N).
 ShaversvilleSutton (N).
 ShinnstonShinnston (N).
 ShinnstonGrafton (N).
 ShrewsburyShrewsbury (N).
 SistersvillePittsburg, Pa. (N).
 SmithburgWest Union (N).
 SmithersShrewsbury (N).
 SmithfieldPittsburg, Pa. (N).
 SpencerCabot, Pa. (N).
 SpencerCharleston (N).
 Star CityMorgantown (N).
 SuttonSutton (N).
 Terra AltaOakland, Md. (N).
 ThomasDavis (N).
 Three MileCharleston (N).
 TroyTroy (N).
 Tyler CityCenterville (N).
 Union MineMontgomery (N).
 VolcanoVolcano (N).
 WalgroveCharleston (N).
 WardShrewsbury (N).
 WayneWayne (N).
 WellsburgPittsburg, Pa. (N).
 WestonWeston (N).
 West UnionWest Union (N).
 WheelingWheeling (N).
 WilliamsonCharleston (N).
 WilliamstownPittsburg, Pa. (N).
 WilliamstownWilliamstown (N).
 WooddaleWheeling (N).
 WorthingtonGrafton (N).
 WyattFairmont (N).
 WyattShinnston (N).

Fort Atkinson ...Fort Atkinson.
 Fox LakeFox Lake (G).
 Green BayGreen Bay.
 HilbertHilbert (G).
 HudsonHudson.
 HurleyIronwood, Mich.
 JanesvilleJanesville.
 KenoshaKenosha.
 KenoshaRacine.
 LaCrosseLaCrosse.
 MadisonMadison.
 ManitowocManitowoc.
 MarinetteMenominee, Mich.
 MenashaAppleton.
 MenomonieMenomonie.
 MiltonMilton (A).
 Milton Junc.Milton (A).
 MilwaukeeMilwaukee.
 MonroeMonroe.
 NeenahAppleton.
 No. Fond du Lac..Fond du Lac.
 OshkoshOshkosh.
 PinetownPittsburg, Pa. (N).
 PentressPittsburg, Pa. (N).
 PlattevillePlatteville.
 PortagePortage.
 RacineRacine.
 RhinelanderRhinelander.
 RiponRipon.
 SheboyganSheboygan.
 So. MilwaukeeRacine.
 Stevens PointStevens Point.
 StoughtonStoughton.
 SuperiorSuperior.
 WatertownWatertown.
 WaukeshaWaukesha.
 WausauWausau.
 WauwatosaWauwatosa.
 West AllisWest Allis.

MonetonMoneton.
 MonctonMoncton (N).
 St. JohnSt. John.
 St. StephensCalais, Me.

NOVA SCOTIA.

HalifaxHalifax.
 SydneySydney.
 YarmouthYarmouth.

ONTARIO.

AldboroughHamilton (N).
 AylmerAylmer (N).
 BarrieBarrie.
 BartonvilleHamilton (N).
 Belle RiverNiagara Falls (N).
 BellevilleBelleville.
 BinbrookHamilton (N).
 BlenheimChatham (N).
 BlenheimNiagara Falls (N).
 BrantfordBrantford (N).
 BrantfordHamilton (N).
 BridgeburgNiagara Falls (N).
 BridgenNiagara Falls (N).
 BrigdenSarnia (N).
 BrockvilleBrockville.
 CainsvilleCainsville (N).
 CaledoniaPort Colborne (N).
 CanboroHamilton (N).
 CayugaHamilton (N).
 CayugaCayuga (N).
 CedarvaleOshawa.
 ChathamNiagara Falls (N).
 ChathamChatham (N).
 CobourgCobourg.
 ComberNiagara Falls (N).
 CornwallCornwall.
 CorunnaSarnia (N).
 CumberChatham (N).
 DeserontoDeseronto.
 DresdenSarnia (N).
 DresdenNiagara Falls (N).
 DundasDundas.
 DundasHamilton (N).
 DunnvilleHamilton (N).
 DunwichHamilton (N).
 EssexChatham (N).
 EssexNiagara Falls (N).
 FenwickSt. Catharines (N).
 FletcherChatham (N).
 ForthillSt. Catharines (N).
 Fort ErieNiagara Falls (N).
 GaltHamilton (N).
 GlenwoodGlenwood (N).
 GuelphGuelph.
 HagersvilleHamilton (N).
 HamiltonHamilton.
 HamiltonHamilton (N).
 HarristonHarriston (A).
 HarwichHamilton (N).
 HerrodKingsville (N).
 HighgateNiagara Falls (N).
 HumberstonePort Colborne (N).
 IngersollIngersoll (N).
 InwoodInwood (A).
 JarvisHamilton (N).
 KingstonKingston.
 KingsvilleKingsville (N).
 KitchenerKitchener.
 LeamingtonKingsville (N).
 ListowelListowel.
 LansdowneLansdowne (A).
 LondonLondon.
 LyndochHamilton (N).
 MarthavilleSarnia (N).
 MasseyMassey (A).
 MorpethNiagara Falls (N).
 Moulton Twp.Pt. Colborne (N).
 NapaneeNapanee.
 Niagara FallsNiagara Falls, N.Y.
 Niagara FallsNiagara Falls (N).
 Oil SpringsOil Springs (N).
 OshawaOshawa.
 OttawaOttawa.
 OttawaOttawa (N).
 Owen SoundOwen Sound.
 OxfordOxford (N).
 PaincourtSarnia (N).
 ParisHamilton (N).
 Pelham Section ..St. Catharines (N).
 PeterboroPeterboro.
 PetroliaPetrolia (N).

WYOMING.

ByronWyoming (N).
 CheyenneCheyenne.
 LovellLovell (N).
 SheridanSheridan.

CANADA.

ALBERTA.

Bow IslandBow Island (N).
 BownessCalgary (N).
 BrooksCalgary (N).
 CalgaryCalgary (N).
 ClaresholmCalgary (N).
 DunmoreCalgary (N).
 EdmontonEdmonton (N).
 GrannumCalgary (N).
 LethbridgeCalgary (N).
 MacleodCalgary (N).
 Medicine HatMedicine Hat (N).
 NantonCalgary (N).
 OkotoksCalgary (N).
 RedcliffRedcliff (N).
 SandstoneCalgary (N).
 TregillusCalgary (N).

BRITISH COLUMBIA.

NanaimoNanaimo.
 NelsonNelson.
 New Westminster..New Westminster
 VancouverVancouver.
 VictoriaVictoria.

MANITOBA.

BirtleBirtle (A).
 BrandonBrandon.
 CarberryCarberry (A).
 DeloraineDeloraine (A).
 GladstoneGladstone (A).
 ManitouManitou (A).
 MoosominMoosomin (A).
 MorrisMorris (A).
 SourisSouris (A).
 VirdenVirden (A).
 WinnipegWinnipeg.

NEW BRUNSWICK.

FrederictonFredericton.
 HillsboroMoncton (N).
 MilltonCalais, Me.

WISCONSIN.

AllouezGreen Bay.
 AltoonaAltoona (G).
 AntigoAntigo.
 AppletonAppleton.
 AshlandAshland.
 BarabooBaraboo.
 Beaver DamBeaver Dam.
 BeloitBeloit.
 BerlinBerlin.
 BrandonBrandon (G).
 BurlingtonBurlington.
 CambriaCambria (G).
 Chippewa Falls ..Chippewa Falls.
 CudahyRacine.
 De PereGreen Bay.
 Eau ClaireEau Claire.
 Fond du LacFond du Lac.

CITY AND TOWN INDEX

Petrolia	Sarnia (N).	Montreal	Montreal.
Petrolia	Niagara Falls (N).	Montreal West ..	Montreal.
Port Burwell	Aylmer (N).	Outremont	Montreal.
Port Colborne	Port Colborne (N)	Quebec	Quebec.
Pt. Edward	Sarnia (N).	St. Hyacinthe	St. Hyacinthe.
Port Hope	Port Hope.	St. Joseph	St. Hyacinthe.
Rainham	Hamilton (N).	Sherbrooke	Sherbrooke.
Raleigh	Hamilton (N).	Sorel	Sorel.
Ridgetown	Niagara Falls (N).	Verdun	Montreal.
Ridgeway	St. Catharines (N).	Westmount	Montreal.
Ridgeway	Ridgeway (N).		
Ripley	Ripley (A).		
Rodney	Rodney (A).		
Rosconber	Chatham (N).		
Ruthven	Kingsville (N).		
St. Catharines	Dunnville (N).		
St. Catharines	St. Catharines (N)		
St. George	Hamilton (N).		
St. Thomas	St. Thomas.		
Sandwich	Windsor (N).		
Sarnia	Sarnia (N).		
Sarnia	Niagara Falls (N)		
Sault ste. Marie	Sault Ste. Marie.		
Selkirk	Hamilton (N).		
Sherkston	Niagara Falls (N).		
Simcoe	Hamilton (N).		
Stratford	Stratford.		
Thorold	St. Catharines (N)		
Tilbury	Niagara Falls (N).		
Tillsonburg	Hamilton (N).		
Toronto	Toronto.		
Vienna	Aylmer (N).		
Vienna	Hamilton (N).		
Vittoria	Hamilton (N).		
Walkerville	Windsor (N).		
Wallaceburg	Wallaceburg (N).		
Wainfleet	Port Colborne.		
Walpole	Hamilton (N).		
Waterloo	Waterloo.		
Welland	Niagara Falls (N)		
Wheatley	Kingsville (N).		
Windsor	Chatham (N).		
Windsor	Windsor (N).		
Windsor	Niagara Falls (N).		
Woodside	Chatham (N).		
Woodstock	Woodstock (N).		
Woodstock	Oxford (N).		

QUEBEC.

Lachine	Montreal.
La Providence	St. Hyacinthe.
Maisonneuve	Montreal.
Montcalmville	Quebec.

SASKATCHEWAN.

Rosthern	Rosthern (A).
Yorktown	Yorktown (A).

NEW FOUNDLAND.

St. Johns	St. Johns.
-----------------	------------

CUBA.

Havana	Havana.
--------------	---------

PORTO RICO.

Bayamon	San Juan.
Catano	San Juan.
Ponce	Ponce.
Rio Piedras	San Juan.
San Juan	San Juan.

MEXICO.

Juarez	El Paso, Tex.
Mexico, L. F.	Mexico, D. F.
Merida, Yucatan ..	Merida.
Monterrey	Monterrey.
Puebla	Nogales, Ariz.
San Luis Potosi ..	Nogales, Ariz.

PHILLIPINE ISLANDS.

Manila	Manila.
--------------	---------

SOUTH AMERICA.

ARGENTINA.

Bahia Blanca	Bahia Blanca.
Buenos Aires	Buenos Aires.
Mendoza	Mendoza.
Rosario	Rosario.

BRAZIL.

Bahia	Bahia.
Ceara	Ceara.
Maranhao	Maranhao.
Para	Para.
Pelotas	Pelotas.
Pernambuco	Pernambuco.
Porto Alegre	Porto Alegre.
Rio de Janeiro	Rio de Janeiro.
Sao Luiz de Ma- ranhoa	Sao Luiz de Ma- ranhao.
San Paulo	San Paulo.
Santos	Santos.

CHILI.

Chillan	Chillan.
Concepcion	Concepcion.
Coplapó	Coplapó.
Iquique	Iquique.
Lota	Lota.
Santiago	Santiago.
Serena	Serena.
Tacna	Tacna.
Talca	Talca.
Talcahuano	Talcahuano.
Valparaiso	Valparaiso.

ECUADOR.

Guayaquil	Guayaquil.
Quito	Quito.

DUTCH GUIANA.

Paramaribo	Paramaribo.
------------------	-------------

PERU.

Callao	Callao.
Chillan	Chillan.
Lima	Lima.

URUGUAY.

Montevideo	Montevideo.
------------------	-------------

Instructions to Gas Appliance Salesmen

By J. E. BULLARD

A salesman's manual of modern selling methods selected with the sale of gas appliances ever in mind. This book is the first to place at the command of the gas company salesmen and sales manager a concise and practical treatment of the methods that have built up the prestige of many of the most successful commercial men in the field.

The book is written for the salesman who has not had the advantages of previous contact with the most recent developments of systematic salesmanship, and provides a groundwork of theory to support the greater detail of the particular plans recommended for gas company practice.

CHAPTER HEADINGS

I. Preparation. II. Straight Canvassing. III. Soliciting. IV. Personal Suggestions. V. General Instructions. VI. Scientific Sales Management.

128 pages, 5 x 7, 21 illustrations and 9 tables. \$1.00 net, postpaid.

PUBLISHED AND FOR SALE BY

The Gas Age Book Department

52 Vanderbilt Ave.,

::

::

::

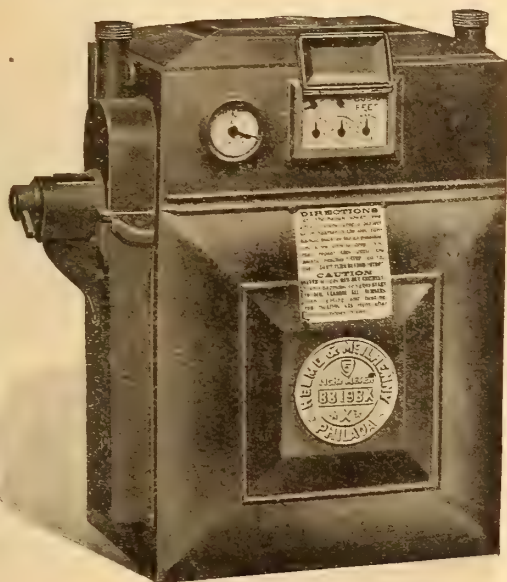
::

NEW YORK

Helme & McIlhenny



MAKERS
OF
Gas Meters



Prepayment Meters
Station Meters

THE "A" METER
Heavily Built for High Capacity

1339 to 1349 Cherry Street
PHILADELPHIA, PA.

McDONALD METERS

NOTED FOR ACCURACY

CONSUMERS METERS
REGULAR AND B TYPE

PREPAYMENT METERS
ADAPTED TO ALL REQUIREMENTS

STATION METER WORK
OF EVERY DESCRIPTION *with A SPECIALTY of*

THE HINMAN MEASURING DRUM

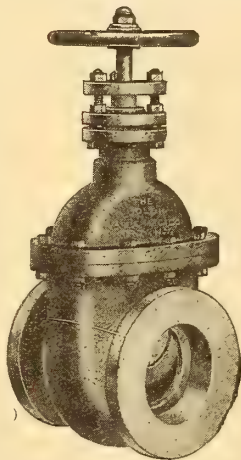
D. McDONALD & CO.

991 BROADWAY,

ALBANY, N. Y.



← This Mark On A Valve Is Your Guarantee

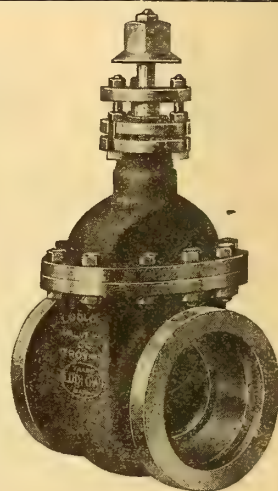


that every valve bearing it can be relied upon to do its part to your entire satisfaction.

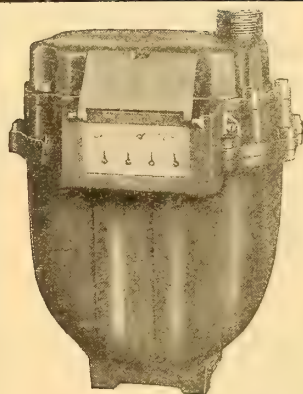
It is your guidance and protection when you select valves and is your assurance of long and satisfactory service.

They cost less in the long run.

The LUDLOW CATALOGUE illustrates and describes in detail a complete line of valves for every gas works requirement. Write for your copy.



The Ludlow Valve Mfg. Co.
Troy, N. Y.



"Emco" Meters and Regulators

For Artificial and Natural Gas

METERS FOR LOW AND HIGH PRESSURES

PROPORTIONAL METERS

Provers, Gauges, Burners and Regulators of all kinds

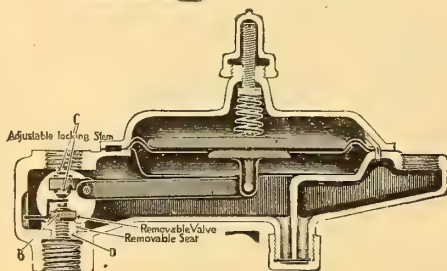


Fig. 43 A. With Mercury Seal

"EMCO" SERVICE REGULATOR

With Removable
Valve Seat and
Disc and adjust-
able Stem.

Pat. Dec. 28, 1915.



Fig. 43 C. With Horizontal Inlet and Outlet

WRITE FOR CATALOGUE AND PRICES

EQUITABLE METER COMPANY,

422-434-436 FIRST AVENUE
PITTSBURGH, PA.

NICHOLAS ENGEL

JOHN FOX & Co.

Postal Telegraph Building

253 Broadway, NEW YORK

Telephone Call, 6215 Barclay
6216

Cast Iron Gas & Water Pipe

Flange Pipe and Specials, Sewer Castings, Fire Hydrants,
Manhole Heads and Covers, Valves, Lamp Posts

GENERAL FOUNDRY AND MACHINE WORK

*Supplies of All Kinds for Water and Gas Works, Railroads,
Contractors, Engineers, Etc.*

JOHN D. ORMROD, Pres.

J. G. EBERLEIN, Sec'y and Treas

EMAUS PIPE FOUNDRY

DONALDSON IRON CO.

MANUFACTURERS OF



All Pipes Cast Vertically

CAST IRON PIPE

And Special Castings For

Water and Gas, also Flange Pipe and Fittings

EMAUS, LEHIGH CO., PA.

CLEVELAND GAS METER CO.

Manufacturers of

GAS METERS

For Artificial and Natural Gas

Cast Iron Meters. "A" or Large Capacity Meters a Specialty

Repairing of All Makes, and if Desired Converted into Prepayment Meters

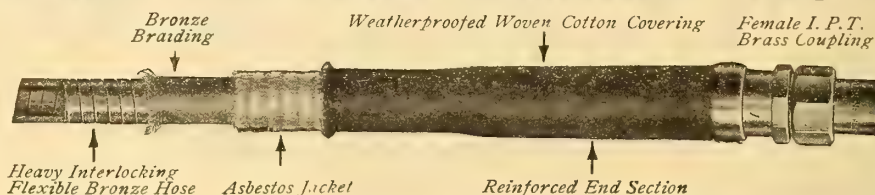
2180 E. 65th St.,

OFFICE AND FACTORY:

CLEVELAND, OHIO

No. 718 Mission Street, San Francisco, Cal.

"AMERICAN" FLEXIBLE BRONZE Indestructene Holder Hose



This hose is specially constructed to meet the exacting requirements of gas holder service. It is not affected by intense heat nor extreme cold and does not deteriorate when stored away between seasons. INDESTRUCTENE HOLDER HOSE is not an experiment, but a standard article of demonstrated efficiency which can be relied upon to give thoroughly satisfactory service at a minimum of expense.

Made in sizes: $\frac{1}{2}$ ", $\frac{3}{4}$ " and 1", any length, and in two styles, "A" and "B."
Style "A" for short and medium lengths, without special bronze braiding.
Style "B" for extra long lengths, with special bronze braiding.

"AMERICAN" FLEXIBLE METAL GAS TUBING

Made with quality, not cheapness, the first consideration, it fills the demand for a thoroughly reliable and moderate priced gas tubing that will last.

The use of inferior gas tubing is not only false economy, but an actual menace to life and property.

Insure safety and freedom from the nuisance of leaky tubing and frequent replacements by obtaining "American"—the Standard of Gas Tubing Perfection.

The standard size for gas heaters, hot plates, etc., is $\frac{5}{16}$ ". We can supply the tubing in cut lengths with rubber ends attached, or in long coils.

We manufacture American Metal Hose and Tubing for all purposes. Let us quote on your requirements.

THE AMERICAN METAL HOSE CO., Waterbury, Conn.

173 Lafayette Street
NEW YORK, N. Y.

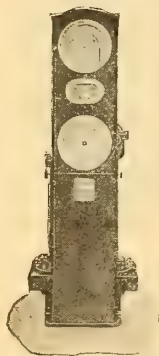
84 Batterymarch Street
BOSTON, MASS.

914 Union Bank Bldg.
Pittsburgh, Pa.

29 East Madison St.
CHICAGO, ILL.

The Venturi Meter

Versatility without
Sacrifice of Accuracy



Type M
Register—Indicator—Recorder

The Venturi Meter is admirably adapted for measuring with equally high degrees of accuracy hot water, cold water, artificial and natural gas, steam, air and oil—practically every fluid handled in the industries.

Detailed information will
be sent on request.

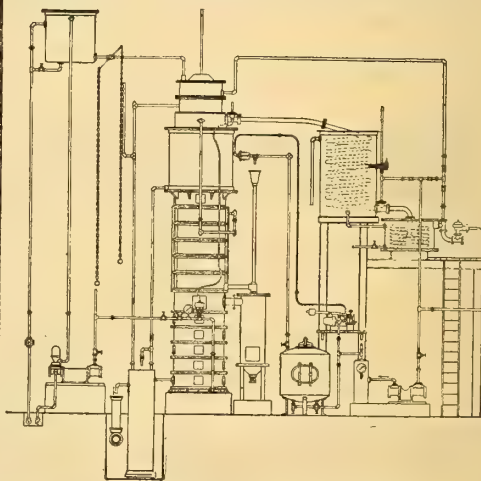
Builders Iron Foundry

PROVIDENCE, R. I.

"Builders of the Venturi."

New York, Chicago, San Francisco, Toronto, Ont.
Pittsburgh, Atlanta, Portland, Vancouver, B. C.

Unger Ammonia Stills



Produce a superior concentrate, without salting. Lime supplied with minimum amount of water and attention. The heat of the waste liquor utilized to preheat the weak liquor. Steam automatically regulated. All parts coming in contact with ammonia vapors and strong liquor made of cast iron and lead. Easy to clean and easy to operate.

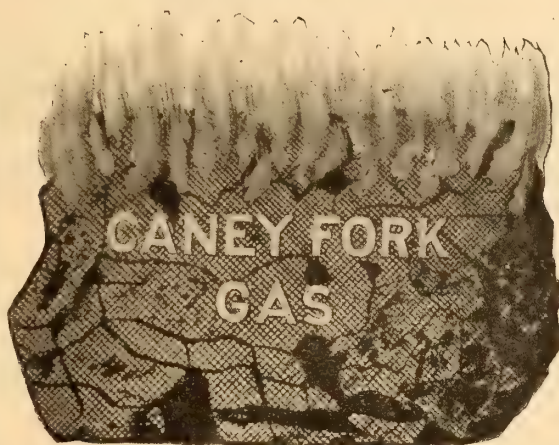
"Works like a charm." "Runs like clockwork."

JOHN S. UNGER, 3344 Broadway,
CHICAGO

CANEY FORK GAS COAL

COAL OF
QUALITY

BRANCH OFFICES
MEMPHIS, TENN.
GREENVILLE, MISS.
DONALDSONVILLE,
LA.
HOUSTON, TEX.
EVANSVILLE, IND.



RECOMMENDED
BY ALL USERS

ILLINOIS CENTRAL
RAILROAD
LOUISVILLE
AND
NASHVILLE
RAILROAD

WEST KENTUCKY COAL COMPANY

GENERAL OFFICE
STURGIS----KENTUCKY

GENERAL SALES OFFICE
PADUCAH----KENTUCKY

Every Gas Man

who expects to keep pace
with the industry must be
a reader.

The Gas Age gives twice
a month the complete
news of the field as well
as technical and com-
mercial articles.

Subscription Price, \$3.00 per year

Send for free sample copy

THE GAS AGE
52 Vanderbilt Ave., New York



HOMESTEAD Quarter Turn Valves

FOR EXACTING
CONDITIONS

Quick Opening—Straight Passage
Ease of Operation Safety

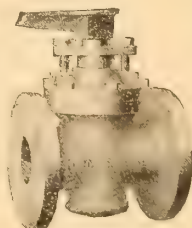
Acid Resisting—200 lbs.
Pressure

The Homestead Valve is "Unlike All Others," especially unlike Globe and Gate Valves, for the reason that when the pressure passes through it, the seat is Absolutely Protected from wear. The plug is balanced and held in place by the pressure when open, and when closed it is locked in the seat by our patent wedging cam, insuring freedom from friction in seat while plug is turning, which makes ours the quickest acting, simplest made, easiest operated and most durable valve known. Globe and Gate Valves, on the other hand, have their vital parts (seats) exposed to pressure and destruction every moment they are open.

A complete, new descriptive catalog will be mailed upon request. We will also be pleased to place your name on the mailing list for our various bulletins and pamphlets describing new developments issued from time to time.

Homestead Valve Mfg. Co.
PITTSBURGH, PA.

Works: HOMESTEAD, PA.



Semi-Steel Valve

You are interested
in Results

“TENNEY PROCESS” GAS WORKS

will help you solve the High Prices of Raw Materials

Our Results are Guaranteed

AMERICAN GAS CONSTRUCTION CO.

Main Office, :: NEWTON, IOWA

The
**Stacey Bros. Gas
Construction Co.**

Cincinnati, Ohio.

BUILDERS OF

*The National Chamber Ovens,
Holders, Purifiers, Scrubbers,
Condensers, Oil Tanks.*

Also Plate and Light Structural.

COAL GAS PLANTS

WATER GAS PLANTS

OIL GAS PLANTS

BY-PRODUCT MACHINERY

The Gas Machinery Company

CLEVELAND, OHIO

TATE-JONES

IMPROVED RECUPERATIVE GAS OVEN FURNACE

For Accurate Temperature Work.

900° to 1600° Fahr.

Uses Artificial or Natural Gas.

Air Pressure—4 oz. to 2½ lbs.

For hardening carbon steel, preheating or reheating high speed steels. The most scientifically designed line of furnaces, also the most efficient, as actual comparative tests have proven.

The fire brick lining is backed up with one inch of special insulating material that is equivalent, in the prevention of heat loss, to nine inches of fire brick. This effects a big saving in fuel and improves operating conditions.

Because of the design of the interior, 100% of the available radiant and radiated heat is delivered to the work. This is nearly 50% more than other furnaces deliver.

The recuperation device is substantially built and saves fully 25% of the fuel. It is made of cast iron, sheet steel and high grade fire brick. The coil is 1¼" wrought iron pipe, so placed that no direct vent heat strikes it.

Series H Furnaces are for temperatures 1600° to 2400° Fahr. Use Artificial or Natural Gas with air at 1½ to 2½ lbs. pressure.

Series H Furnaces can be had recuperator type, same as Series A.

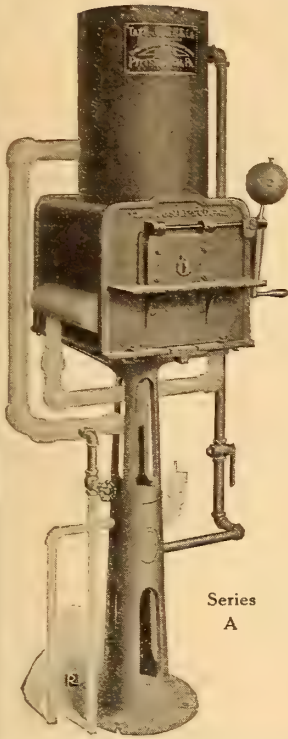
Circular 160-A sent on request.

TATE-JONES & CO., Inc.

PITTSBURGH, PA.

Established 1898

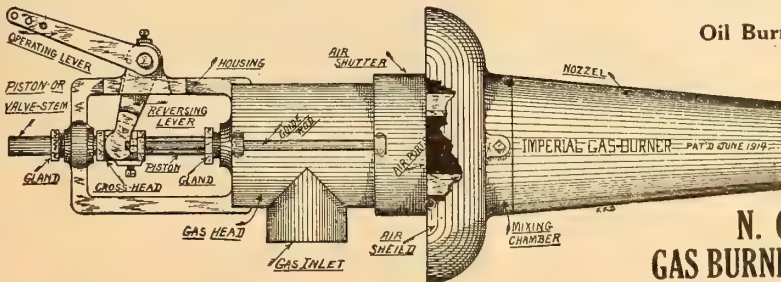
FURNACE ENGINEERS



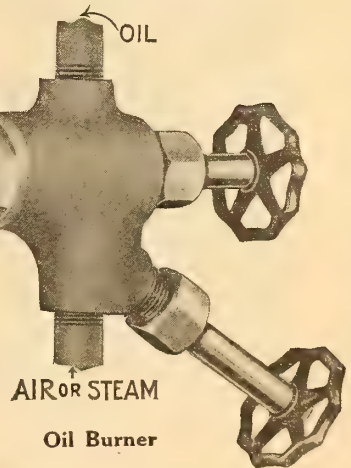
Series
A

WE GUARANTEE A 10% SAVING

For use in Furnaces, Kilns, Ovens, Forge Fires,
Under Steam Boilers, Kettles, Stills, Evaporators,
Heating and Sectional Boilers.



Gas Burner



N. C. DAVISON
GAS BURNER & WELDING CO.
3145 Penn Ave., Pittsburgh, Pa.

ALEX. C. HUMPHREYS, Pres.
ALLEN S. MILLER, Vice-Pres.

ROBERT O. LUQUEER, Sec'y & Treas.
HOWARD E. WHITE, General Counsel.

HUMPHREYS & MILLER, Inc.

SUCCESSORS TO
HUMPHREYS & GLASGOW, Inc.

CONSULTING ENGINEERS

Operators
Constructors
Appraisers

Coal Gas
Water Gas
Natural Gas
Electricity

ADVICE IN COURT AND COMMISSION CASES

CITY INVESTING BUILDING
165 BROADWAY

NEW YORK

GAS ENGINEERS, CONTRACTORS AND MANUFACTURERS

COAL GAS and CLEAN PRODUCER GAS PLANTS

Gas Condensing Apparatus
De-Ammoniating Apparatus
Concrete Purifiers
Controls
Vacuum Governors
Gas Valves
Steel Pipe, Fittings and Special Shapes
Steel Plate and Tank Work

STEERE ENGINEERING COMPANY
DETROIT, MICHIGAN

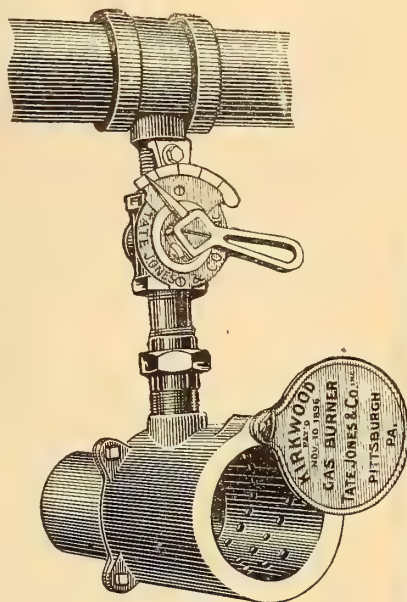
KIRKWOOD NATURAL GAS BURNERS FOR STEAM BOILERS

In the Kirkwood Burner, the gas enters the interior of the burner in a number of exceedingly fine jets, through a series of brass spuds that are spirally placed. The air being drawn in through the burner intimately mixes with the gas, in the right proportion for complete and economical burning.

As to its technical and mechanical excellence—the design and arrangement of the various elements are the outcome of many long and costly experiments. In proof of their efficiency Kirkwood Natural Gas Burners are today carrying fuel to boilers generating, in round numbers, over a million horse power.

All Kirkwood Gas Burners are made of the best materials and in the best manner possible. They are simply yet scientifically constructed. Nothing to get out of order; cannot become clogged; spuds are of brass and cannot rust.

*You Should Have on File our
Bulletin of Information. Write for it.*



TATE-JONES & CO., Inc.

PITTSBURGH, PA.

ESTABLISHED 1898

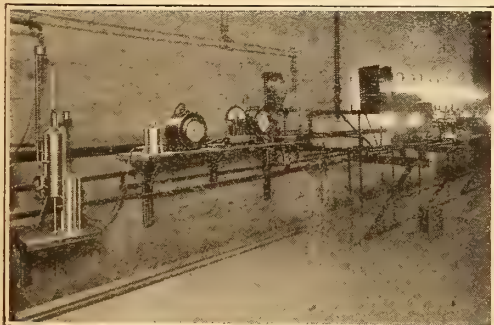
FURNACE ENGINEERS

PERIODIC TESTS PROMOTE EFFICIENCY

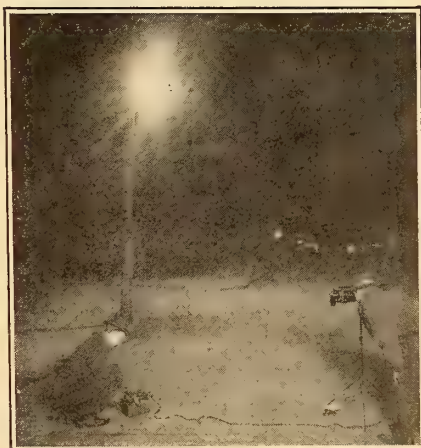
Tests and Reports of Gas Lamps and Appliances
Recognized as Authoritative and Impartial

The Electrical Testing Laboratories offers to gas companies a testing service which is complementary to that furnished by their own laboratories.

Our work is confined to testing and inspecting. We do practically any work within its field of activity which involves the ascertaining of facts and performance.



This picture shows a life test of mantle burners in progress



Test of Street Illumination

A reputation for integrity, reliability and accuracy, and a clientele distributed over the entire country has been attained which is unique among the laboratories of the country.

Testing of Gas Lamps and Appliances

The fees charged are as low as is compatible with the high standard of service. Some of the largest lighting companies are subjecting their standards to periodic tests by the laboratories.

*Write for catalog and full description
of our service, equipment and work.*

The Electrical Testing Laboratories,
New York, N. Y.

JAPANNING OVENS

**FOR ALL TYPES OF
SERVICE**



From small ovens, in which the smallest materials are baked on racks, up to large batteries which will accommodate any number of automobile bodies desired.

The DETROIT OVEN is the product of a company that has been making gas burning apparatus and equipment for nearly half a century.

Our experience is your guarantee of satisfaction.

The DETROIT is the oven for you to sell.

Write for catalogue showing various styles and prices.

DETROIT HEATING AND LIGHTING CO., DETROIT, MICH.

THE RALPH R. RUMERY CO. INCORPORATED

CONSULTING ENGINEERS

REPORTS

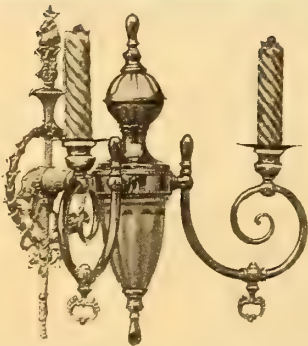
APPRAISALS

OPERATION

DESIGN

CONSTRUCTION

50 CHURCH STREET, NEW YORK



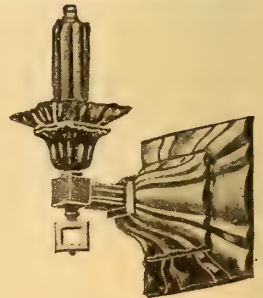
For Modern Gas Fixtures

Beautiful new designs in fixtures and brackets along the most advanced and artistic lines, you should keep in touch with our latest productions; and display in your show rooms and windows fixtures which will help you sell gas. Our design books are complete on globes, shades, brackets, chandeliers, posts, street lamps and all lighting fittings.

3500 Designs to Choose From

Established 1851

E. P. GLEASON MFG. CO.



37 and 39 Murray Street
NEW YORK CITY

The Chef, with his expert knowledge, makes the restaurant pay. He introduces every labor saving, time saving appliance he can get. It makes his task easier and surer of success.

The hotel appliances shown here were built to help the chef turn out a large amount of delicately cooked food in a short time, at small cost.

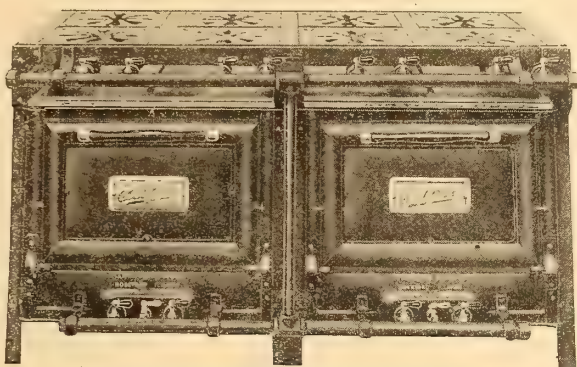
Wherever they have been installed, they have turned out better work and more work, at costs which satisfied the man who paid the bills.

Eclipse Gas Stove Co., Rockford, Ill.

Pacific Coast Office:
768 Mission St., San Francisco



No. 28 RESTAURANT RANGE



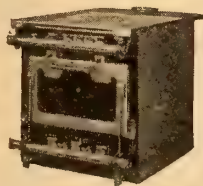
No. 25-82 ECLIPSE HOTEL RANGE



No. 872, Cafe Range



No. 199, Tank Heater



No. 751, Hotel Unit

VULCAN

Gas Appliances for All Requirements

There is a "Vulcan" appliance for practically every requirement.

Domestic Ranges, Water Heaters, Waffle Irons, Griddles and Toasters.

Hotel and Cafe Ranges and Broilers.

Bake Ovens, Confectioners' Stoves, Room Heaters, Industrial Burners, Glue Heating Stoves, Soldering Furnaces, Tailor and Laundry Stoves.

*"Look for the name **VULCAN** It's found only on good gas appliances."*

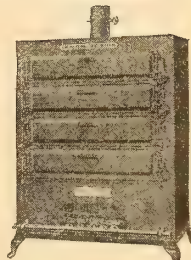
Send for Catalog No. 1-A.

WILLIAM M. CRANE COMPANY

16-20 West 32nd Street, New York, N. Y.

Pacific Coast Agents:

Northwest Gas and Electric Equipment Company,
Portland, Oregon.



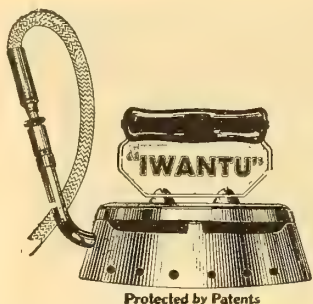
No. 701, Bake Oven



No. 425, Coil Water Heater



No. 880, Range



STRAUSE GAS IRON CO. PHILADELPHIA, PA.

Manufacturers of

"IWANTU" COMFORT
GAS IRONS

DOUBLE POINT }
SQUARE BACK } 6 lbs.
TAILOR IRONS 7-22 lbs.

DO YOU

NEED EQUIPMENT
NEED HELP
WANT A POSITION ?

Have You Anything to Sell?

Let *The Gas Age* find what you want. The Clearing House Section of *The Gas Age* brings buyer and seller together to the mutual interest of both. Doesn't cost much to tell your story.

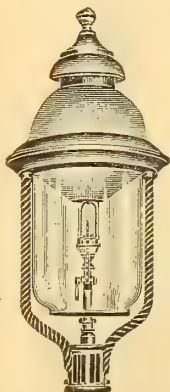
THE GAS AGE,

52 Vanderbilt Avenue,

NEW YORK

"The Miner" Globe Street Lamps

WE HAVE MADE LIGHTING
EQUIPMENTS FOR ALL KINDS
OF GAS FOR OVER 50 YEARS



Plain and Ornamental
LAMP POSTS

This cut shows but one of
a large variety of lamps we
make.

If you are interested,
send for our No. 47 catalogue.

THOS. T. W. MINER

821 and 823 Eagle Avenue, New York, N. Y.

RANGE LEG RESTS



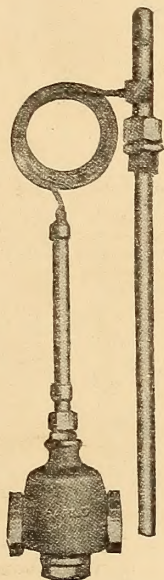
GLASS OR PORCELAIN
(Porcelain in White, Brown or Black)
MADE ESPECIALLY FOR GAS RANGES
W. T. HIGHT & CO.,
15 Marshall Street Boston, Mass.

Sarco Temperature Regulators

The Sarco Temperature Regulator is self contained and self operated. It uses that basic principle science has demonstrated is most practical for temperature within a certain range, the expansion and contraction of suitable liquids.

The operating force is a heavy hydrocarbon oil hermetically sealed within a tube. When heated the oil expands and the pressure is transmitted through a fine tube to a valve operated by a packless piston.

Nothing could be simpler or more efficient.



Temperature Regulator
for Ammonia Stills, etc.

Made either to close or to open supply valve with rise of temperature. Controls steam, water or gas lines. Made in several types for liquids and atmosphere and for any desired temperature from 32° F. to 300° F.

Write for Bulletin R 75 on Temperature Control, also Bulletin R 15 on the steam trap Sarco.

SARCO CO., Inc.

Woolworth Building, New York

Branch Offices in Philadelphia, Buffalo, Cleveland, Detroit and Chicago.

Representatives in all principal cities.

MICA



Micalite
regd. trade mark

MICA CANOPIES for inverted incandescent gas burners.
MICA CHIMNEYS for incandescent gas lamps.

MICA for every purpose.

**MUNSELL
MICALITE
SPECIALTIES**

EUGENE MUNSELL & CO.
NEW YORK CHICAGO



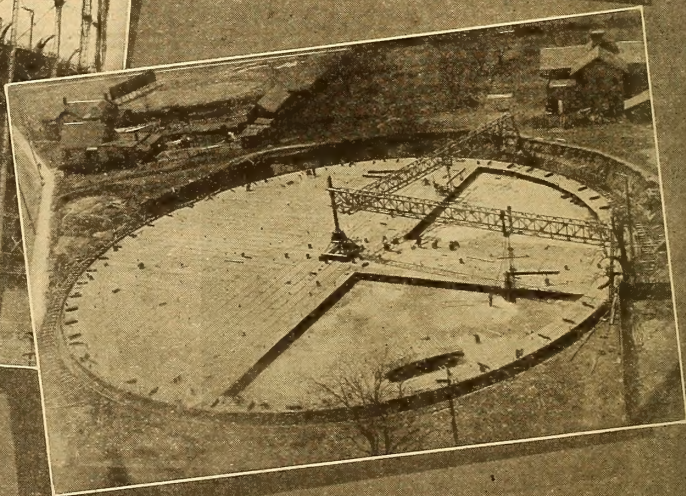
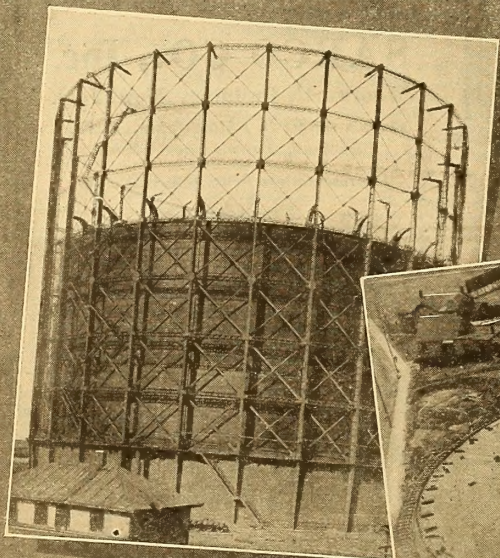
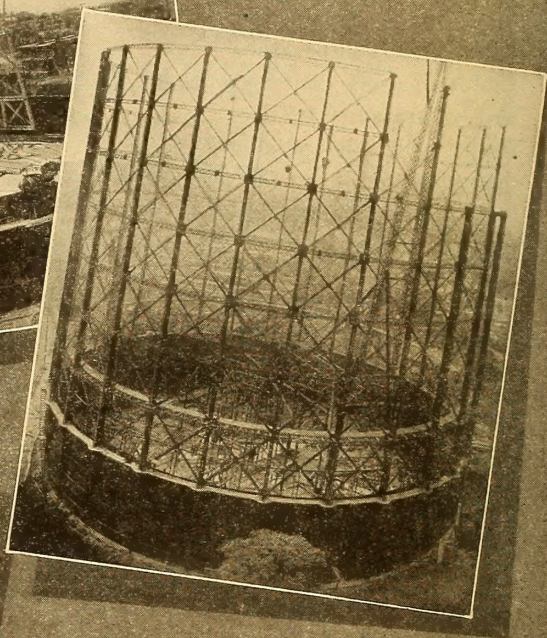
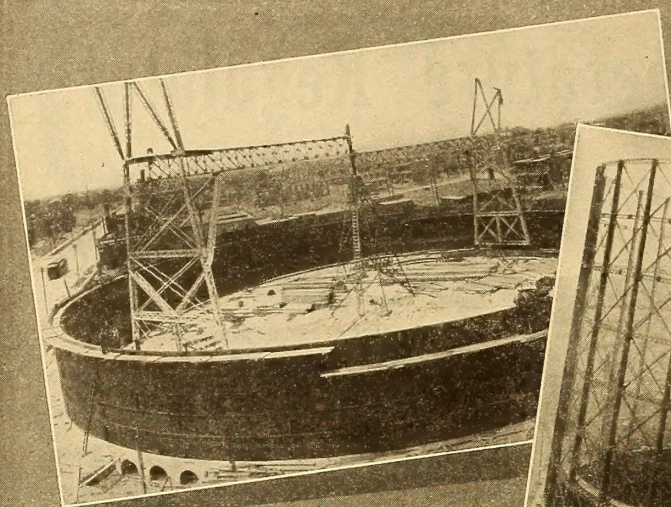
Efficient *Long Lived*

995 Estate

THE BEAUTY RANGE
IT WILL PAY YOU
TO INVESTIGATE

*Write for New De Luxe
Catalog No. 50 and our Prices*

*The Estate Stove Co.
Hamilton, Ohio.*



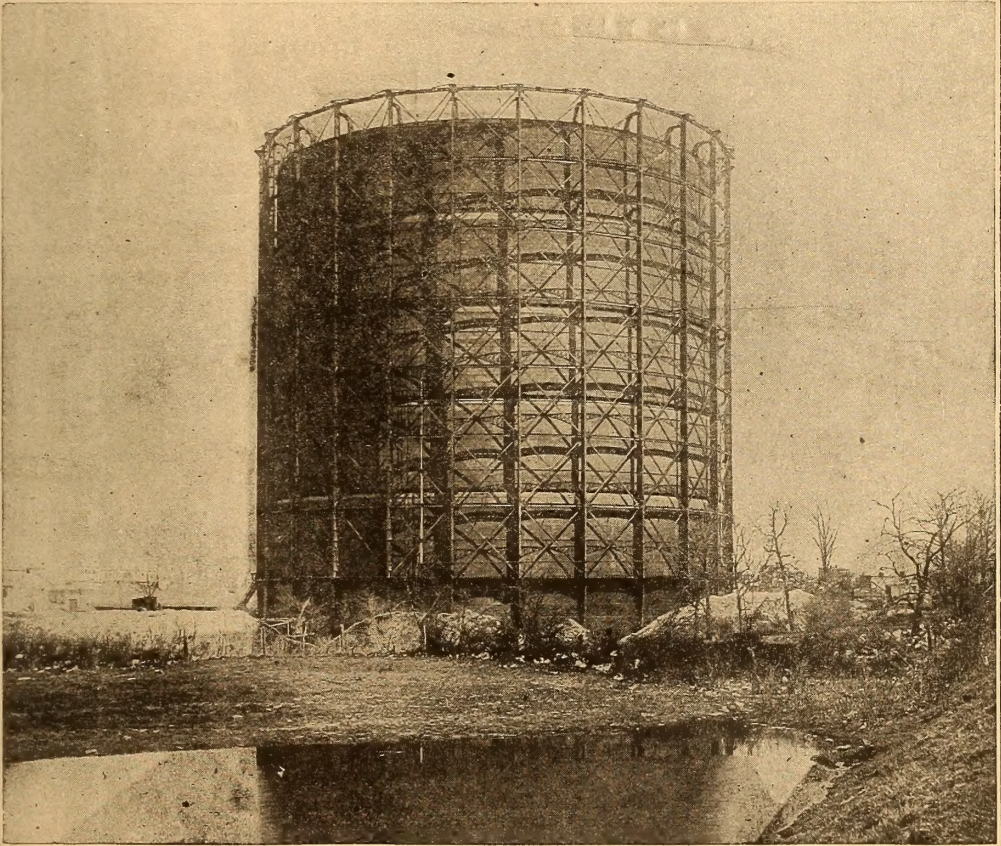
RITER-CONLEY COMPANY
STEEL CONSTRUCTION
PITTSBURGH, PA.

THE BARTLETT HAYWARD CO.

BALTIMORE

Designers and Builders of Complete

GAS PLANTS



One of two 10,000,000 cu. ft. Capacity Gas Holders
LARGEST HOLDERS IN STEEL TANKS IN THE WORLD

Tanks 251 ft. 3 in. Diameter, by 46 ft. 4 in. Deep

These Holders Are Two of 103 Holders, Each Having 1,000,000 cu. ft.
Capacity or More, Built By

THE BARTLETT HAYWARD CO.



**THE
BARTLETT HAYWARD CO.**

BALTIMORE

NEW YORK

DESIGNERS AND BUILDERS OF

Coal and Water Gas Apparatus

**Charging and Discharging
Machinery**

**Coal and Coke Handling
Machinery**

Light Oil Recovery Plants

By-Product Recovery Plants

White & Middleton Gas Engines

Gas Holders and Steel Tanks